TO: T10 Membership
FROM: Paul A. Suhler, Quantum Corporation
DATE: 14 September 2006
SUBJECT: T10/06-060r3, Features for ADC-2 and ADT-2

06-060 Revision 3

- Physical model incorporated in SSC-3.

- Reservation passthrough deferred to ADC-3.

06-060 Revision 2

- July 2006 updates.

06-060 Revision 1

- Dropped item 1, closed item 12, and assigned item 28.

- Added item 33 and assigned to Paul Entzel.

06-060 Revision 0

- Reopened item 1 and tentatively assigned to Michael Banther.

- Assigned item 18 to Paul Suhler.

- Clarified title of item 25.

04-263 Revision 9

- Dropped items 16, 20, and 29.

- Added document numbers as available.

Revision 8

- Closed item 27, clarification of Buffer Offset fields in SCSI IUs.

Revision 7

- Added item 27, clarification of Buffer Offset fields in SCSI IUs.

Revision 6

- Dropped items 4 and 26.

- Assigned item 25 to Michael Banther.

Revision 5

- Added status of items.

- Listed individual assigned each item.

- Added WORM to media types to be reported (item 26).

Revision 4

- Priority of each feature.

- State machine changes.

- New IUs.

Revision 3:

- Add density override to RMC LU descriptor.

- Clarify interactions of RMC and ADC device servers, physical device, and DT device.

- Modify model section to allow automation and DT devices with no ADT ports.

- Specify method to prepare and to retrieve dumps.

- Consolidated redundant entries for automation firmware update.

Revision 2:

- Modified description of real-time clock to refer to proposal against SPC-x.

Revision 1:

- Investigate whether ADC should address failover in multi-port drives.

04-263 Revision 0:

- Change "Device Status" to "Device Statistics" log page to TARGET LOG PAGES well-known logical unit.

- Consider interaction of the VHF Data WRTP bit and WORM media

03-133 Revision 9:

- Address Device Status log page to TARGET LOG PAGES well-known logical unit.

Revision 8:

- Mechanism for automation device to update its firmware from a medium in a DTD via the ADT.

- Resolve how the local SMC device server handles INQUIRY for page 83h with association = 2 (target device).

Revision 7:

- Add support to ADC DTD Primary Port Status log parameter and DTD Primary Port mode descriptor for SAS and possibly iSCSI.

Revision 6:

- Simplification of retryable error recovery.

Revision 5:

- Smaller ADI connector

Revision 4:

- Added a section to this document for feature descriptions that are not available in either T10 proposals or minutes.

- Identification Descriptor sub-page for ADC Device Configuration mode page.

Revision 3:

- Real-Time Clock

- Volume Identifier

Revision 2:

- Automation initiated/mediated DTD diagnostics

- Automation firmware update from tape via a read buffer command

Revision 1:

- Control of sense data masking via mode page

- Added links to documents

Revision 0:

- Passthrough bridging
- Progress indication

General

In the development of Automation Drive Interface standards, ADC and ADT, a number of concepts were discussed which were of insufficient urgency to include in the first generation standards. This document lists those concepts and the affected standards, as well as the documents and meeting minutes which present the most-fully developed presentation of the concepts.

Status of Items

Open
Assigned
Completed
Dropped

Number	Feature	Affected Standards		Priority	Proposal documents	Minutes
		ADC-2	**ADT-2**			
1	Passthrough Bridging Reopened 01/09/2006 Dropped 05/08/2006	X	X	L	03-077r3	10 – 11 March 2003 ADI WG meeting, 03-117r0
2	Progress Indication	X		L	ADC-r01, clause 4.2.5	
3	Control of Sense Data Masking	X		L	03-087r1	8 April 2003 ADI WG teleconference, 03-159r0
4	Automation initiated/mediated DTD diagnostics [Assigned to Wideman]	X		M	None	8 July 2003 ADI WG meeting, 03-236r0
5	Real-Time Clock Control	X		M	04-271	8 September 2003 ADI WG meeting, 03-295r0
6	Volume Identifier Control	X		M	None	
7	Identification Descriptor sub-page	X		L	Note 1	None
8	Smaller ADI Connector [Banther, 05-265]		X	H	None	23 February 2004 ADI WG teleconference, 04-066r0
9	Simplification of retryable error recovery.		X	L	None	8–9 March 2004 ADI WG meeting, 04-080r0, Unscheduled Business item f
10	ADC support for SAS and iSCSI. [iSCSI dropped]	X		H	None	12 July 2004 ADI WG meeting, 04-199r0, ADC LB comment Seagate-41.
11	Mechanism for automation device to update its firmware from a medium in a DTD via the ADT port.	X		M	ADC LB comment Seagate-25	8 July 2003 ADI WG meeting, 03-236r0; and 29 July 2004 ADI WG teleconference, 04-244r0
12	How does the local SMC device server handle INQUIRY for page 83h	X		M	ADC LB comment HP-88	29 July 2004 ADI WG teleconference, 04-244r0

Number	Feature	Affected Standards		Priority	Proposal documents	Minutes
		ADC-2	ADT-2			
	with association = 2 (target device)? [Banther 05-310]					
13	Address Device Statistics log page to TARGET LOG PAGES well-known logical unit. Add parameters to Device Statistics log page.	X		L	ADC LB comment HP-172	9 August 2004 ADI WG teleconference, 04-256r1, item 5a.
14	Consider interaction of the VHF Data WRTP bit and WORM media.	X		H	ADC LB comment HP-159	
15	Investigate whether ADC-2 should address failover in multi-port drives	X		M	ADC LB comment HP-268	16 August 2004 ADI WG teleconference, 04-266r0, item 5a. Also 04-197r1.
16	Add density override to RMC LU descriptor [Dropped 7 November 2005]	X		M	ADC LB comment IBM Penokie-414	
17	Clarify interactions of RMC and ADC device servers, physical device, and DT device. [Assigned to Suhler in SSC-3, 05-049]	X		L	None	13 – 14 September 2004 ADI WG meeting, 04-304r0.
18	Modify model section to allow ADs and DTDs with no ADT ports. [Suhler, 06-061]	X		L	None	
19	Specify method to prepare and to retrieve dumps. [Assigned to Wideman, 05-158; 05-158r1 accepted 7/11/2005]	X		H	ADC LB comment IBM Butt-2	
20	Separate state machines for AD ports and DTD ports. [Assigned to Butt]		X	L	ADT LB comment IBM-27	8 November 2004 ADI WG meeting, 04-385r0.
21	Test IU [Assigned to Butt]		X	L	ADT LB comment IBM 122	
22	Device Reset IU		X	M	04-364r0	
23	ADT Port State Machine, IU Statements in State Sub-clause		X	L	04-369r0	
24	ADT TE Sub-state Machine, IU Statements in State Description Sub-clause [Assigned to Banther]		X	L	04-381r0	

Number	Feature	Affected Standards		Priority	Proposal documents	Minutes
		ADC-2	ADT-2			
25	Negotiation of timeouts [Banther, 05-377]		X	L	None	
26	Clarify reporting of data, cleaning, firmware, and WORM media. [Assigned to Wideman]	X		M	None	
27	Clarify use of Buffer Offset field in SCSI Transfer Ready and SCSI Data IUs. [Assigned to Erikson; 05-292r1 accepted 9/12/2005]		X	M	None	11 July 2005 ADI-2 WG meeting, 05-255r0, item 6.2.
28	Add parameters to Device Statistics log page. [Marks 06-183r1]	X		M	ADC LB comment HP-172	9 August 2004 ADI WG teleconference, 04-256r1, item 5a.
29	ADI bridging failover	X		M		
30	TapeAlert exception log page [Assigned to Banther]	X		M		12 September 2005 ADI-2 WG meeting, 05-329r1, item 5.8.
31	Sense signaling [Assigned to Banther]		X	M		
32	Raise Max ACK Offset during negotiation as baud rate is lowered [Assigned to Banther]		X	M		12 September 2005 ADI-2 WG meeting.
33	Passthrough of reservations [Entzel 06-261r0.] Deferred to ADC-3	X		H		8 May and 10 July 2006 ADI-2 WG meetings

Other References

This section documents requests that are not listed in meeting minutes or T10 documents

1. 4 November 2003 e-mail from Michael Banther

Hi Paul,

I'd like to request an area for consideration in ADI-2. I think that we should investigate altering the definition of the ADC Node Descriptor sub-page (6.2.2.1 in ADCr06) to become an Identification Descriptor sub-page. The Identification Descriptor sub-page would provide a general facility to alter any Identification Descriptor reported in VPD page 83h by a DTD. If we cannot alter the existing sub-page and maintain backwards compatibility, I would like to see the introduction of a new Identification Descriptor sub-page with the intention of making the Node Descriptor sub-page obsolete in a future generation of the standard (no sooner than ADI-3).

Could you please add this subject to the list for ADI-2?

Thanks,

Michael Banther

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