Final Minutes
Automation/Drive Interface (ADI) Working Group
Ad Hoc Teleconference
T10/03-103r1
26 February 2003
8:00 AM – 10:00 AM

Conference Call Information

Hosted by Seagate
Toll free: (866) 828-0531
International: (309) 229-0103
Pass code: 6412485

1. Introductions: Group

    Paul Suhler called the teleconference to order at 8:12 AM PST. A table at the end of these minutes lists the attendees.

2. Approval of this agenda: 03-104r0   Paul Suhler

    Paul Suhler requested approval of the agenda. The group agreed to add a discussion of Erich Oetting's checksum e-mail and the e-mails from Susan Gray and Paul Entzel regarding ADTr02 NAK Status Code changes. The group approved the modified agenda.

3. Approval of previous meeting minutes: Paul Suhler

    February 12, 2003 teleconference   03-086r0

    Paul Suhler requested comments for the minutes of the 12 February 2003 teleconference, 03-086r0. No comments were forthcoming.

4. Review of action items: Michael Banther

    a. Michael Banther 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. Paul Suhler to follow up with SNIA Interoperability Conformance Test Program (ICTP) Subcommittee regarding test/emulation tool. *Carryover*

    e. Rod Wideman will review SSC log pages for applicability to ADC and bring in a proposal. *Closed*, 03-106r0

    f. Paul Suhler will propose the Requested Recovery log page. *Carryover*

    g. Rod Wideman will review SSC and SPC VPD pages for inclusion in ADC and bring in a proposal. *Closed*, 03-107r0

    h. Rod Wideman will revise 03-042 based on group comments. *Closed*

    i. Erich Oetting will propose a Checksum field. *Closed*

j.   Michael Banther will revise 02-358r4. *Carryover*

k.   Paul Entzel will incorporate 02-358r4 as revised into ADT. *Carryover*

l.   Paul Entzel will incorporate 03-078r0 as revised into ADT. *Closed*

m.   Paul Entzel will incorporate 03-079r0 into ADT. *Closed*

n.   Paul Entzel will bring in a proposal to add a version number to the Port Login frame. *Closed*, 03-101r0

o.   Paul Entzel will investigate how SAS handles information units whose size when received doesn't match the standard's definition. *Carryover*

p.   Michael Banther will revise 03-080 to r2. *Closed*

q.   Paul Entzel will incorporate 03-080r2 into ADT. *Carryover*

r.   Paul Suhler will send an e-mail to the group to discuss the unanswered questions from the discussion of 03-077r0. *Closed*

s.   Paul Suhler will revise 03-077r1. *Closed*

5.   Discussion items:

a.   Checksum proposal   Erich's Oetting's e-mail
                                                        Paul Suhler

Paul Suhler summarized Erich Oetting's proposal. Michael Banther asked if a byte was sufficient and Paul Entzel indicated that, it since the proposal uses only an XOR, the size doesn't matter. Paul S Suhler asked if the assumption of gross-error detection was sufficient. The group generally agreed that it was.

Paul Suhler made a motion for inclusion of Erich Oetting's proposal with editorial modifications. Paul Entzel seconded the motion. The group passed the motion by acclimation.

b.   ADTr02 NAK Status Code changes   Paul Entzel's e-mail
                                                        Paul Entzel

Susan Gray described the initial e-mail. Table 5 of ADTr02 describes NAK frame status code 80h as 'Unsupported protocol' and NAK frame status code 88h as 'Unsupported protocol or frame type'. Susan asked if these were overlapping definitions. Paul Entzel has stated in a reply e-mail that the description for 88h should change to 'Unsupported frame type for the selected protocol. He also pointed out that unsupported frame types could be rejected in a protocol specific way in the ULP. Paul Suhler stated a preference for as few options as possible between layers: provide a mechanism to reject unsupported frame types in the ULP or the LLP but not both.

Paul Suhler made a motion to change the description of NAK frame status code 88h as described in Paul Entzel's e-mail. Paul Entzel seconded the motion. The group passed the motion by acclimation.

c.   ADC State Transition Table   03-042r1   Rod Wideman

Rod Wideman walked the group through the proposal. Michael Banther raised concerns about the inclusion of INXTN in the normative state tables. Rod stated that the normative tables have a goal of describing what status values the automation controller can expect, hence the inclusion of INXTN. Without that Rod pointed out, how does automation know that INXTN equal 1b with some combination is valid? Michael suggested having the drive

describe the valid combination of bits. Lee Jesionowski stated that Michael's suggestion might cause misreporting due to lack of maintenance of the drive state description.

Michael Banther and Paul Suhler commented that HP and Seagate tape drives physically equate Hold Point and Seated. The normative tables do not allow for this implementation. To accommodate, Rod Wideman suggested adding a new state with Seated on and INXTN off. He asked if Hold Point should be on, off, or both in this new state. Paul Entzel asked about the definition of Hold Point. Paul Suhler replied that it means MAM accessible. Paul Entzel then pointed out that this definition of Hold Point varies by technology with the attendant problems of reporting its presence normatively. In response, Paul Suhler suggested removing HPNT bit from the normative tables. Paul Entzel requested a comment from ADIC as to the value of Hold Point. Rod replied that he's interested in it for Unloads; it's the state where the media is unthreaded and the hub unseated. Paul Entzel, Paul Suhler, and Michael pointed out that none of their products support this definition. Lee Jesionowski suggested redefining the bit to mean a logical position, i.e., waiting for eject request from automation, something along the lines of 'Hold Before Eject'. Lee argued that the MAM accessible state varies by technology, hence using Hold Point to detect MAM accessible is inappropriate because Hold Point implies a mechanical state. Michael suggested everyone provided Rod with a list for their technology to see if commonality could be found, but Rod poured cold water on this idea by pointing out that we have already gone through this loop once before. Paul Suhler reiterated his desire to remove HPNT from table 1 and asked Rod what value it adds. Rod stated that his real interest lies in unloading, hence table 3. After some discussion of unloading, Rod suggested removing HPNT. The change will impact the VHF log page as well.

Rod Wideman raised concern about the capabilities of different drives to detect Media Present. Paul Suhler asked whether these differences really matter. Rod replied that handoff is one of the more difficult things that happen between the automation and the data transfer device. A no-mans land exists after the automation has released a cartridge but before the data transfer device registers cartridge presence. Rod pointed out that automation controllers live with this problem today but that having additional information allows more robust behaviour. Paul Entzel suggested having information available on the depth of the Cartridge Presence sensor in the drive, but not enough support emerged from the group. Lee Jesionowski asked if ADIC libraries have load profiles already to guide the automation in placing the cartridge, and Rod replied that they do. Lee argued that instead of adding an extra state as Rod previously suggested, altering MSTD from '0' to '(0 or 1)' in state c) 'After secondary media placement in DTE' will solve the same problem. The group rejected Lee's suggestion due to a desire to have as few '(0 or 1)' value definitions as possible.

The upshot of the previous two paragraphs, Rod Wideman will add a new state in table 1 based on e) 'Media Threading'. The new state will have MSTD on and INXTN off.

Lee Jesionowski suggested starting the Unload normative states with the entry in table 1 state g) 'Load complete (DTE ready)'. Likewise, Lee suggested that state a) 'DTE initialized, no media present' from table 1 should be the last state in table 3. Rod Wideman agreed to make these changes. Lee and Susan Gray asked about state f) in table 3 'Media in ejected position'. Currently the text does not require any of these states. Shouldn't f) be required? Rod responded that a data transfer device that used solid state plug-in cartridges would never enter state f) hence it's an optional state.

Kevin Butt commented about the meaning of the RAA bit: anytime it's zero the automation controller can issue a load or unload. Rod Wideman agreed with Kevin's interpretation. Kevin asked when the data transfer device transitions RAA from 1 to 0 during a Load sequence is that when the automation controller is expected to issue a load. Rod agreed provided that a Load command is the appropriate action for the data transfer device in question. Lee Jesionowski pointed out that Kevin's interpretation is true only if INXTN is off.

Lee Jesionowski asked, with RRQST on can't the drive be in any of these states and maybe in some unlisted states? Are we missing some states? Lee stated that the proposal doesn't allow INXTN and RRQST on at the same time. Rod Wideman disagreed, stating that RRQST can be on in any state. Lee replied that the current definition of INXTN in ADC implies that it would not be on with RRQST. However, Rod doesn't want to limit INXTN to off with RRQST on. He feels that allowing either value of INXTN provides valuable additional information to the automation controller regarding what the data transfer device was doing when the error occurred. The group discussed the possibility of additional states, must they be normative or can the standard remain silent on them. After some discussion, we agreed that Rod will add text stating that other states are possible but only with RRQST on.

Lee Jesionowski took another run at the issue by suggesting that the data transfer device always turn INXTN off when RRQST goes on. Susan Gray and Rod Wideman stated that by allowing INXTN on, the automation has additional information, that the data transfer device was attempting to transition as opposed to not. Michael Banther disagreed stating that the data transfer device will always be in transition when an error occurs because once it reaches a non-transitional state then by definition nothing more will happen without external stimulus. Hence no need exists to allow INXTN on with RRQST on. Michael suggested that for every state normatively listed with INXTN on there will be an unlisted state with INXTN off and RRQST on. The group agreed to this solution.

d. SCSI Surrogate Mode   03-077r2   Paul Suhler

Paul Suhler walked the group through the revisions to this proposal.

Paul Suhler asked for comments on the layout of the SCSI Request Information Unit. The group agreed to the layout as given.

Paul Suhler reported on a query from Michael Banther regarding the existence of an application client in hosted bridging. Paul described the concept of a 'bridging manager' similar to the copy manager used in the extended copy feature in SPC-3r11 6.3. The group agreed to Paul's bridging manager concept.

Paul Suhler asked about logical unit communication failures. Paul Entzel replied that the standard should make reporting of communication failures mandatory but remain silent on what events constitute a communication failure. No one in the group objected to this idea.

e. ADC Data Transfer Device Status Masking   03-087r0   Paul Suhler

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

f. Connector discussion   Paul Suhler

The group did not discuss the connector due to lack of time.

g. Add Version field to Port Login IU in ADT   03-101r0   Paul Entzel

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

    h. ADC Device Statistics Log Page   03-106r0   Rod Wideman

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

    i. ADC Additional Referenced Log and VPD Pages   03-107r0   Rod Wideman

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

6. Unscheduled business:

No one raised unscheduled business.

7. Next meeting requirements: Paul Suhler

The next meeting will occur during the normal plenary week on 10-11 March 2003. The meeting will start at 1:00 PM on Monday, 10 March and run through 6:00 PM on 11 March (with occasional intermissions).

8. Review new action items: Michael Banther

    a. Rod Wideman will revise 03-042 with changes noted in discussion item c.

    b. Rod Wideman will bring in a proposal to remove Hold Point from the VHF log page.

    c. Rod Wideman will add editorial changes to InXtn and RRqst definitions to clarify that both cannot be on at the same time.

    d. Paul Suhler will revise 03-077 to revision 3 based on discussion item d.

9. Adjournment: Group

Rod Wideman made a motion for adjournment. Paul Suhler seconded the motion. The group passed the motion by acclimation. Paul Suhler adjourned the group at 9:59 AM PST.

Attendees:

Name	Organization	email
Rod Wideman	ADIC	rod.wideman@adic.com
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