

Draft Minutes
Automation/Drive Interface (ADI) Working Group
Ad Hoc Meeting
T10/05-176r0
2 May 2005
9:00 AM – 1:00 PM CDT
Oklahoma City, OK

1 Introductions:

Paul Suhler called the meeting to order at 9:02 CDT. He thanked Fujitsu and Mike Fitzpatrick for hosting the meeting. A table of the attendees appears at the end of these minutes.

2 Approval of the agenda:

Paul Suhler reviewed the order of the discussion items. Rod Wideman requested addition of a review of the ADI-2 outstanding items list, [04-263r4](#).

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

3 Comments on previous meeting minutes:

7 March 2005 meeting [05-112r0](#)

Paul Suhler requested corrections for the minutes of the 7 March 2005 meeting, [05-112r0](#). No one provided corrections.

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

4 Review of action items:

- a. 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
- b. 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*
- c. Paul Suhler will write a proposal based on discussion item (c) of [04-385r0](#). *Carryover*
- d. Paul Entzel will incorporate [05-022r0](#) into ADC-2. *Closed*
- e. Paul Entzel will incorporate [04-381r0](#) into ADT-2. *Closed*
- f. Paul Entzel will incorporate [04-369r0](#) into ADT-2. *Closed*
- g. Paul Entzel will present [05-015r1](#) to the SMC-3 and CAP working groups. *Closed*

- h. Paul Entzel will incorporate [05-015r1](#) as revised into ADC-2 upon acceptance of the proposal for incorporation into SMC-3. *Closed*
- i. Michael Banther will bring in a proposal for a smaller connector (reference item 8 in [04-263r5](#)). *Closed*, part number and data sheets provided in e-mail.
- j. Kevin Butt will bring in specifications for the IBM connector. *Closed*, part number provided in e-mail but no specification.
- k. Paul Suhler will investigate the status and progress of the ADT connector SFF-8054 in SFF. *Closed*
- l. Paul Entzel will incorporate [05-091r0](#) into ADT-2. *Closed*
- m. Kevin Butt will bring in a proposal for preparation and retrieval of drive failure dumps/logs. *Closed* 05-158, with thanks to Rod Wideman.
- n. Paul Suhler will add to [04-263r4](#) a line for the detection of WORM media by a library. *Carryover*
- o. Paul Entzel will revise [04-364r1](#) per Unscheduled Business item 6.4 of [05-112r0](#). *Closed*
- p. Paul Entzel will incorporate [04-364r1](#) as revised into ADT-2. *Closed*
- q. Susan Gray will investigate Automation mediated R/W diagnostics (reference item 4 in [04-263r5](#)). *Carryover*
- r. Paul Entzel will investigate Density Override in the RMC LU descriptor (reference item 16 in [04-263r5](#)). *Carryover*
- s. Rod Wideman will bring in a proposal for reporting of medium types in ADC-2 (reference item 26 in [04-263r5](#)). *Carryover*

5 Discussion items:

5.1 **Smaller connector for ADT-2 [Suhler]**

IBM and HP have sent e-mails with the part numbers of their vendor-specific smaller connectors. HP sent data sheets as well.

Paul Suhler asked if anyone other than IBM and HP intends to pursue a smaller ADT connector. No one else indicated an interest.

Rod Wideman has forwarded the IBM and HP e-mails to his EE's. Michael Banther stated their intention to continue with their existing vendor-specific connector in the event that the working group standardizes the IBM connector only. Kevin Butt replied that IBM intends to continue using their vendor-specific connector regardless of standardization. Kevin stated that IBM would probably not oppose an attempt by HP to standardize the HP vendor-specific small connector as part of ADT-2.

Michael Banther will bring in a proposal to standardize the HP vendor-specific connector for ADT-2.

5.2 **ADT-2 Remove Restriction When Max ACK Offset Equals Zero ([05-124r0](#)) [Banther]**

Michael Banther introduced the proposal. It seeks to correct a change previously made between ADTr13 and ADTr14.

With very little discussion Kevin Butt made a motion to incorporate [05-124r0](#) into ADT-2. Michael Banther seconded the motion.

Rod Wideman asked why the change was made in ADTr14. Michael Banther replied that he believes it's an inadvertent change. Kevin Butt agreed.

Paul Entzel stated that he does not see a need for a change. He pointed out that the text in clause 6.5.4 is already right. After some discussion, he agreed with the proposed change is in clause 4.4 and that it's needed.

In the absence of objections or abstentions, the group passed the motion unanimously.

5.3 *ADC-2 TapeAlert Response Parameter TSD Bit ([05-115r0](#)) [Banther]*

Michael Banther introduced the proposal. It seeks to change the value of the TSD bit in TapeAlert log parameters.

Michael Banther made a motion for incorporation of [05-115r0](#) into ADC-2. Kevin Butt seconded the motion. In the absence of objections or abstentions, the group passed the motion unanimously.

5.4 *ADC-2 NOTIFY DTD UA Creation Denied ([05-129r0](#)) [Banther]*

Michael Banther introduced the proposal. It seeks to make visible Unit Attention notifications dropped by the local SMC device server due to an inability to store the Unit Attention sense data.

Paul Entzel voiced his opposition stating that this proposal disallows the device server accepting a Unit Attention if it does not have enough resources to service that Unit Attention to every initiator that it knows about. Rod Wideman explored the possibility of using a 'should' or 'may' in place of the proposed 'shall'. He pointed out that insufficient resources are a complex area and its meaning will vary by implementation. Michael Banther explained HP's concern with the status quo, the silent loss of a Unit Attention notification to initiators. The group discussed the problem in some detail. Paul Entzel restated his opposition. He stated that Michael Banther should take this problem to CAP if anywhere. Kevin Butt reluctantly agreed that a problem exists.

Rod Wideman suggested altering the proposal so that the ADC device server only responds with INSUFFICIENT RESOURCES if it cannot notify any initiator of the Unit Attention. He also suggested adding a note that a device server that responds to a NOTIFY DTD with BUA equal to one doesn't guarantee delivery of the Unit Attention to every initiator known by the DT device. Paul Entzel suggested adding a mode bit that controls whether the device server behaves according to the proposal of in a vendor-specific manner. He pointed out that the use of ILLEGAL REQUEST sense key infers that the device server could not accept that command at all, i.e. no processing of it occurred. However after some discussion he dropped this point because the proposal will mandate the return of CHECK CONDITION status only if the ADC device server cannot notify any initiator of the Unit Attention condition. Paul Suhler suggested that the sense data should use the Field Pointer and Bit Pointer fields to point to the BUA bit.

Michael Banther agreed to bring in a revised proposal incorporating these comments.

5.5 *ADI ADC-2 Target Device Serial Number subpage (05-155r0) [Wideman]*

Rod Wideman introduced the proposal. ADC does not provide a means by which the automation application client can modify the DT device's reported serial number. ADIC products require this capability to support legacy applications that require re-configuration if they see a change in the device serial number. The proposal provides a method for the automation application client to modify the DT device's reported serial number.

Kevin Butt asked why an MTDSN value of 10b doesn't return the DT device's default product serial number. Paul Entzel replied that all of the ADC mode pages operate this way to allow Read-Modify-Write behavior on these pages.

David Hawks questioned the need for the functionality proposed, and Rod Wideman and Kevin Butt explained the usage model for replacing one drive with another one that is then configured to look identical to the predecessor.

Michael Banther and Paul Suhler raised a concern about the proposal specifying the SCSI target device product serial number. Rod Wideman pointed out the text in SPC-3 that allows the VPD page to report either the target device or logical unit serial number. He chose to use the target device serial number because he believes that the legacy applications expect a serial number per device. Kevin Butt noted that AIX expects the device serial number. He also stated that IBM uses a vendor-specific VPD page to report both the default and the current serial number.

The group discussed adding an ADC VPD page to contain the manufacturer's default serial number. Paul Entzel pointed out that SSC-3 probably also needs this page. Kevin Butt added that the proposal will have to specify exactly which fields the product field serial number parameter will modify, e.g. the field in VPD page 80h and any Device Identifier that incorporates the serial number in VPD page 83h.

Kevin Butt asked if the new VPD page shouldn't include both the page 80h serial number and the default manufacturing serial number. This comment caused the group to discuss the use of an extensible list of serial numbers.

Rod Wideman will revise the proposal and bring it back for further consideration.

5.6 *ADI ADC-2 DT Device Log Information log page (05-158r0) [Wideman]*

Rod Wideman introduced the proposal. This proposal creates a log page to allow the device server report which logs it supports and uses READ BUFFER to retrieve these logs.

Michael Banther asked if the term 'log' includes SCSI log parameters. Rod Wideman replied that it does not. Rod explained that he could not come up with a term other than 'log' to mean drive dumps, trace logs, etc. Michael registered his opposition to the use of 'log' in this context.

Kevin Butt and Rod Wideman debated the log retrieval control byte, its purpose and justification. Michael Banther questioned if the proposed log page and parameters did not better belong to a READ BUFFER buffer id.

Much discussion ensued. Rod Wideman stated that he intends for the application client to use READ BUFFER mode 3h to retrieve the length of the log and mode 2h to retrieve the log itself. Michael Banther asked that Rod add text to the proposal to point out this assumption.

Rod Wideman asked for specific changes that the group would like to see changed. Michael Banther replied that he would like to see a variable length log title parameter. Rod also listed

the specification of READ BUFFER modes 2h and 3h and finding a better term than 'log'. Kevin Butt requested better clarification that each buffer id specifies a separate buffer.

We moved on to a discussion of what a better term than 'log' might be. Rod Wideman suggested changing the name of the log page to 'DT Device Service Information log page.' Michael Banther asked if that means each buffer id then returns a 'service buffer?' After a brief discussion the group settled on these names.

Rod Wideman will revise the proposal based on comments received.

5.7 ADC-2: update to SAM-3, SPC-3, and ADT-2 ([05-120r0](#)) [Entzel]

Paul Entzel introduced the proposal and walked the group through it. Fundamentally this proposal brings ADC-2 up to date with SPC-3, SAM-3, and ADT-2.

Paul Entzel made a motion to incorporate [05-120r0](#) as modified into ADC-2. Michael Banther seconded the motion.

Michael Banther pointed out that the reference to SAM-2 in the second lettered list in adc2r00, 4.2.3.2 needs to remain because it discusses contingent allegiance which does not exist in SAM-3. He also pointed out two references to SPC-2 that need to remain. Both exist in the first lettered list in adc2r00, 4.2.3.2.

In the absence of objections or abstentions, the group passed the motion unanimously.

6 Unscheduled business:

6.1 Outstanding items for ADI-2 Items ([04-263r4](#)) [Suhler]

Paul Suhler reviewed the outstanding items list, [04-263r4](#) with pending modifications. We worked through the list closing items where possible and noting owners and existing proposals where possible.

Paul Suhler already has an action item to post a revised document and will include these changes in the new revision.

7 Next meeting requirements:

Subject to approval by the T10 Plenary, the group will hold a meeting 11 July 2005 during T10 plenary week in Colorado Springs, Colorado beginning at 9:00 AM and concluding at 1:00 PM.

8 Review new action items:

- a. Michael Banther will bring in a proposal to standardize the HP vendor-specific connector for ADT-2.
- b. Paul Entzel will incorporate [05-124r0](#) into ADT-2.
- c. David Hawks will incorporate [05-115r0](#) into ADC-2.
- d. Michael Banther will revise [05-129r0](#) per discussion item 5.4.
- e. Rod Wideman will revise [05-155r0](#) per discussion item 5.5.
- f. Rod Wideman will revise [05-158r0](#) per discussion item 5.6.
- g. Paul Entzel will revise [05-120r0](#) per discussion item 5.7.
- h. David Hawks will incorporate [05-120r0](#) as revised into ADC-2.

9 Adjournment:

Kevin Butt made a motion for adjournment. Rod Wideman seconded the motion. The group passed the motion unanimously. Paul Suhler adjourned the group at 1:03 PM CDT.

Attendees:

Name	Organization	E-mail
Rod Wideman	ADIC	rod dot wideman at adic dot com
Noud Shelder	BDT	noud dot snelder at bdt dot de
Michael Banther	HP	michael dot banther at hp dot com
Kevin Butt	IBM	kdbutt at us dot ibm dot com
David Hawks	Iomega	hawks at iomega dot com
Paul Entzel	Quantum	paul dot entzel at quantum dot com
Paul Suhler	Quantum	paul dot a dot suhler at certance dot com