Comments attached to Abs ballot from Robert Snively of Brocade:
Brocade has no material interest in this standard at present.

MMC WG Response: No action required

Comments attached to Abs ballot from Robert H. Nixon of Emulex:
My organization is not materially affected by the subject matter of this standard.

MMC WG Response: No action required.

Comments attached to No ballot from Ralph O. Weber of ENDL:
The usage of the PREVENT ALLOW MEDIUM REMOVAL command must be coordinated with the existing definition in SPC-4.

MMC WG Response: This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

Comments attached to Abs ballot from Elwood Parsons of Foxconn Electronics:
Lack of expertise.

MMC WG Response: No action required.

Comments attached to No ballot from Rob Elliott of Hewlett Packard Co.:

HPQ comment number 1
Page=49 Subtype=Highlight Author=relliott
Comment=
Table of Tables
Put "Figure C.1 - Mass storage interface block diagram........... 654" into the table of figures, not the table of tables.

MMC WG Response:
To be changed. Fixed in 3a.

HPQ comment number 2
Page=57 Subtype=Highlight Author=relliott Comment= 2.2
Change "SCSI-3 Primary Commands" to "SCSI Primary Commands - 2" to match the SPC-2 acronym (if this line remains; since SPC-3 is published, that should probably move from Other References to here and replace this line altogether)

MMC WG Response:
To be changed. Changed in rev 3a

HPQ comment number 3
Page=57 Subtype=Highlight Author=relliott
Comment= 2.2
Change "ANSI NCITS.336:2000 SPI-3 SCSI Parallel Interface - 3" to "ANSI INCITS 367-2003 SPI-5 SCSI Parallel Interface - 5"

MMC WG Response:
To be changed. Changed in rev 3a
HPQ comment number 4  
Page=57 Subtype=Text Author=relliott  
Comment=  
2.2  
Change format of all the ANSI NCITS/INCITS references to ANSI INCITS xyz-200n which is how they're catalogued on the ANSI store web site.  
MMC WG Response:  
To be changed. Changed in rev 3a

HPQ comment number 5  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3  
"INCITS T10/1417D SBC-2 SCSI Block Command Set - 2" is published as ANSI INCITS 405-2005. Move to 2.2 and replace the SBC reference.  
MMC WG Response:  
To be changed. Changed in rev 3a

HPQ comment number 6  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3  
"INCITS T10/1416D SPC-3 SCSI Primary Command Set - 3" is published as ANSI INCITS 408-2005. Move to 2.2 and replace the SPC-2 line.  
MMC WG Response:  
To be changed. Changed in rev 3a

HPQ comment number 7  
Page=58 Subtype=Highlight Author=relliott  
Comment=  
2.3  
ATA8 is not split into 3 "volumes." It's three separate projects each with their own numbers ATA8-AAM, ATA8-ACS, and ATA8-APT. Serial ATA International Organization has asserted control of the Serial ATA interface so ATA8-AST is irrelevant.  
MMC WG Response:  
To be changed. Changed in rev 3a
2.3
"INCITS T10/1467D SBP-3 SCSI Serial Bus Protocol - 3" is published as ANSI INCITS 375-2004. Move to 2.2 and replace the SBP-2 line.

MMC WG Response:
To be changed. Changed in rev 3a

Add:
CE Consumer Electronics
PC Personal Computer

(used by AACS definition)

MMC WG Response:
PC is used elsewhere, but CE is never used elsewhere. Changed in 3a: PC was added. CE was defined in place as "Consumer Electronics".

The text "Figure 7" seems to be in its own paragraph (once on page 32, once on page 33).

MMC WG Response:
To be changed. Changed in 3a.

Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.

Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 13
Page=97 Subtype=Highlight Author=relliott
Comment=
4.1.9.6
Change "Time-out and Protect Mode Page (1Dh) to "Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 14
Page=125 Subtype=Highlight Author=relliott
Comment=
4.3.2.2
Figure 27
Change "ID Field for DVD-ROM" to "DVD-ROM ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 15
Page=128 Subtype=Highlight Author=relliott
Comment=
4.3.3.3
figure 29
Change "ID Field for DVD-RAM" to "DVD-RAM ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 16
Page=128 Subtype=Highlight Author=relliott
Comment=
4.3.3.3
Change "For DVD-RAM, the definition of the sector information part of the ID field differs from other DVD media types. The sector ID field is viewed as a 32-bit field as shown in Figure 29." to "For DVD-RAM, the definition of the sector information part of the ID field is shown in Figure 29." because the figure doesn't show a full 32-bit field. The suggested change matches other wording.

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 17
Page=130 Subtype=Text Author=relliott
Comment=
4.3.3.5
Include an introductory reference to figure 30

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 18
Page=132 Subtype=Highlight Author=relliott
Comment=
4.3.4.2
figure 31

Change "ID Field for DVD-R/-RW" to "DVD-R/-RW ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 19
Page=132 Subtype=Highlight Author=relliott
Comment=
4.3.4.2
Change "For DVD-R/-RW, the definition of the sector information part of the ID field differs from other DVD media types. The sector ID field is viewed as a 32-bit field as shown in Figure 31." to "For DVD-R/-RW, the definition of the sector information part of the ID field is shown in Figure 31"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 20
Page=137 Subtype=Text Author=relliott
Comment=
4.3.4.4.2

Include an introductory reference to figure 33

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 21
Page=141 Subtype=Highlight Author=relliott
Comment=
4.3.5.3
Figure 35
Change "ID Field Details" to "ID Field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 22
Page=141 Subtype=Highlight Author=relliott
Comment=
4.3.5.3
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD-R DL, the definition of the sector information part of the ID field (Figure 35) differs from other DVD media types." to "For DVD-R DL, the definition of the sector information part of the ID field is shown in Figure 35"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 23
Page=143 Subtype=Text Author=relliott
Comment=
4.3.5.4.2
Include an introductory reference to figure 37

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 24
Page=144 Subtype=Text Author=relliott
Comment=
4.3.5.5.1
Include an introductory reference to figure 40

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 25
Page=146 Subtype=Text Author=relliott
Comment=
4.3.5.5.4
Include an introductory reference to figure 41

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 26
Page=147 Subtype=Text Author=relliott
Comment=
4.3.5.6
Include an introductory reference to figure 42

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 27  
Page=147 Subtype=Text Author=relliott  
Comment=  
4.3.5.7  

Include an introductory reference to figure 43  

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 28  
Page=149 Subtype=Highlight Author=relliott  
Comment=  
4.3.6.1.2  
Figure 44  

Change "ID Field Details" to "ID Field Sector Information details"  

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 29  
Page=149 Subtype=Highlight Author=relliott  
Comment=  
4.3.6.1.2  

Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+R, the definition of the sector information part of the ID field (Figure 44) differs from other DVD media types." to "For DVD+R, the definition of the sector information part of the ID field is shown in Figure 44"  

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 30  
Page=151 Subtype=Highlight Author=relliott  
Comment=  
KB needs to be defined in section 3 if it is going to be used in the standard. (K is defined in conventions, but then B meaning byte or bit could be questioned)  
Since it means 1024, it should be changed to KiB (see SPC-4 for a definition of that odd acronym).  

MMC WG Response:  
To be clarified in clause 3. The new acronyms are not well known by developers, so the MMC WG chooses to avoid them. Changes are in 3a.
HPQ comment number 31
Page=156 Subtype=Highlight Author=relliott
Comment= 4.3.7.2
Figure 47

Change "ID Field Details" to "ID Field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 32
Page=156 Subtype=Highlight Author=relliott
Comment= 4.3.7.2
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+R DL, the definition of the sector information part of the ID field (Figure 47) differs from other DVD media types." to "For DVD+R DL, the definition of the sector information part of the ID field is shown in Figure 47"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 33
Page=163 Subtype=Highlight Author=relliott
Comment= 4.3.8.2
Figure 55
Change "ID Field" to "ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 34
Page=163 Subtype=Highlight Author=relliott
Comment= 4.3.8.2
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+RW, the definition of the sector information part of the ID field (Figure 55) differs from other DVD media types." to "For DVD+RW, the definition of the sector information part of the ID field is shown in Figure 55"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 35
Page=166 Subtype=Highlight Author=relliott
Comment=
4.3.9.2.1
figure 56
Change "ID Field Details" to "DVD+RW DL ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 36
Page=166 Subtype=Highlight Author=relliott
Comment=
4.3.9.2.1
Change "The sector ID field is viewed as a 32-bit field as shown in Figure 24. For DVD+RW DL, the definition of the sector information part of the ID field (Figure 56) differs from other DVD media types." to "For DVD+RW DL, the definition of the sector information part of the ID field is shown in Figure 56"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 37
Page=173 Subtype=Highlight Author=relliott
Comment=
4.3.10.1
Change idenfification to identification

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 38
Page=174 Subtype=Highlight Author=relliott
Comment=
4.4
"Description s/b "Model" to match the DVD chapter, or not present at all to match the BD chapter

MMC WG Response:
The MMC WG prefers to remove “model” and “description”. Changed in 3a.

HPQ comment number 39
Page=174 Subtype=Text Author=relliott
Comment=
4.4.2.1
The line starting with "area" should be in the same paragraph as the previous line

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 40  
Page=175 Subtype=Highlight Author=relliott  
Comment=  
4.4.3.1.1  
figure 68  
Change "ID Field Details" to "ID field Sector Information details"  
MMC WG Response:  
To be changed. Changed in 3a.

HPQ comment number 41  
Page=175 Subtype=Text Author=relliott  
Comment=  
4.4.3.1.1  
Add period at end of each sentence.  
MMC WG Response:  
To be changed. Changed in 3a.

HPQ comment number 42  
Page=176 Subtype=Highlight Author=relliott  
Comment=  
4.4.3.1.2  
Unbold "(see Figure 25)."  
MMC WG Response:  
To be changed. Changed in 3a.

HPQ comment number 43  
Page=178 Subtype=Text Author=relliott  
Comment=  
4.4.4.2  
The text "Figure 71" seems to be in its own paragraph  
MMC WG Response:  
To be changed. Changed in 3a.

HPQ comment number 44  
Page=178 Subtype=Highlight Author=relliott  
Comment=  
4.4.4.2  
figure 71  
Change "ID Field for HD DVD-ROM" to "HD DVD-ROM ID field Sector Information details"  
MMC WG Response:  
To be changed. Changed in 3a.
HPQ comment number 45
Page=178 Subtype=Highlight Author=relliott
Comment=
4.4.4.2
Change "For HD DVD-ROM, the definition of the sector information part of the ID field is shown in Figure 71." to "For HD DVD-ROM, the definition of the sector information part of the ID field is shown in Figure 71"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 46
Page=180 Subtype=Text Author=relliott
Comment=
4.4.5.2
The text "Figure 72" seems to be in its own paragraph.

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 47
Page=180 Subtype=Highlight Author=relliott
Comment=
4.4.5.2
figure 71
Change "ID Field for HD DVD-R" to "HD DVD-R ID field Sector Information details"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 48
Page=180 Subtype=Highlight Author=relliott
Comment=
4.4.5.2
Change "For HD DVD-R, the definition of the sector information part of the ID field is shown in Figure 72." to "For DVD-R, the definition of the sector information part of the ID field is shown in Figure 72"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 49
Page=183 Subtype=Highlight Author=relliott
Comment= 4.4.6.2
ID Field for HD DVD-RAM
figure 71

Change "ID Field for HD DVD-RAM" to "HD DVD-RAM ID field Sector Information
details"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 50
Page=184 Subtype=Text Author=relliott
Comment= 4.4.6.4
Add period after "Figure 75"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 51
Page=186 Subtype=Text Author=relliott
Comment= 4.5.2.2
Remove line break before "Figure 66)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 52
Page=192 Subtype=Text Author=relliott
Comment= 4.5.3.3.1
Include introductory reference to figure 82

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 53
Page=192 Subtype=Text Author=relliott
Comment= 4.5.3.3.1
Include introductory reference to figure 83

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 54
Page=193 Subtype=Text Author=relliott
Comment=
4.5.3.3.2
Include introductory reference to figure 84
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 55
Page=193 Subtype=Text Author=relliott
Comment=
4.5.3.3.2
Include introductory reference to figure 85
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 56
Page=203 Subtype=Text Author=relliott
Comment=
4.5.3.6.6
Remove new line between In and Figure 99.
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 57
Page=208 Subtype=Highlight Author=relliott
Comment=
4.5.4.4
Change (Figure 78) to (Figure 104)
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 58
Page=210 Subtype=Highlight Author=relliott
Comment=
4.5.5
Change "See Figure 102." to "See Figure 105."
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 59
Page=210 Subtype=Highlight Author=relliott
Comment=
4.5.5
Change "See Figure 103." to "See Figure 106."
MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 60
Page=217 Subtype=Text Author=relliott
Comment=
4.5.8.4.4
Add introductory reference to figure 107.
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 61
Page=227 Subtype=Text Author=relliott
Comment=
4.7.4.5.4.2
add introductory reference to figure 110
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 62
Page=232 Subtype=Text Author=relliott
Comment=
4.7.7.1
add introductory reference to figure 111
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 63
Page=240 Subtype=Highlight Author=relliott
Comment=
4.9.2.1
Change "mode page 01h" to "the Read/Write Error Recovery mode page (see 7.3)"
MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 64
Page=241 Subtype=Highlight Author=relliott
Comment=
4.9.5
MB needs to be defined in section 3 if it is going to be used in the standard. (M is defined in conventions, but then B meaning byte or bit could be questioned)

It should be changed to MiB (see SPC-4 for a definition of that odd acronym).

MMC WG Response:
See the response to comment #30.
HPQ comment number 65
Page=241 Subtype=Highlight Author=relliott
Comment=
4.9.5
figure 116
Change Mb to MB (or to MiB, based on other comments)

MMC WG Response:
Mb is changed to MB. Otherwise, see the response to comment #30.

HPQ comment number 66
Page=242 Subtype=Highlight Author=relliott
Comment=
4.9.5
Figure 117
change Mb to MB (or MiB based on other comments)

MMC WG Response:
Mb is changed to MB. Otherwise, see the response to comment #30.

HPQ comment number 67
Page=242 Subtype=Highlight Author=relliott
Comment=
4.9.5
figure 118
Change Mb to MB (or MiB based on other comments)

MMC WG Response:
Mb is changed to MB. Otherwise, see the response to comment #30.

HPQ comment number 68
Page=243 Subtype=Highlight Author=relliott
Comment=
4.9.5
figure 119
Change Mb to MB (or MiB based on other comments)

MMC WG Response:
Mb is changed to MB. Otherwise, see the response to comment #30.

HPQ comment number 69
Page=243 Subtype=Highlight Author=relliott
Comment=
4.9.5
figure 120
Change Mb to MB (or MiB based on other comments)

MMC WG Response:
Mb is changed to MB. Otherwise, see the response to comment #30.
HPQ comment number 70
Page=247 Subtype=Text Author=relliott
Comment=
4.10.5.2
Bottom of page 196 in step 6a and step 6b

Join paragraphs together correctly, and make NOTE: into a numbered NOTE following the Note style.

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 71
Page=247 Subtype=Highlight Author=relliott
Comment=
4.10.5.2

delete extra period in "sent.."

MMC WG Response:
To be changed.

HPQ comment number 72
Page=261 Subtype=Highlight Author=relliott
Comment=
5.2.3
Table 85

Change erasable to Erasable in the Feature Name column

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 73
Page=262 Subtype=Highlight Author=relliott
Comment=
5.2.3
Table 85

Change "Drive serial number" to "Drive Serial Number" in the Feature Name column

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 74
Page=262 Subtype=Highlight Author=relliott
Comment=
5.2.3
Table 85
Change "Continued" to "continued"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 75
Page=262 Subtype=Text Author=relliott
Comment=
5.2.3
Table 85
Last horizontal table border should be bold to match rest of table outer borders.

MMC WG Response:
There is no problem. It is an optical illusion.

---

HPQ comment number 76
Page=303 Subtype=Highlight Author=relliott
Comment=
5.3.25
Table 155
Change 05 to 05h

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 77
Page=323 Subtype=Highlight Author=relliott
Comment=
5.3.40
Table 186
Change "READ BUFFER with Mode 00011b set" to "READ BUFFER with Mode 00011b (Data)" to match

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 78
Page=323 Subtype=Text Author=relliott
Comment=
5.3.40
Table 186

READ BUFFER Mode 00010b (2h) (Data) is normally paired with WRITE BUFFER Mode 02h (Write Data). That's necessary for WRITE BUFFER to be used "as a diagnostic function for testing Drive memory in the target device and the integrity of the service delivery subsystem." (quoting 6.46)

Should WRITE BUFFER mode 02h be included here (and in 6.46)?

MMC WG Response:
In 5.3.40 we are specifying the commands that are mandatory for the feature. We cannot add new requirements. In 6.17 and 6.46 we discuss the value of READ BUFFER and WRITE BUFFER. We should change the wording in 6.17 and 6.46 to emphasize the need for firmware upgrade modes and to de-emphasize the need for buffer testing.

---

HPQ comment number 79
Page=329 Subtype=Highlight Author=relliott
Comment=
5.3.45
Table 194 header

change Drive to Media

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 80
Page=334 Subtype=Highlight Author=relliott
Comment=
5.3.49
Change "a AACS" to "an AACS"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 81
Page=334 Subtype=Highlight Author=relliott
Comment=
5.3.49
Change "AACS version" to "AACS Version"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 82
Page=354 Subtype=Highlight Author=relliott
Comment=
6.1
Table 232

Change "Continued" to "continued"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 83
Page=355 Subtype=Highlight Author=relliott
Comment=
6.1
Table 233

Change "Continue" to "continued"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 84
Page=356 Subtype=Highlight Author=relliott
Comment=
6.2.2.1
Table 235, 6.2.2.2, 6.2.3, 6.2.4, 6.2.5
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed.

HPQ comment number 85
Page=360 Subtype=Highlight Author=relliott
Comment=
6.3.2.3
Fix "through ."

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 86
Page=360 Subtype=Highlight Author=relliott
Comment=
6.3.2.1
Table 240, 6.3.2.2, 6.3.3.11, 6.3.4, 6.3.5
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 87
Page=375 Subtype=Highlight Author=relliott
Comment=
6.4.2.1
Table 243, 6.4.2.3, 6.4.3, 6.4.5, 6.4.6
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 88
Page=377 Subtype=Text Author=relliott
Comment=
6.5.2.1 FORMAT UNIT
SBC-2 added some fields to this CDB:
a FMTPINFO bit in byte 1 bit 7
a RTO_REQ bit in byte 1 bit 6
a LONGLIST bit in byte 1 bit 5
To maintain the informal compatibility between SBC and MMC, consider marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 89
Page=379 Subtype=Highlight Author=relliott
Comment=
6.5.3.2
Table 249, 6.5.3.1, 6.5.4.3, 6.5.4.4.2, 6.5.4.4.3, 6.5.5, 6.5.6, 6.7.2.8 (figure 126)
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 90
Page=396 Subtype=Highlight Author=relliott
Comment=
6.6.1.1
Table 266
Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 91
Page=397 Subtype=Highlight Author=relliott
Comment= 6.6.2.1
Since "," means decimal point, change numbers like "65,536" to "65 536" (3 times in this paragraph)

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 92
Page=425 Subtype=Highlight Author=relliott
Comment= 6.10.2.1
Table 322
Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 93
Page=425 Subtype=Highlight Author=relliott
Comment= 6.10.2.1
Table 322
Change SLOT to Slot to match other fields

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 94
Page=425 Subtype=Highlight Author=relliott
Comment= 6.10.2.1
Table 322, 6.10.2.2, 6.10.4, 6.10.5
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 95
Page=427 Subtype=Highlight Author=relliott
Comment= 6.11.2
Table 326
Change "Operation code" to "Operation Code" to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 96
Page=432 Subtype=Highlight Author=relliott
Comment=
6.14 PREVENT ALLOW MEDIUM REMOVAL

"[SPC-3] describes a PREVENT ALLOW MEDIUM REMOVAL command; however, the
[SPC-3] description does not apply to MM devices."

Command set standards are not supposed to redefine commands that already
have definitions in SPC.

In MMC-4 letter ballot, the MMC editor agreed to write a proposal for SPC-4
splitting the SPC-4 text into media changers supported/not supported
sections and basing the "not supported" section on MMC-4. This was
promised by January 2005, but has still not been posted.

Meanwhile, the attached media changer concept was made obsolete in SPC-4,
so all that remains in spc4r04 is the "not supported" material. So, the
work should be easier.

SPC-4 could define the field in a manner that defers more to the command
set standard. Then you could keep most of the details on MMC-4 without
making anything in SPC-4 incorrect/incomplete:

SPC-4 2-bit Prevent field:
00b Medium removal shall be allowed unless otherwise specified by the
command set standard (e.g., MMC-5 peripheral devices do not always allow
medium removal if the persistent prevent state is enabled).
01b Medium removal shall be prohibited.
10b If MCHNGR is set to one, obsolete. If MCHNGR is set to zero, reserved
unless otherwise defined in the command set standard.
11b If MCHNGR is set to one, obsolete. If MCHNGR is set to zero, reserved
unless otherwise defined in the command set standard.

Then, in MMC-4, change your definition to a 2-bit field rather than two
1-bit fields (so the terminology matches) but keep the functional
definitions the same.

MMC WG Response:
This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The
PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

HPQ comment number 97
Page=435 Subtype=Highlight Author=relliott
Comment=
6.15.2.1
Table 343

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 98
Page=435 Subtype=Text Author=relliott
Comment=
6.15.2.1 READ (10)

SBC-2 added some fields to this CDB:
a RDPROTECT field in byte 1 bits 7:5
a FUA NV bit in byte 1 bit 1
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 99
Page=438 Subtype=Highlight Author=relliott
Comment=
6.16.2.1
Table 346

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 100
Page=438 Subtype=Text Author=relliott
Comment=
6.15.2.1 READ (12)

SBC-2 added some fields to this CDB:
a RDPROTECT field in byte 1 bits 7:5
a FUA NV bit in byte 1 bit 1
a GROUP NUMBER field in byte 10 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 101
Page=439 Subtype=Highlight Author=relliott
Comment=
6.16.4
Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 102
Page=441 Subtype=Highlight Author=relliott
Comment= 6.17.1
Table 348
Change "Mandatory for mode = 00010b" to "Mode 00010b (Data) is Mandatory" to match wording in 6.46 for WRITE BUFFER

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 103
Page=442 Subtype=Text Author=relliott
Comment= 6.18.2.2 First three lines should be in the same paragraph; they appear to be separate paragraphs.

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 104
Page=442 Subtype=Highlight Author=relliott
Comment= 6.18.2.2 text and Table 351
Change BLOCK to Block to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 105
Page=445 Subtype=Highlight Author=relliott
Comment= 6.19.2.1
Table 356
Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 106
Page=453 Subtype=Highlight Author=relliott
Comment= 6.20.3.1.1
Change "in the models clause." to "in 4.2.3.8.1."

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 107
Page=456 Subtype=Highlight Author=relliott
Comment=
6.21.2.1
Table 370

Join the byte 9 cell with the blank cell below it

MMC WG Response:
Fix byte numbering column only. Changed in 3a.

HPQ comment number 108
Page=456 Subtype=Highlight Author=relliott
Comment=
6.21.2.1
Table 370

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 109
Page=497 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.19

Add space in "Code12h"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 110
Page=498 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.20

Add space in "Code15h"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 111
Page=499 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.21

Add space in "Code19h"

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 112
Page=500 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.22

Add space in "Code1Ah"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 113
Page=506 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.28.1

Change "Block, with" to "Block with"

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 114
Page=508 Subtype=Highlight Author=relliott
Comment=
6.23.3.2.28.3
Table 432

Merge Bit column cells 1 and 0 into one labeled "1:0" so the order of the two bits is clear. The right column referring to 01b could either mean 1:0 is 01b or 0:1 is 01b, which are different.

MMC WG Response:
To be clarified. Changed in 3a.

---

HPQ comment number 115
Page=539 Subtype=Highlight Author=relliott
Comment=
6.25.2.1
Table 472

Change OPERATION CODE to Operation Code to match most other CDBs

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 116
Page=573 Subtype=Highlight Author=relliott
Comment=
6.27.2.2
table 507 and text

Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 117
Page=590 Subtype=Text Author=relliott
Comment=
 6.28.3.3.1
table 528
Add h to each of the code values like in the first row

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 118
Page=612 Subtype=Highlight Author=relliott
Comment=
 6.32.3.15
Change "Figure 51 shows" to "Figure 127 shows"

MMC WG Response:
Changed in 3a.

---

HPQ comment number 119
Page=654 Subtype=Highlight Author=relliott
Comment=
 6.39.2.2, 6.39.2.4, and table 621
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 120
Page=658 Subtype=Highlight Author=relliott
Comment=
 6.40.2.2, 6.40.4, and table 628
Change IMMED to Immed to match formatting of other field names

MMC WG Response:
To be changed. Changed in 3a.

---

HPQ comment number 121
Page=658 Subtype=Text Author=relliott
Comment=
 6.40.2.1 SYNCHRONIZE CACHE
SBC-2 added some fields to this CDB:
a SYNC NV bit in byte 1 bit 2
a GROUP NUMBER field in byte 6 bits 4:0
To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.
6.42.2.1 VERIFY (10)

SBC-2 added some fields to this CDB:
- a VRPROTECT field in byte 1 bits 7:5
- a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

6.42

Given that READ (12) and WRITE (12) are supported, why is VERIFY (12) not also supported?

MMC WG Response:
It is not required by any feature.

6.42.4

Change "Time-out & Protect Mode Page (1Dh)" to "the Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.

6.43.2.1 WRITE (10)

SBC-2 added some fields to this CDB:
- a WRPROTECT field in byte 1 bits 7:5
- a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 126
Page=663 Subtype=Text Author=relliott
Comment=
6.43.2.1 WRITE (10)

SBC-2 added a FUA_NV bit in byte 1 bit 1

The TSR bit, which was not in MMC-4, conflicts with the FUA_NV bit. Can it be moved?

It breaks the informal compatibility between SBC and MMC.

MMC WG Response:
The WG – and others – was consulted about any adverse effects of this change. It is sufficiently early that we are able to make this fix. Changed in 3a.

HPQ comment number 127
Page=667 Subtype=Highlight Author=relliott
Comment=
6.43.4 Change "Cacheing Page" to "Caching mode page (see 7.6)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 128
Page=668 Subtype=Text Author=relliott
Comment=
6.44.2.1 WRITE (12)

SBC-2 added some fields to this CDB:
a WRPROTECT field in byte 1 bits 7:5
a GROUP NUMBER field in byte 10 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 129
Page=668 Subtype=Text Author=relliott
Comment=
6.44.2.1 WRITE (12)

SBC-2 added a FUA_NV bit in byte 1 bit 1

The TSR bit, which was not in MMC-4, conflicts with the FUA_NV bit. Can it be moved?

It breaks the informal compatibility between SBC and MMC.

MMC WG Response:
The WG – and others – was consulted about any adverse effects of this change. It is sufficiently early that we are able to make this fix. Changed in 3a.
HPQ comment number 130
Page=670 Subtype=Highlight Author=relliott
Comment=
6.44.4
Change "Cacheing Page" to "Caching mode page (see 7.6)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 131
Page=670 Subtype=Highlight Author=relliott
Comment=
6.44.4
Change "Time-out & Protect Mode Page (1Dh)" to "Timeout and Protect mode page (see 7.9)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 132
Page=671 Subtype=Text Author=relliott
Comment=
6.45.2.1 WRITE AND VERIFY (10)

SBC-2 added some fields to this CDB:
a WRPROTECT field in byte 1 bits 7:5
a GROUP NUMBER field in byte 6 bits 4:0

To maintain the informal compatibility between SBC and MMC, consider adding those fields or marking them Restricted

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 133
Page=671 Subtype=Text Author=relliott
Comment=
6.45.2.1 WRITE AND VERIFY (10)

SBC-1 and -2 define these bits:
DPO byte 1 bit 4
BYTCHK byte 1 bit 1
Obsolete byte 1 bit 0

Mark them as Restricted so MMC-6+ don't use them for other purposes.

MMC WG Response:
The MMC WG has no need for compatibility with SBC-2.
Given that READ (12) and WRITE (12) are supported, why is WRITE AND VERIFY (12) not also supported?

MMC WG Response:
It is not required by any feature.

---

Change "Mode 00111b is Mandatory" to "Mode 00111b (Download microcode with offsets and save) is Mandatory"

MMC WG Response:
To be changed. Changed in 3a.

---

Change "Time-out & Protect mode page" to "Timeout and Protect mode page"

MMC WG Response:
To be changed. Changed in 3a.

---

Change "Mode Page" to "mode page"

MMC WG Response:
To be changed. Changed in 3a.

---

Change "08h" to "Page Code 08h" to match other headers

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 139
Page=697 Subtype=Highlight Author=relliott
Comment=
7.7
Change "mode page" to "Mode Page" in header to match other headers
Or change all the others' "Mode Page"s to "mode page"

MMC WG Response:
To be changed.

HPQ comment number 140
Page=711 Subtype=StrikeOut Author=relliott
Comment=
C.3.5
Delete "(abbreviated as O in the figure above)"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 141
Page=726 Subtype=Highlight Author=relliott
Comment=
E.11
Change Page to Mode Page

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 142
Page=729 Subtype=Highlight Author=relliott
Comment=
Table F.1
Change "Continued" to "continued"

MMC WG Response:
To be changed. Changed in 3a.

HPQ comment number 143
Page=731 Subtype=Highlight Author=relliott
Comment=
F.3.4
Table F.4
Change "LOGICAL UNIT REGION MUST BE PERMANENT" to "DRIVE REGION MUST BE PERMANENT"
to match 6.34.3.1.4 and Table F.10 and SPC-4's asc/ascq tables.

MMC WG Response:
To be changed. Changed in 3a.
HPQ comment number 144  
Page=735 Subtype=Highlight Author=relliott  
Comment=  
Table F.7  
Change "Continued" to "continued"

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 145  
Page=744 Subtype=Highlight Author=relliott  
Comment=  
Table F.10  
center header for Table F.10 on page 690 (PDF page 744)

MMC WG Response:  
To be changed. Changed in 3a.

---

HPQ comment number 146  
Page= Subtype=Highlight Author=relliott  
Comment=  
MMC-5 section 5.3.45 mentions that the READ MEDIA SERIAL NUMBER command  
(ABh/01h, which shares the opcode with the SERVICE ACTION IN (12) command).is  
an optional feature. (please add the "(12)" after "SERVICE ACTION IN, since  
there is also a "(16)" version)

However, The command tables in section 6.1 are missing the READ MEDIA SERIAL  
NUMBER command. Please add that command to the tables."

MMC WG Response:  
To be changed. Changed in 3a.
Comments attached to No ballot from George O. Penokie of IBM Corp.:

Technical PDF pg 432, pg 378, 6.14.2 The CDB and its Parameters
The PREVENT ALLOW MEDIUM REMOVAL Command command is defined in the SPC-3 standard and should not be redefined in this standard. The only thing that should be here is a reference to the SPC-3 standard. Delete this section from this standard. This comment was made in MMC-4 and still has not been resolved.

The comment from the MMC group at the time was:

PAMR is defined completely different in MMC. It is not part of the command description duplication discussion.

The response to the MMC groups comment was:

It is not acceptable to to redefine a command that is defined in SPC. That will on cause problems in interoperability between different device types. You have the following choices:
1- Request PAMR be removed from SPC
2- Use the PAMR as currently defined in SPC.
3- Define a new op code for MMC and defined it how you want

There are no other options.

As I recall it was stated that this would be resolved in MMC-5. But that has not happened. I will not change my no vote until this is issue is resolved.

MMC WG Response: This has been resolved in the May 2006 T10 CAP and T10 Plenary meetings. The PREVENT ALLOW MEDIUM REMOVAL command is to be removed from SPC-4.

Comments attached to Abs ballot from John Geldman of Lexar Media, Inc.:

MMC-5 does not materially affect our organization

MMC WG Response: No action required.

Comments attached to Yes ballot from Avraham Shimor of M-Systems:

Alternatively, Plenary agenda, IEEE P1667 Liaison Report - NEW

MMC WG Response: No action required.

Comments attached to Abs ballot from James Williams of Oracle:

Do not feel knowledgeable enough to offer an informed vote.

Jim

MMC WG Response: No action required.
Comments attached to No ballot from Terence J. Nelson of Panasonic Technologies, Inc:

1 Page 32, 4.1.3.2.2.2 (Properties of Logical Tracks) The sentence below the table (in 2f reads) "When the recording method is purely sequential, a single WRITE command is limited to a single Logical Track." Even if the media is in Layer Jump Recording mode, a single WRITE command is also limited to a single Track. Is Layer Jump Recording mode categorized as the pure sequential mode?

MMC WG Response:
MMC-5 changes the definition of what "sequential" means with respect to Logical Track. This is because MMC-5 changed the definition of Logical Track with its definition of RZone. That seemed to be the simplest way to address the differences in Layer Jump Recording, but it may be a problem for readers. The trouble is that most people have a pre-conceived idea of what "sequential" means in Logical Track recording. We may confuse people when we use the word "sequential". It is best to try to clarify at each potential point of confusion.

2 Page 32, 4.1.3.2.2.2 (Properties of Logical Tracks) The sentence below the table (in 2f reads) "... and sense bytes SK/ASC/ASCQ shall be set to ILLEGAL REQUEST/END OF USER AREA ENCOUNTERED ON THIS TRACK." The ASC/ASCQ is not correct. It must be "... and sense bytes SK/ASC/ASCQ shall be set to ILLEGAL REQUEST/INVALID ADDRESS FOR WRITE." Please refer to 4.16.7.1, 4.16.10.1 and 4.16.10.3 of Mt.Fuji6 Rev1.0.

MMC WG Response:
To be changed. Changed in 3a.

3 Page 480, 6.24.3.2.3 (READ FORMAT CAPACITIES) In Table 467 (2f reads) "... or Quick Grow/Quick Add formatted restricted overwrite media with at least on closed Session, ..." Typo. (Should read) "... or Quick Grow/Quick Add formatted restricted overwrite media with at least one closed Session, ..."

MMC WG Response:
To be changed. Changed in 3a.

4 Page 545, 6.30.2.4 (RESERVE TRACK) In the paragraph before the last (2f reads) "If the currently mounted medium is CD and Reservation Size requested is smaller than 298, the command should be terminated with CHECK CONDITION status and SK/ASC/ASCQ values shall be set to ILLEGAL REQUEST/INVALID FIELD IN CDB." Also three lines below (2f reads) "When the currently mounted media is CD and Reservation Size is less than 298, the Drive shall perform no reservation and terminate the command with CHECK CONDITION status and set sense bytes SK/ASC/ASCQ to ILLEGAL REQUEST/INVALID FIELD IN CDB." These two sentences say almost the same thing. Only the difference is that the second sentence says the drive is prohibited to perform reservation. How about to eliminate the first one?

MMC WG Response:
To be changed. Changed in 3a.
Comments attached to Abs ballot from Bill Galloway of Pivot3, Inc.:
Not materially affected by this proposal.
MMC WG Response: No action required.

Comments attached to Abs ballot from Paul Entzel of Quantum Corp.:
My company is not materially affected by this standard.
MMC WG Response: No action required.

Comments attached to Abs ballot from Gerald Houlder of Seagate Technology:
Seagate is not materially affected by MMC-5 standard.
MMC WG Response: No action required.

Comments attached to Abs ballot from Gregory Tabor of Vitesse Semiconductor:
Vitesse has no opinion on this letter ballot.
MMC WG Response: No action required.

Comments attached to Abs ballot from Rich Ramos of Xyratex:
Our company does not have a stance one way or another on MMC.
MMC WG Response: No action required.