T10/06-139r0: Minutes of
SCSI Media Changer (SMC) Working Group
for March 6, 2006, 3:45 PM - 7:45 PM EST

1. Introductions   Group

Michael Banther called the meeting to order at 3:45 PM EST. He thanked the SCSI Trade Association for hosting the meeting. Greg Wheeless agreed to serve as the secretary of the meeting.

2. Approval of the Agenda   Michael Banther

Michael Banther presented the agenda. Paul Suhler made a motion to accept the agenda as presented. Noud Snelder seconded the motion. The group passed the motion unanimously.

3. Attendance and Membership   Michael Banther

Michael Banther reviewed the T10 attendance rules with the group and directed prospective new members to John Lohmeyer. The attendance report appears below.

SMC-3 Working Group Attendance:

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        Name                    S           Organization
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Mr. Rod Wideman                 V   ADIC
Mr. Noud Snelder                V   BDT
Mr. Curtis Ballard              V   Hewlett Packard
Mr. Michael Banther             V   Hewlett Packard Co.
Mr. Kevin Butt                  A   IBM Corp.
Mr. Paul Entzel                 P   Quantum Corp.
Dr. Paul Suhler                 A   Quantum Corp.
Mr. Roger Cummings              P   Symantec
Mr. Greg Wheeless               A   Symantec
Mr. Halvard Eriksen             AV  Tandberg Data ASA
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4. INCITS Patent Policy   Michael Banther

Michael Banther directed the group to a reading of the T10 Short Summary of the INCITS Patent Policy.

5. Approval of Previous Meeting Minutes   Michael Banther

Roger Cummings made a motion to accept the previous meeting minutes as modified at this meeting. Halvard Eriksen seconded the motion. The group passed the motion unanimously.

6. Review of Action Items   Greg Wheeless

Greg Wheeless reviewed the outstanding agenda items, and the status of each item was reported as listed below:

06-001 [Michael Banther] Enhanced TapeAlert capability – synchronization with SSC-3: carry-over.

06-002 [Michael Banther] Reporting of virtual libraries / partitioning to host: carry-over.

06-003 [Rod Wideman] Visibility of media type in storage element. Medium Domain (e.g. technology) & Medium type (e.g. WORM, Clean, Data, F/W Upgrade): carry-over.

06-004 [Greg Wheeless] Change the 3rd paragraph of 5.3.1 to clarify addresses and volumes: carry-over.

06-005 [Greg Wheeless] Revise 05-271r2 and post as 05-271r3: carry-over.

06-006 [Rod Wideman] Write a proposal for items 3.2.6 and 3.2.7 in 05-315r0: carry-over.

06-009 [Rod Wideman] Collect Sense codes from all Library vendors to assist in standardizing these sense codes: closed.

06-012 [Rod Wideman] Bring a proposal for a new command/framework per November discussion item 7.4: carry-over.

06-013 [Rob Elliott] Revise 05-074r1 per November discussion item 7.5 and post: carry-over.

06-015 [Rod Wideman] Revise 05-243r1 per November discussion item 8.1 and post: closed.

06-016 [Noud Snelder] Incorporate 05-317r3 into SMC-3: closed.

06-017 [Roger Cummings] Post revised November minutes as 05-431r2: closed.

06-018 [Kevin Butt] Respond to CA re 3.2.3. of 05-315r1: carry-over.

06-019 [Kevin Butt] Respond to CA re 3.2.4. of 05-315r1: carry-over.

06-020 [Robert Payne] Define a philosophy for Write Exclusive Persistent Reservations in SMC: carry-over.

06-021 [Michael Banther] Forward comments from the discussion on 05-368r1 to Rob Elliott: closed.

06-022 [Rod Wideman] Contact Erich Oetting re knowledge of SMC-2 Letter Ballot comments re the Element Type Code field in the Read Attribute command.

06-023 [Michael Banther] Contact John Lohmeyer regarding impact (if any) of approval of 05-413r0 on processed SMC-2 documents: closed.

06-024 [Noud Snelder] Revise 05-413r0 per January agenda item 7.6, post as 05-413r1, and incorporate in SMC-3: closed.

06-025 [Noud Snelder] Revise 05-414r1 per January agenda item 7.7 and post: closed.

06-026 [Noud Snelder] Revise 06-023r0 per January agenda item 8.1, and post: closed.

06-027 [Paul Entzel] Write proposal for SPC-4 to make usage of "medium changer" and "media changer" consistent: carry-over.

06-028 [Curtis Ballard] Revised 06-046r0 per January agenda item 8.2, and post: closed.

06-029 [Noud Snelder] Incorporate 05-368r2 (contains changes requested per January agenda item 7.5) into SMC-3: carry-over.

7. Discussion Items   Group

7.1   Working List for ISV feedback (SMC/SSC/ADC/SPC) (05-315r2).   Kevin Butt

Kevin Butt presented the current state of work on the ISV feedback actions. The status of ongoing work was discussed and changes were noted in the document. Kevin Butt to revise

and post 05-315r2 to note these updates. Noud Snelder agreed to own the effort to standardize existing conditions and events where ASC/Qs are listed with an "M" (those that apply to media changers). Kevin Butt agreed to contact Kevin Marks to ask if he would be willing to extend his proposal 05-158r2 from SSC to SMC.

Michael Banther inquired whether any feedback had been given to CA. Kevin Butt replied that some feedback had been given, and that CA had been informed that the work in progress would be reflected in document 05-315.

7.2   SMC-3 Read Element Multi-identifiers (05-153r1).   Curtis Ballard

This item was deferred to the next meeting.

7.3   SPC-3 SPC-4 SES-2 SMC-3 Command requirements (05-074r1).   Michael Banther

This item was deferred to the next meeting.

7.4   SMC-3 REQUEST DATA TRANSFER ELEMENT INQUIRY command (05-243r2).
                                                                                                                      Rod Wideman

Rod Wideman discussed the changes made from 05-243r1. The group discussed the value of this approach compared to the READ ELEMENT STATUS command or an approach using hierarchical LUNS. It was noted that this approach is uniquely suited for solving the problem of mapping DTE addresses to Target IDs and LUNS of drives, while providing the flexibility of using any chosen inquiry data for this purpose. This is not a generic tunneling mechanism, because the media changer can reasonably be expected to have more knowledge of the inquiry data of drives than of other data, and might in fact be synthesizing the inquiry data.

There was much discussion of how to differentiate the condition of an unsupported element address from the condition of a supported element address where the command failed for some reason. No sense key seemed appropriate for the latter case. The consensus was that a new ASCQ should be used for the latter case.

Rod Wideman moved that 05-243r2 as modified be incorporated into SMC-3. Paul Entzel seconded the motion.

In discussion of that motion, Curtis Ballard suggested that his proposal in this area (06-046) should be considered before incorporating 05-243. Curtis Ballard motioned that Rod Wideman's motion be tabled until the next meeting. Halvard Eriksen seconded this motion. Curtis Ballard's motion passed unanimously. Rod Wideman's motion was tabled.

Rod Wideman will update 05-243r2 and post.

7.5   SMC-3 Clarification SEND VOLUME TAG command (05-414r1)   Noud Snelder

Noud Snelder discussed the changes made from 05-414r0. Paul Entzel questioned whether to obsolete this command. Rod Wideman noted that much of the functionality of this command does not apply to current media changers. Noud Snelder noted that there was nevertheless some useful functionality presented through the command. Curtis Ballard noted that this command was used by an application in order to move volumes by barcode. The group discussed the utility of a request to change the barcode on a medium.

Noud Snelder noted that the description of VOLUME SEQUENCE NUMBER, defined as a part of the volume tag, was extremely vague. Kevin Butt and Paul Entzel agreed to ask what

their companies do with this field. Noud Snelder will revise 05-414r1 and post based on the group discussion.

7.6   SMC-3 Editorial changes (06-023r1)   Noud Snelder

The group discussed these editorial changes, and reached consensus, which will be reflected in Noud Snelder's update to SMC-3.

7.7   SMC-3 Report Supported Medium Types (06-046r1)   Curtis Ballard

This item was deferred to the next meeting.

7.8   SMC-3 Vendor Specific Sense Code Survey (06-109r1)   Rod Wideman

This item was deferred to the next meeting.

8.   Unscheduled Business   Group

There was no unscheduled business presented at this meeting.

9.   Next Meeting Requirements   Michael Banther

There will be a conference call at 4:00 PM EST, March 27, 2006, to discuss 06-046 and the relationship between that proposal and 05-243.

Subject to approval by the T10 Plenary, the group will hold a meeting on May 8, 2006 during the T10 plenary week in San Jose, CA, beginning immediately after ADI completes, and concluding at 7:00 PM.

10.   Review New and Outstanding Action Items   Greg Wheeless

Greg Wheeless reviewed the following items with the meeting:

06-001   [Michael Banther] Enhanced TapeAlert capability – synchronization with SSC-3.

06-002   [Michael Banther] Reporting of virtual libraries / partitioning to host.

06-003   [Rod Wideman] Visibility of media type in storage element. Medium Domain (e.g. technology) & Medium type (e.g. WORM, Clean, Data, F/W Upgrade).

06-004   [Greg Wheeless] Change the 3rd paragraph of 5.3.1 to clarify addresses and volumes.

06-005   [Greg Wheeless] Revise 05-271r2 and post as 05-271r3.

06-006   [Rod Wideman] Write a proposal for items 3.2.6 and 3.2.7 in 05-315r0.

06-012   [Rod Wideman] Bring a proposal for a new command/framework per November discussion item 7.4.

06-013   [Rob Elliott] Revise 05-074r1 per November discussion item 7.5 and post.

06-018   [Kevin Butt] Respond to CA re 3.2.3. of 05-315r1.

06-019   [Kevin Butt] Respond to CA re 3.2.4. of 05-315r1.

06-020   [Robert Payne] Define a philosophy for Write Exclusive Persistent Reservations in SMC.

06-027   [Paul Entzel] Write proposal for SPC-4 to make usage of "medium changer" and "media changer" consistent.

06-029 [Noud Snelder] Incorporate 05-368r2 (contains changes requested per January agenda item 7.5) into SMC-3

06-030 [Kevin Butt] Revise and post 05-315r2 per March discussion item 7.1.

06-031 [Noud Snelder] Standardize existing conditions and events where ASC/Qs are listed with an "M" (those that apply to medium changers), per March discussion item 7.1.

06-032 [Kevin Butt] Contact Kevin Marks to ask if he would be willing to extend his proposal in 05-158r2 from SSC to SMC per March discussion item 7.1.

06-033 [Kevin Butt] Inquire how the VOLUME SEQUENCE NUMBER field is used by implementers at IBM, per March discussion item 7.5.

06-034 [Paul Entzel] Inquire how the VOLUME SEQUENCE NUMBER field is used by implementers at Quantum, per March discussion item 7.5.

06-035 [Noud Snelder] Revise and post 05-414r1 per March discussion item 7.5.

06-036 [Rod Wideman] Revise and post 05-243r2 per March discussion item 7.4.

06-037 [Michael Banther] Post a meeting announcement for the March 27 conference call on the T10 reflector.

11. Adjournment   Group

Greg Wheeless made a motion for adjournment. Paul Suhler seconded the motion. The group passed the motion unanimously. Michael Banther adjourned the group at 7:45 PM EST.