To: INCITS T10 Committee

From: Kevin Butt, IBM

Date: March 2, 2005

Document: T10/T10/05-002r3

Subject: SSC-3: Sequential-Access Device log page

Related Documents:

03-010

There is a desire by IBM to have a method by which a device server can provide an indication to an application client of how much tape has been used and how much is available for use. We propose additional parameters be added to the Sequential-Access Device log page in SSC-3.

3.1.x native capacity - The capacity assuming one-to-one compression (e.g. compression disabled), the medium is in good condition, and that the device recommended typical block size is used.

8.2.2 Sequential-Access Device log page

The Sequential-Access Device log page defines data counters associated with data bytes transferred to and from the medium and to and from the application client, list parameters describing native logical capacities, and a list parameter of binary information on cleaning.

The default value for parameters 0 through 3 shall be zero.

> NOTE 37 The data in parameters 0 and 1 are intended to provide an indication of the compression ratio for the written data. Parameters 2 and 3 are intended to provide an indication of the compression ratio for read data.

Support of the Sequential-Access Device log page is mandatory. Support of the individual parameters in the Sequential-Access Device log page are optional. Parameters 0004h, 0005h, 0006h, and 0007h are only valid when a medium is mounted.

Table 50 defines the parameter codes for the Sequential-Access Device log page.

Parameter Code	Description	Support
0000h	Number of data bytes received from application clients during WRITE command operations.	M
0001h	Number of data bytes written to the media as a result of WRITE command operations, not counting ECC and formatting overhead.	M
0002h	Number of data bytes read from the media during READ command operations, not counting ECC and formatting overhead.	M
0003h	Number of data bytes transferred to the initiator(s) during READ command operations.	M
0004h	Approximate native capacity in Megabytes (10^6) from BOP to EOD. This is not sensitive to the current position of the medium. The approximate native capacity between EOD and EW is the difference of parameter 0005h and this parameter. There is no guarantee about the amount of data that can be written before reaching EW.	M
0005h	Approximate native capacity in Megabytes (10^6) between BOP and EW of the current partition.	M
0006h	Minimum native capacity in Megabytes (10^6) between EW and EOP of the current partition. This native capacity is assuming one-to-one compression (e.g. compression disabled), the medium is in good condition, and that the device recommended typical block size is used.	M
0007h	Approximate native capacity in Megabytes (10^6) from BOP to current medium position.	M
0008h	Maximum native capacity in Megabytes (10^6) that is currently allowed to be in the device object buffer. This value may change depending on current medium position (e.g. Available native capacity shrinks as the position on medium approaches EOP).	M
0009h - 00FFh	Reserved	N/A
0100h	Cleaning required.	O
0101h - 7FFFh	Reserved	N/A
8000h - FFFFh	Vendor-specific parameters	N/A

EXAMPLE: If the current partition has a native capacity of 200 GB (109) with EW at 1GB prior to EOP and the medium is positioned at the point that is 75% of the logical length between BOP and EW, then the device server would use the following to determine parameters 0004h, 0005h, and 0006h.

Since 75% of logical length is remaining, (200 GB - 1 GB) * 75% = 149.25 GB   (EQ 1)

EQ 1 gives parameter 0004h = 149 250 (2 4702h), parameter 0005h = 199 000 (030958h), and parameter 0006h = 1 000 (03E8h). The parameter lengths would be 3 bytes for parameter 0004h, 3 bytes for parameter 0005h, and 2 bytes for parameter 0006h. Note that parameters 0004h and 0005h could also be 4 bytes with leading zeros for those implementations that desire to limit parameters to multiples of 2.