TO: T10 Membership, ADI Working Group
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SUBJECT: ADI ADC-2 Service Buffers Information log page (document T10/05-158r1)

Rev1 – Change to "Service Buffers Information log page"; change parameter to variable length (in title field); add text for READ BUFFER data and descriptor modes to use; confirm that each parameter is a separate service buffer. Changed Introduction and Discussion sections t reflect changes.

Rev0 – Initial draft.

Introduction
This document proposes the addition of a log page to facilitate retrieval of service buffer (i.e., logs) from the DT device by automation devices. Each log parameter of the log page describes an individual service buffer that may be retrieved from the DT device. Retrieval of the actual service buffer is then accomplished using the READ BUFFER command and the buffer ID provided by the log parameter.

Discussion
This proposal is intended to address a letter ballot comment that was deferred from ADC. The intent is to have the availability DT device service buffers (i.e., logs) be completely self-describing, and allow a standard means to be used in their retrieval (i.e., READ BUFFER).

The number of available service buffers should be evident from the number of returned log parameters.

I opted not to include the size of the service buffer as part of the log parameter for two reasons:
 a. At any given time, the size of a service buffer may vary, and it seemed more likely to want to know the size closer to actual retrieval; and
 b. Descriptor mode (03h) of READ BUFFER already provides a method for obtaining the size, and I thought providing it as part of the log parameter would only be redundant.

Therefore, each log parameter provides the buffer ID to use for READ BUFFER, an ASCII text string to be used as a displayable description of the service buffer, a "retrieval availability" description, and an indication of the service buffer format (i.e., ASCII or binary).

Proposed changes are shown in blue.

Proposed Changes to ADC-2

Changes to 6.1.1:

Table 12 is modified as follows (note, only the changes are shown, not the entire table).

15h	Service Buffers Information log page	Optional	6.1.6
16h – 2Eh	Reserved		

New sub-clause 6.1.6:

6.1.6 Service Buffers Information log page

The Service Buffers Information log page (see table X) describes the service buffers that are available from the device server. The application client is able to retrieve a service buffer from the device server via a READ BUFFER command (see SPC-3). Using the assigned buffer ID, the application client is able to use descriptor mode (see SPC-3) to retrieve the size of the service buffer. The application client is able to use data mode (see SCP-3) to retrieve the service buffer according to the allowable service buffer retrieval conditions provided by the log parameter.

An ADC device server that implements the Service buffers Information log page shall implement one or more log parameters. Each implemented log parameter shall represent a unique service buffer. Parameters shall not be changed via a LOG SELECT command.

Table X — Service Buffers Information log page

Bit / Byte	7	6	5	4	3	2	1	0
0	Reserved		PAGE CODE (15h)					
1	Reserved							
2	(MSB)		PAGE LENGTH (n-3)					
3								(LSB)
4			Service Buffers Information log parameters					
n								

See SPC-3 for a description of the PAGE CODE field and the PAGE LENGTH field.

The service buffer information log parameter format is shown in table X+1.

Table X+1 — Service buffer information log parameter format

Bit / Byte	7	6	5	4	3	2	1	0
0	(MSB)		PARAMETER CODE					
1								(LSB)
2	DU (1)	DS (1)	TSD (1)	ETC (0)	TMC (0)		LBIN (0)	LP (1)
3	PARAMETER LENGTH (n-3)							
4	BUFFER ID							
5	Rsvd	Rsvd	Rsvd	TU	NMP	NMM	OFFLINE	PD
6	Reserved							ASCII
7	Reserved							
8	(MSB)		SERVICE BUFFER TITLE					
n								(LSB)

The PARAMETER CODE field is defined in table X+2.

Table X+2 — Service buffer information parameter codes

Code	Description
0000h – 00FFh	Service buffer identifier
0100h – 7FFFh	Reserved
8000h – FFFFh	Vendor-specific

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 X+1.

The PARAMETER LENGTH field specifies the length in bytes of service buffer information data that follows.

See SPC-3 for a description of the BUFFER ID field.

The TU bit, NMP bit, NMM bit, OFFLINE bit, and PD bit are collectively referred to as the service buffer retrieval control byte, and are described in this subclause.

A temporarily unavailable (TU) bit set to one indicates that the service buffer identified by the buffer ID is temporarily unavailable for retrieval from the device server for reasons outside the scope of this standard. A TU bit set to zero indicates that the service buffer identified by the buffer ID is able to be retrieved from the device server.

A no medium present (NMP) bit set to one indicates that the service buffer identified by the buffer ID is not able to be retrieved when a medium is present in the DT device (see 4.2.4). A NMP bit set to zero indicates that the service buffer identified by the buffer ID is able to be retrieved when a medium is present in the DT device.

A no medium mounted (NMM) bit set to one indicates that the service buffer identified by the buffer ID is not able to be retrieved when a medium is mounted in the DT device (see 4.2.4). A NMM bit set to zero indicates that the service buffer identified by the buffer ID is able to be retrieved when a medium is mounted in the DT device.

An OFFLINE bit set to one indicates that the service buffer identified by the buffer ID is not able to be retrieved when the RMC device server is online (see 6.2.2.4.2). An OFFLINE bit set to zero indicates that the service buffer identified by the buffer ID is able to be retrieved when the RMC device server is online.

A port disabled (PD) bit set to one indicates that the service buffer identified by the buffer ID is not able to be retrieved when the DT device primary port(s) associated with the RMU logical unit are enabled (see 6.2.2.4.2). A PD bit set to zero indicates that the service buffer identified by the buffer ID is able to be retrieved when the DT device primary port(s) associated with the RMU logical unit are enabled.

An ASCII bit set to one indicates that the service buffer identified by the buffer ID is ASCII data. An ASCII bit set to zero indicates that the service buffer identified by the buffer ID is binary data.

The SERVICE BUFFER TITLE field contains ASCII information concerning the service buffer identified by the buffer ID. The data in this field shall be formatted as a single character string line and shall contain only graphic codes (i.e., code values 20h through 7Eh) and shall be terminated with a NULL (00h) character.