

Draft Minutes  
Automation/Drive Interface (ADI) Working Group  
Ad Hoc Meeting  
T10/04-385r0  
8 November 2004  
9:00 AM – 6:00 PM CST

1. Introductions: Group

Paul Suhler called the meeting to order at 9:10 AM PST. He thanked Crossroads for hosting the meeting. A table of the attendees appears at the end of these minutes.

2. Approval of the agenda: Paul Suhler

Paul Suhler discussed the order of the discussion items. Paul Suhler requested suggestions for re-ordering the proposal. After some discussion, Michael Banther suggested a new order.

Paul Entzel made a motion for acceptance of the modified agenda. Kevin Butt seconded the motion. In the absence of objections or abstentions, the group passed the motion unanimously.

3. Comments on previous meeting minutes: Paul Suhler

13 – 14 September 2004 meeting	<a href="#">04-304r0</a>
7 October 2004 teleconference	<a href="#">04-334r0</a>
14 October 2004 teleconference	<a href="#">04-336r0</a>
18 October 2004 teleconference	<a href="#">04-338r0</a>
21 October 2004 teleconference	<a href="#">04-347r0</a>
28 October 2004 teleconference	<a href="#">04-353r0</a>
1 November 2004 teleconference	<a href="#">04-359r0</a>

Paul Suhler requested corrections for the minutes of the 13 – 14 September 2004 meeting and the teleconferences of 7 October, 14 October, 18 October, 21 October, 28 October, and 1 November 2004 – 04-304r0, 04-334r0, 04-336r0, 04-338r0, 04-347r0, 04-353r0, and 04-359r0 respectively. No one requested a correction.

Rod Wideman made a motion for acceptance of the minutes as written. Paul Suhler seconded the motion. In the absence of objections or abstentions, the group passed the motion unanimously.

4. Review of action items: Michael Banther

- a. Kevin Butt will investigate writing a proposal against ADT letter ballot [04-162r1](#), comment 27. *Closed*, postponed to ADT-2.
- b. Michael Banther will write a proposal to place all of the IU statements associated with entry into a state in the state description sub-clause and to remove such statements from the transition sub-clauses (remembering to rationalize incomplete statements). This

proposal will also change the description of each state machine to clearly indicate what state it is in upon activation. He will produce this proposal for the September or November 2004 meeting. *Carryover*

- c. Kevin Butt will write a proposal against SPC-3 to add automation type MAM attributes (reference ADC letter ballot [04-197r1](#), comment IBM Roberts - 2). *Carryover*
- d. Kevin Butt will bring in a proposal to add a Test IU to ADT (reference ADT letter ballot [04-162r1](#), comment IBM 122). *Closed*, postponed to ADT-2.
- e. Matthew Bondurant will bring in a proposal for a Reset link service IU which causes a warm boot. *Closed*, [04-364r0](#).
- f. Michael Banther will investigate the need for ADT letter ballot [04-162r1](#), comment HPQ 101. *Closed*
- g. Paul Entzel will revise [04-348r1](#) per discussion item (b) of [04-359r0](#). *Closed*

5. Discussion items:

- a. Add a new ADT Link Service IU - Device Reset IU ([04-364r0](#)) [Bondurant]

In Matthew Bondurant's absence, Paul Entzel introduced the proposal. It comes from ADT letter ballot [04-162r1](#), comment HPQ 96. The original inclusion of the TARGET RESET task management function comes from the desire to provide a hard reset to automation devices that cannot cycle power. However TARGET RESET has been removed from SCSI as of SAM-3. This proposal provides a hard reset-like facility outside of the SCSI architecture.

Paul Entzel asked that the group first decide whether or not to drop TARGET RESET, i.e., accept HPQ 96. He prefers dropping it. However, he and Rod Wideman debated changing the existing text, "may perform a hard reset" to "shall perform a hard reset". Michael Banther described the problems with TARGET RESET. Paul Entzel asked if anyone wants to keep it. Kevin Butt led the quiet stampede to removing it.

Having settled that, we moved on to the proposal proper. Paul Entzel asked if we want to put a Device Reset link service IU into ADT or defer it to ADT-2. Paul pointed out that for any device in the field that doesn't implement the Reset signal, adding a new link service IU is the only way for the automation to re-boot the DT device. Rod Wideman led the group through an exploration of the usage model for the Device Reset link service IU. We covered error recovery and using the IU to make configured parameters permanent, such as after a serious error indicated by TapeAlert.

Noud Shelder stated that BDT have products that cannot power-cycle the drive. However they do not have a method to reset the drive today and do not see a need to add one urgently. Their only concern is in the case of a firmware upgrade.

Paul Entzel tabled the proposal until the January meeting.

- b. Add more error handling to ADT encapsulated SCSI protocol ([04-348r2](#)) [Entzel].

Paul Entzel explained the changes to this proposal since revision 1. He has changed the use of "tag" for the SCSI Task Management IU to "exchange ID". He has not required the target device to detect overlapping exchanges. Paul Entzel has also changed the

proposal to extend the SCSI tag to incorporate the PROTOCOL field from the frame header. He has also updated the protocol service functions in clause 8.

Paul Suhler asked, in leaving the standard silent on detection of overlapping exchanges, are we creating an interoperability problem? Paul Entzel agreed that it did, but he still does not think it advantageous to add a specification.

Kevin Butt made a motion for incorporation of [04-348r2](#) into ADT. Paul Entzel seconded the motion. Michael Banther asked for description of the changes in clause 8. Paul Entzel explained that the text regarding the I\_T\_L\_x nexus for the Task Management protocol service functions has been changed so that the nexus sets the tag of task to be managed field. In the absence of objections or abstentions, the group passed the motion unanimously.

c. Clarification of cleaning and firmware media reporting (e-mail 2004/11/05) [Suhler]

Paul Suhler described his concern with the definition of the MOUNTED bit. He has received complaints from a library vendor that different drives are behaving in different ways. This vendor observed that at least one drive did not advertise that cleaning was in progress.

The definition of MOUNTED is that the device is in load state (i). Paul Suhler explained that the Certance products spontaneously change the state of the MOUNTED and THREADED bits during cleaning.

Paul Suhler would like the group to come up with a consensus for how we should define MOUNTED. Paul Entzel and Michael Banther argued about the semantics of “load operation” which MOUNTED uses in its definition. Susan Gray described some history; they’ve seen power-on with a cleaning cartridge in the drive, the cartridge never comes ready. Much argument ensued. Paul Suhler requested from the group what they want MOUNTED to mean. Rod Wideman suggested changing the text such that load state (i) allows InXtn set to one. Susan Gray suggested adding a new state, and Rod suggested that it should go in between load states (h) and (i).

Paul Suhler will generate a proposal for ADC-2.

d. DT Discarding During Port Logout ([04-379r0](#)) [Banther]

Michael Banther introduced the proposal. He wants to allow a port that has sent a Port Logout IU to discard non-acknowledgement IU’s received before the ACK IU.

Paul Entzel suggested changing “corresponding ACK IU” to “corresponding acknowledgement IU”. Michael Banther agreed. Rod Wideman pointed out that discarding without acknowledgement is, in effect, being logged-out. Wouldn’t receipt of a NAK imply that the port was logged-out and then became logged-in again? Michael pointed out that the other port’s ACK timer will cause recovery if the sender of a Port Logout IU receives a NAK IU.

David Hawks raised concern about the term non-acknowledgement IU. Paul Entzel suggested changing “non-acknowledgement IU received” to “any frame received other than an acknowledgement IU”. Michael Banther agreed to make this change.

Michael Banther made a motion for incorporation of [04-379r0](#) as modified into ADT. David Hawks seconded the motion. Paul Entzel asked if an ADT letter ballot comments exists for this change. Michael replied that none does to his knowledge. However Paul found that Seagate 23 covers it. In the absence of objections or abstentions, the group passed the motion unanimously.

- e. ADT Optional Hard Reset Signal ([04-380r0](#)) [Banther]

Michael Banther introduced the proposal.

Paul Suhler pointed out that an automation device has no mechanism to determine which Reset signal behaviour a DT device supports.

David Hawks made a motion for incorporation of [04-380r0](#) into ADT. Michael Banther seconded the motion. Paul Suhler asked if we should eliminate the option of a Reset signal causing a port logout in favour of it causing only a hard reset. Much debate ensued about various enhancements that we could add into ADT-2 to allow a port to detect optional features of the other port. Kevin Butt raised a concern about the appropriateness of having a signal generate a hard reset. Rod Wideman stated that he doesn't see any problem because a discussion between vendors is necessary anyway due to the optional nature of the signal.

The group passed the motion: 6-0-1.

- f. ADT Port State Machine, IU Statements in State Sub-clause ([04-369r0](#)) [Banther]

Michael Banther introduced the proposal. He pointed out that Kevin Butt had sent an e-mail stating that IBM wants only every action specified upon entry into a state and wants only unconditional actions. These changes will require more states. The alternative is to only correct the ADT letter ballot comment submitted by Iomega and push any consideration of state machine changes to ADT-2.

Paul Suhler raised the possibility of changing the goal and moving each action statement to a state transition clause. Kevin Butt replied that IBM wants actions only upon entry to the state. Paul Entzel voiced approval for tying actions to transitions. Michael Banther recapped the changes he's trying to make. The group spent a great deal of time discussing whether any changes are necessary.

On a straw poll of 2-3-5, the group decided to delay consideration of this proposal to ADT-2.

- g. ADT TE Sub-state Machine, IU Statements in State Description Sub-clause ([04-381r0](#)) [Banther]

Michael Banther requested that the group defer consideration of this proposal to ADT-2.

- h. ADT Letter Ballot comment resolution ([04-162r1](#)) [Entzel].

Paul Entzel led the group through ADT letter ballot comment resolution. By the conclusion of this discussion, the working group had resolved all ADT letter ballot comments.

Paul Entzel made a motion for accepting [04-162r2](#) as resolving the ADT letter ballot comments. Kevin Butt seconded the motion. In the absence of objections or abstentions, the group passed the motion unanimously.

i. Features for ADC-2 and ADT-2 ([04-263r3](#)) [Suhler]

Paul Suhler reviewed the list of ADC-2 and ADT-2 desired features with the group. We prioritised the importance of each item in [04-263r3](#) as High, Medium, or Low.

6. Unscheduled business:

a. ADI-2 editors

Paul Entzel volunteered to act as editor for ADC-2 and ADT-2 on a temporary basis. The working group will seek to find a second editor as a matter of urgency.

7. Next meeting requirements:

Paul Suhler

Subject to approval by the T10 Plenary, the group will hold a meeting 17 January 2004 during T10 plenary week in Las Vegas, Nevada beginning at 9:00 AM and concluding at 1:00 PM.

8. Review new action items:

Michael Banther

a. Paul Suhler will add [04-364r0](#) to the list of ADI-2 work (reference [04-263r3](#)).

b. Paul Entzel will incorporate [04-348r2](#) into ADT.

c. Paul Suhler will write a proposal based on discussion item (c).

d. Michael Banther will revise [04-379r0](#) per discussion item (d).

e. Paul Entzel will incorporate [04-379r0 as revised](#) into ADT.

f. Paul Suhler will add optional transport features to link negotiation in ADT-2 (reference [04-263r3](#)).

g. Paul Entzel will produce ADTr14 and [04-162r2](#).

h. Paul Entzel will report that [04-162r2](#) resolves the ADT letter ballot comments, that ADTr14 incorporates the ADT letter ballot comment resolutions in [04-162r2](#), and that the ADI working group recommends that ADTr14 be forwarded to INCITS for first public review.

9. Adjournment:

Group

Kevin Butt made a motion for adjournment. Rod Wideman seconded the motion. The group passed the motion unanimously. Paul Suhler adjourned the group at 6:05 PM CST.

## Attendees:

Name	Organization	E-mail
Rod Wideman	ADIC	rod dot wideman at adic dot com
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