# Draft Minutes Automation/Drive Interface (ADI) Working Group Ad Hoc Teleconference T10/03-069r0 29 January 2003 8:00 AM – 10:00 AM PST

- 0. Conference Call Information (hosted by Seagate): Toll Free: (866) 828-0531 Toll: (309) 229-0103 (including international) Participant Code: 6412485
- 1. Introductions: Group Seagate hosted the teleconference. Paul Suhler called the meeting to order at 8:00 AM PST. The attendees are listed at the end of these minutes.
- 2. Approval of this agenda:03-068r0Paul SuhlerThe group approved the agenda as published in the last e-mail.Paul Suhler
- 3. Approval of previous meeting minutes: 03-041r0 Paul Suhler None of the participants registered comments regarding the previous meeting minutes.
- 4. Review of action items:
  - 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. Susan Gray will investigate whether we have a preference to an Attention signal or AER frame for asynchronous event reporting. *Closed*, AER frame sufficient.
  - e. Paul Suhler to follow up with SNIA Interoperability Conformance Test Program (ICTP) Subcommittee regarding test/emulation tool. *Carryover*
  - f. Rod Wideman will add ADC device server interaction sub-clause, but no content, in clause 4. *Closed*
  - g. Paul Suhler will proposal a bridging function. Carryover
  - h. Rod Wideman will review SSC log pages for applicability to ADC and bring in a proposal. *Carryover*
  - i. Lee Jesionowski will propose the Requested Recovery log page. Carryover
  - j. Rod Wideman will review SSC and SPC VPD pages for inclusion in ADC and bring in a proposal. *Carryover*
  - k. Rod Wideman will revise 03-042 based on group comments. Carryover
  - 1. Paul Suhler will provide a diagram of the relationship between the ADC device server, data transfer device server, and application client(s). *Closed*

Michael Banther

- m. Rod Wideman will incorporate 02-392r0 into ADC. Closed
- n. Paul Suhler will revise 03-008. Closed
- o. Rod Wideman will incorporate 03-008 as revised into ADC. Carryover
- p. Erich Oetting will evaluate the current ACK and NAK frames to check if byte stuffing can occur in them. *Closed*
- q. Erich Oetting will propose a Checksum field. Carryover
- r. Paul Suhler will post schedule for teleconferences to T10 reflector. Closed
- s. Paul Suhler will talk to John Lohmeyer about next meeting requirements in the T10 plenary week. We want to grab SSC-2 afternoon time. *Closed*, schedule reflects that we start at 1:30 PM
- t. Rod Wideman will post ADC draft incorporating all accepted proposals to the T10 document archive. *Carryover*
- 5. Discussion items:
  - a. Figure for ADC model clause

The group briefly discussed this figure. Paul Suhler pointed out that Michael Banther had suggested changing 'Primary ... port' to 'Primary ... ports'. The group agreed with this change. Rod Wideman will incorporate it into ADC.

b. ADP Signal Descriptions Proposal	02-358r4	Michael Banther
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Michael Banther reviewed the changes from revision 3 to revision 4 with the group. The group discussed concerns about the Note in sub-clause 5.1.3. Kevin Butt suggested replacing 'below' with specific clauses. Paul Entzel voiced concerns with the note as it stood generating a letter ballot comment. Someone (?) suggested changing 'ADI' to 'ADT.' Likewise, a suggestion arose over changing initiator-target notation and terminology to automation-drive. Michael agreed to make these changes.

Paul Suhler asked for definition of the term 'V-sub-hysteresis' in sub-clause 5.1.5. Michael agreed to provide one.

Paul Entzel suggested adding information about which device port drives each Vendor Unique/Specific connection in 5.2.2. The group discussed changing Attention to Vendor Unique/Specific. Michael agreed to make this change.

Paul Suhler made a motion for incorporation of 02-358r4 as revised into ADT. Rod Wideman seconded the motion. The group passed the motion by acclimation.

c. ADT Header Reserved Bit Error 03	-078r0 Michael Banther
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Michael Banther reviewed the proposal with the group. Susan Gray raised the question of whether the frame receiver should ignore reserved fields rather than flag set ones as an error. Lee Jesionowski, Paul Entzel, Paul Suhler, Michael, and Susan discussed this point and concluded that ignoring

Paul Suhler

reserved bits in the frame header would result in too great a risk of undetected communication problems. For instance, that the Checksum field might not cover the contents of the frame header.

Paul Entzel pointed out that the proposal uses the term 'CRC' but the existing draft standard uses 'checksum'. Michael agreed to change 'CRC' to 'checksum'.

Paul Suhler asked whether we should have a mechanism for specifying the bit in error.

Kevin Butt and Susan raised the question of including a version identifier at the transport level. They pointed out that a subsequent version of the protocol might place currently reserved bits into use. Paul Entzel wants any version identifier placed in the Port Login payload and the group generally agreed. However, no one took an action to provide a proposal.

Lee suggested changing the proposed text of the new NAK status to, 'Header reserved bit set for the version of ADT that the device supports.'

Paul Suhler made a motion for incorporation of 03-078r0 as revised into ADT. Lee Jesionowski seconded the motion. The group passed the motion by acclimation.

d. ADT Link Service Payload Sizes 03-079r0 Michael Banther Michael Banther reviewed the proposal with the group. Paul Suhler made a motion for incorporation of 03-079r0 into ADT. Rod Wideman seconded the motion. The group passed the motion by acclimation.

e. ADT Payload Size - Type Restriction 03-080r0 Michael Banther

Michael Banther reviewed the proposal with the group. Kevin Butt raised concern over having the drive interpret missing bytes. Lee Jesionowski voiced support for the proposal since the library can broadcast least-common-denominator frames to drives at various levels of the standard. Rod Wideman raised the concern of no feedback to the sender for a miss-sized frame. Rod wondered if the receiver shouldn't send a NAK in the cases described by the proposal. Paul Entzel pointed out that NAK'ing would require transport-layer sniffing of each payload, something that most transport layer protocols avoid as it increases processing overhead.

Generally, the group agreed with having the receiver truncate payloads that exceed the defined length for the payload type. However many still had concerns over zero-filling missing payload.

Susan Gray pointed out that only the link service frames have defined sizes. Perhaps the problem the proposal seeks to address can be limited to these frames. Paul Entzel rejoined that the AER frames will have defined sizes as well. Lee suggested moving the paragraph to the Link Service Frame subclause (6.5) and then include similar text for other services if they need it. Michael agreed to this change and to check the other services for similar problems.

(Later) Lee revisited concerns about zero filling. Susan agreed. Lee raised the possibility of having the receiver retain the previous value for any missing parameter. After some discussion, the group

agreed that this represents a better solution than zero filling since there's no guarantee that a (assumed) parameter value of zero will not produce an undesired alteration in the receiver's behavior. However, Michael pointed out that this solution still leaves unaddressed the problem of a short payload containing a truncated parameter. The group stated that we will never shorten an existing field in new generations of the standard; rather we will make the field obsolete. This decision limits the problem of a partial field.

The group focused discussion on the only link service frame type that includes a payload, the Port Login. For this frame type, the group agreed that a receiver of a frame containing a partial field will respond with a Port Login frame with the field fully populated. Michael will revise the proposal and bring it back for more discussion.

f. ADT Reset Pause on Logout 03-081r0 Michael Banther Michael Banther reviewed the proposal with the group. Paul Entzel stated that he expects the state diagram will make it clear that logging out will cancel Paused state, and that the standard does not need to include the proposed text. Lee Jesionowski questioned the harm in adding this proposed text.

Paul Suhler asked whether the Reset signal causes any concern. Paul Entzel replied 'no'. Paul Entzel wants to define the states in the model section. Rod Wideman suggested changing the text to state 'enters logged out state' rather than 'cancels paused state.' The group generally agreed with Rod's suggestion.

Paul Suhler made a motion for incorporation of 03-081r0 as revised into ADT. Rod Wideman seconded the motion. The group passed the motion by acclimation.

g. Byte stuffing in Acknowledgment frames 1/28/03 e-mail Erich Oetting

As Erich Oetting did not attend, the group discussed his e-mail without further review. Michael Banther pointed out that Erich's proposal assumes that the Payload Type will continue to leave values 8h – Fh reserved. Paul Entzel pointed out that, until we define the Checksum, it may still contain escaped characters; hence, we still have no guarantee that commonly used frame types will not contain escapes. We all agreed that keeping escapes out of the commonly used link service frames will benefit the protocol. The group generally agreed that this proposal improves on the existing characters.

Paul Suhler made a motion for incorporation of Erich's proposal into ADT. Lee Jesionowski seconded the motion. The group passed the motion by acclimation.

h. Acknowledgement Frames 03-082r0 Michael Banther

Michael Banther reviewed the proposal with the group. Paul Entzel pointed out that he had an action from the Portland meeting to change 'ACK or NAK' to 'Acknowledgement frame'. The group generally agreed that this proposal contains only editorial changes. Paul Entzel agreed to incorporate them in ADT.

#### 6. Unscheduled business:

a. Masking of Status to host.

Rod Wideman and Paul Suhler described the library retry of a load. A host can possibly receive Not Ready, Media Not Present sense data in response to a Test Unit Ready – Request Sense command pair during a successful load sequence when a drive fails a particular load attempt and the library retires the load. Rod suggested that this may be a case where we need a new, ADC-specific command to configure the drive such that it reports Not Ready, Device In Process of Becoming Ready instead of Not Ready, Media Not Present during a load operation or a series of load operations that include library retries. Paul Entzel favors adding a Mode setting that causes a drive to alter reporting to the host until the load completes successfully. Lee Jesionowski and Paul Entzel suggested that the standard should use the concept of interim and completed sense but not define the actual sense values. The group agreed with their suggestion. Rod pointed out that, even with a Mode setting, how does the drive know when the library has given up? Hence, Rod claimed that the standard needs a command for this purpose. Paul Suhler agreed to bring a proposal in for further discussion.

7. Next meeting requirements:

The group will hold teleconferences on 12 February 2003 (Crossroads may host. If they don't ADIC will host), and 26 February 2003 (IBM will host). Both of these teleconferences will start at 8:00 AM PST and finish at 10:00 AM PST.

The next meeting will occur during the normal plenary week on 10-11 March 2003.

### 9. Review new action items:

- a. Rod Wideman will incorporate the diagram of the relationship between the ADC device server, data transfer device server, and application client(s) into ADC.
- b. Michael Banther will investigate how SAS specifies cables.
- c. Michael Banther will revise 02-358r4.
- d. Paul Entzel will incorporate 02-358r4 as revised into ADT.
- e. Michael Banther will revise 03-078r0.
- f. Paul Entzel will incorporate 03-078r0 as revised into ADT.
- g. Paul Entzel will incorporate 03-079r0 into ADT.
- h. Michael Banther will revise 03-080r0.
- i. Michael Banther will review ADT for non-link service payload type incompatabilities.
- j. Paul Suhler will propose Masking of Status on a Load/Unload over the primary port..

### 10. Adjournment:

Paul ajourned the meeting at 9:59 Am PST.

Attendees:

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### Michael Banther

Paul Suhler

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