To: INCITS Technical Committee T10

From: Kevin Butt, IBM

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Subject: Responses to ISV Response

1. Revisions

2. Introduction

This document contains the responses to 05-175 and the Working Groups discussions related to them. There is a section for each standard with each item listed under the standard(s) they apply to. There is a prioritization by standard since there are unique working groups (albeit same people). There is also a difficulty listed of standardizing or solving the problem. Currently these priority and difficulty have NOT been reviewed by the various working groups.

Scale of A - C with A being highest and C lowest.

3. Responses

3.1 SSC-3

3.1.1 Mandate that commands return CHECK CONDITION status with the sense key set to NOT READY and the additional sense code set to MEDIUM NOT PRESENT after returning GOOD status to a LOAD/UNLOAD command with LOAD set to zero and HOLD set to zero (SSC-3; EMC);

<< Owner, Priority ??, Difficulty B >>

3.1.2 Standardize all of the conditions/events that set sense key and additional sense code values (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty A >>

3.1.3 Provide a standard command to return the error history (e.g. count, error codes, and time stamps) for the device, device server, and removable medium (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty C >>

3.1.4 Add an interface [i.e. parameters for a key and bit mask for standardized

algorithm(s)] for encryption/decryption in a stream device server (SSC-3?, SPC-4?; CA);

<< Owner, Priority A+, Difficulty A+ >>

3.1.5 Add a uniform method (e.g. command) to determine if the medium or the device caused an error (SSC-3, SPC-4?; CA);

<< Owner, Priority C, Difficulty A >>

3.1.6 Add a mode parameter to allow an application client to set the Early Warning size (SSC-3; CA);

<< Owner, Priority ??, Difficulty C >>

3.1.7 Add a parameter to a stream device server that contains the serial number of the media changer containing the removable medium device, and add a method for an application client within the media changer to set this parameter (ADC-2, SSC-3; CA);

<< Owner, Priority ??, Difficulty C >>

3.1.8 Add a method to differentiate between a stream device server acting on a virtual removable medium device and one acting on a physical removable medium device (SSC-3; CA); and

<< Owner, Priority ??, Difficulty A >>

3.1.9 Enhance the explicit command set (e.g. by adding the host id to the medium access CDBs) to support concurrent data streams to a stream device server acting on a virtual removable medium device (SSC-3; CA).

<< Owner, Priority ??, Difficulty A >>

3.2 SMC-3

3.2.1 Standardize all of the conditions/events that set sense key and additional sense code values (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty A >>

[SMC Telecon] Response to be sent to CA "We believe this valuable and are beginning work on this. We will begin with vendor-specific values first then branch out to standard specified values." All companies bring in what they use both vendor-specific and standard.

3.2.2 Provide a standard command to return the error history (e.g. count, error codes, and time stamps) for the device, device server, and removable medium (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty C >>

[SMC Telecon] Response to be sent to CA "What is lacking in Log Page 7? (information or vendors supporting it?) What if we extended the capabilities in 05-158r2 to apply to both SMC-3 and SSC-3".

3.2.3 Enhance READ ELEMENT STATUS data to include medium type (i.e. technology, generation, and special cartridge type; not sure if CA wants it to apply to storage elements only or all element types; SMC-3; CA);

<< Owner, Priority ??, Difficulty B >>

[SMC Telecon] Response to be sent to CA "We have been working this with 05-259r0 and 05-153r1 as well as an Action for Rod Wideman of ADIC."

3.2.4 Enhance READ ELEMENT STATUS data to include WRITE PROTECT bit in storage element pages (SMC-3; CA);

<< Owner, Priority ??, Difficulty A >>

[SMC Telecon] Response to be sent to CA "We believe this would be very good to do but we are unsure how this can be accomplished." More discussion needed for this item.

3.2.5 Enhance READ ELEMENT STATUS data to include medium type support (i.e. technology, generation, and special cartridge type) for Data Transfer elements (SMC-3; CA);

<< Owner, Priority ??, Difficulty B >>

[SMC Telecon 01Sept] Response to be sent to CA "This is attempted to be addressed in 05-153 and 05-259 which are still under progress.".

3.2.6 Add an additional sense code and text to the TEST UNIT READY command so that an application client can detect when the opening and closing of an Import/Export element door has resulted in a change in the medium inventory (SMC-3, SPC-4; CA);

<< Owner: Rod Wideman, Priority ??, Difficulty A >>

[SMC Telecon] Response to be sent to CA "Create a UA to address medium inventory has changed. Specifics TBD."

3.2.7 Add an additional sense code and text to the TEST UNIT READY command so that an application client can detect when a SCSI device associated with a Data Transfer element has been removed or replaced (SMC-3, SPC-4; CA);

<< Owner, Priority ??, Difficulty B >>

[SMC Telecon] Response to be sent to CA "Create Unit Attention to trigger sending a Read Element status to get change for a specific element type. Combine with 3.2.6."

3.2.8 Add a method to differentiate between a medium changer device server acting on a

virtual library and one acting on a physical library (SMC-3; CA);

<< Owner: None, Priority None, Difficulty A >>

[SMC Telecon 01Sept] Response to be sent to CA "The working group appreciates this input but by a straw poll none of the participants wished to create this proposal because the working group found it too controversial. T10 is an open standards body and would provide due diligence in reviewing a proposal presented by any body that wished to present it.".

3.3 SPC-4

3.3.1 Standardize all of the conditions/events that set sense key and additional sense code values (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty A >>

3.3.2 Provide a standard command to return the error history (e.g. count, error codes, and time stamps) for the device, device server, and removable medium (SMC-3, SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty B >>

3.3.3 Provide an application client-level reservation capability (SPC-4; CA);

<< Owner, Priority ??, Difficulty A >>

~~3.3.4 Add an additional sense code and text to the TEST UNIT READY command so that an application client can detect when the opening and closing of an Import/Export element door has resulted in a change in the medium inventory (SMC-3, SPC-4; CA);~~

~~<< Owner, Priority ??, Difficulty C - I assume this is ASC/ASCQ addition only >>~~

~~3.3.5 Add an additional sense code and text to the TEST UNIT READY command so that an application client can detect when a SCSI device associated with a Data Transfer element has been removed or replaced (SMC-3, SPC-4; CA);~~

~~<< Owner, Priority ??, Difficulty C - I assume this is ASC/ASCQ addition only >>~~

3.3.6 Add an interface [i.e. parameters for a key and bit mask for standardized algorithm(s)] for encryption/decryption in a stream device server (SSC-3?, SPC-4?; CA);

<< Owner, Priority A+, Difficulty A+ >>

3.3.7 Add a uniform method (e.g. command) to determine if the medium or the device caused an error (SSC-3, SPC-4?; CA);

<< Owner, Priority ??, Difficulty A >>

3.4 ADC-2

3.4.1 Add a parameter to a stream device server that contains the serial number of the media changer containing the removable medium device, and add a method for an application client within the media changer to set this parameter (ADC-2, SSC-3; CA);

<< Owner, Priority ??, Difficulty C >>