T10/08-195r1

To	From	Subject	Date
INCITS T10 Committee	Curtis Ballard, HP	ADC-3 Host Reported Error Additional Information	28 April, 2008

Revision History

Revision 0 – Initial document.

Revision 1 – Added tape diagnostic data log page to list of log pages for ADC device servers
Corrected reference in note to refer to TDECC bit and correct name of TDECC bit

Related Documents

adc3r00a – Automation Drive Commands

Background

Tape libraries frequently try to collect information about drive behavior that can be used to help troubleshoot system problems. With the current ADC standard the library can use the VHF data and the TapeAlert flags to track some information about drive issues but it isn't possible to exactly match a specific error with sense data reported by the customers ISV application.

This proposal introduces a method for a tape drive to report to the library when it has reported an error on the host interface so that the library may log the error in its logs to provide an exact match to the error that will be available in the customer logs. The library may also provide communication mechanisms that are not available to the drive such as SMI-S, SNMP, or email notifications.

In the proposed changes that follow, new text appears in blue, deleted text appears in red strikeout comments appear in green.

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Proposed Changes to ADC-3

Changes to section 6.1.1

6.1.1 Log parameters overview

This subclause defines the log pages and log parameters for ADC device servers.

The log page codes for ADC device servers are defined in table 14.

Table 14 - Log page codes

Page code	Description	Support requirement	Reference
00h	Supported Log Pages page	Mandatory	SPC-3
01h	Buffer Overrun/Underrun log page	Optional	SPC-3
02h	Write Error Counter log page	Optional	SPC-3
03h	Read Error Counter log page	Optional	SPC-3
04h	Read Reverse Error Counter log page	Optional	SPC-3
05h	Verify Error Counter log page	Optional	SPC-3
06h	Non-Medium Error log page	Optional	SPC-3
07h	Last n Error Events log page	Optional	SPC-3
08h	Format Status log page	Optional	SPC-3
09h - 0Ah	Reserved		
0Bh	Last n Deferred Error Events log page	Optional	SPC-3
0Ch	Sequential-Access Device log page	Optional	SSC-2
0Dh	Temperature log page	Optional	SPC-3
0Eh	Start-Stop Cycle Counter log page	Optional	SPC-3
0Fh	Application Client log page	Optional	SPC-3
10h	Self-Test Results log page	Optional	SPC-3
11h	DT Device Status log page	Mandatory	6.1.2
12h	TapeAlert Response log page	Mandatory	6.1.3
13h	Requested Recovery log page	Mandatory	6.1.4
14h	Device Statistics log page	Optional	SSC-3
15h	Service Buffers Information log page	Optional	6.1.5
16h	Tape Diagnostic Data log page	Mandatory[a]	SSC-3
~~16h~~ 17h	Reserved		
18h	Protocol Specific Port log page	Optional	SPC-3
19h - 2Eh	Reserved		
2Fh	Informational Exceptions log page	Optional	SPC-3
30h - 3Eh	Vendor-specific log pages		
3Fh	Reserved		
a) Mandatory only if the TDDEC bit in the VHF data descriptor is supported			

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Changes to log parameters caused by either LOG SELECT commands or other DT device operation of an RMC device server shall not be reflected by changes in the corresponding parameters reported by the ADC device server (i.e., log parameters of ADC and RMC device servers in the same DT device are independent). Changes in log parameters caused by either LOG SELECT commands or other DT device operation of an ADC device server shall not be reflected by changes in the corresponding parameters reported by the RMC device server.

Changes to section 6.1.2.2

6.1.2.2   Very high frequency data log parameter

The very high frequency data log parameter format is shown in table 17.

Table 17 – Very high frequency data log parameter format

Bit / Byte	7	6	5	4	3	2	1	0
0	(MSB)			PARAMETER CODE (0000h)				
1								(LSB)
2	DU (0)	DS (1)	TSD (0)	ETC (0)	TMC (00)		LBIN (1)	LP (1)
3	PARAMETER LENGTH (04h)							
4	VHF data descriptor							
7								

The PARAMETER CODE field shall be set to 0000h to indicate the very high frequency data log parameter.

See SPC-3 for descriptions of the DU bit, DS bit, TSD bit, ETC bit, TMC field, LBIN bit, and LP bit. These bits and fields shall be set to the values shown in table 17.

The PARAMETER LENGTH field shall be set to 04h.

The VHF data descriptor is defined in table 18.

Table 18 – VHF data descriptor

Bit / Byte	7	6	5	4	3	2	1	0
0	PAMR	HIU	MACC	CMPR	WRTP	CRQST	CRQRD	DINIT
1	INXTN	Rsvd	RAA	MPRSNT	Rsvd	MSTD	MTHRD	MOUNTED
2	DT DEVICE ACTIVITY							
3	VS	Reserved	TDDEC	EPP	ESR	RRQST	INTFC	TAFC

Comment: Only the TDDEC bit is defined by this proposal so the text describing the other fields is not repeated here.

The tape diagnostic data entry created (TDDEC) bit set to one indicates that the DT device has created a new Tape Diagnostic Data log page entry (see SSC-3) since the last retrieval of any of the parameters from the Tape Diagnostic Data log page by this I_T nexus. A TDDEC bit set to zero indicates that the DT device has not created a new Tape Diagnostic Data log page entry since the last retrieval of any of the parameters from the Tape Diagnostic Data log page by this I_T nexus.