TO:	T10 Membership
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DATE:	17 April 2003
SUBJECT:	T10/03-165r0, ADC NOTIFY DATA TRANSFER DEVICE Command

Revision 0:

- Separated from sense data masking.
- Incorporated Automation AER IU contents

Discussion:

This command replaces the Automation AER IU. It is based upon the SERVICE ACTION OUT(16) command

SPC-3 Table 5 (typical 16-byte CDB) states that the parameter list length field need be included only if required. I propose to leave bytes 10 - 13 Reserved in case we need to add parameters in the future.

New command in ADC clause 5:

New line in Table 2:

Command:	NOTIFY DATA TRANSFER DEVICE
Required:	0
Reference:	5.x

New command description:

5.x NOTIFY DATA TRANSFER DEVICE command

The NOTIFY DATA TRANSFER DEVICE command (see Table x) is sent by the automation device to notify the data transfer device of specific events. It does not represent the complete current state of the automation device and is not intended to be sent upon every change in the device's state. Implementation of this command is optional.

The NOTIFY DATA TRANSFER DEVICE command shall be issued by the automation device when any of the specified events have occurred since the previous issue of a NOTIFY DATA TRANSFER DEVICE command on the ADC device server. It shall report only those events that have occurred since the last invocation of a NOTIFY DATA TRANSFER DEVICE command.

Upon processing a NOTIFY DATA TRANSFER DEVICE command, the ADC device server shall notify the data transfer device server and/or local SMC device server of the reported events, using means that are beyond the scope of this standard.

Bit Byte	7	6	5	4	3	2	1	0	
0	OPERATION CODE (9Fh)								
1		Reserved			SERVICE ACTION (TBD)				
2	Reserved LDFAIL								
3	Reserved				BUA	NRSC	IDC	MDC	
4	ASC								
5	ASCQ								
6	Reserved								
7	Reserved								

Table x – NOTIFY DATA TRANSFER DEVICE command

8	Reserved
9	Reserved
10	Reserved
11	Reserved
12	Reserved
13	Reserved
14	Reserved
15	CONTROL

The LOAD FAILED (LDFAIL) field is set to one if the automation device has detected a failure of the data transfer device to load a medium, and the automation device will not retry the load.

The fields in byte 3 are collectively known as the bridging status byte and are used to notify the bridging manager in the DTD of events in the remote SMC device server that may require changing cached SMC data. If bridging is enabled, the ADC device server shall pass the contents of this field as well as the contents of the ASC and ASCQ fields to the local SMC device server. If bridging is not enabled, then these fields shall be ignored.

The Mode Data Changed (MDC) field shall be set to one when bridging operation is enabled and when power on occurs or when the contents of any mode page or mode parameter header reported by the remote device server has been changed. Upon receiving this notification, the bridging manager shall refresh any cached mode data and the local device server shall report a sense key of UNIT ATTENTION to its primary interface ports.

The Inquiry Data Changed (IDC) field shall be set to one when bridging operation is enabled and the contents of the standard inquiry data or of any vital product data page reported by the remote device server has changed. Upon receiving this notification, the bridging manager shall refresh any cached inquiry data or VPD pages and the local device server shall report a sense key of UNIT ATTENTION to its primary interface ports.

The Not Ready Status Changed (NRSC) field shall be set to one when bridging operation is enabled and the remote device server has entered the not accessible state, as described in the discussion of caching SMC data and status (*insert cross-reference to model clause*). When NRSC is one, the ASC and ASCQ fields shall contain sense data appropriate to the condition. If the remote device server remains in the not accessible state and the sense data changes, then the NRSC field shall be set to one and the ASC and ASCQ fields set to the new values.

Upon receiving this notification, the local device server shall report that value, along with a sense key of NOT READY, to its primary interface ports.

When the BROADCAST UNIT ATTENTION (BUA) field is set to one, the ASC and ASCQ fields shall contain valid sense data. Upon receiving this notification, the local device server shall report the sense data to all initiators, along with a sense key of UNIT ATTENTION, to its primary interface ports. When the sense data is NOT READY TO READY CHANGE, MEDIUM MAY HAVE CHANGED, the remote device server has entered the accessible state.

The RSC and BUA fields shall not both be set to one. If both the RSC and the BUA fields are set to zero, then the ASC and ASCQ fields shall be set to zero.