

Reduced Block Command working group meeting February 9, 1998
Joint MMC-2/RBC working group meeting February 10, 1998
University Park Hotel Salt Lake City, UT

Attendees:

Ron Roberts – Apple
Edward Chen – Compaq
Peter Johannsen – Congruent Software
Kaz Nakashima – Fujitsu
Dan Colegrove – IBM
Knut Grimsrud – Intel
Troy Davidson – Iomega
Pat LaVarre – Iomega
Darrell Redford – Iomega
Gary Brandvold – Maxtor
Pete McLean – Maxtor
George Chysanthakopoulos – Microsoft
John Fuller – Microsoft
Randy Hines – Phillips
Mike Bryan – Seagate
Anthony Fung – SGS-Thomson
Danny Hui – SGS-Thomson
Harry Hvostov – SGS-Thomson
Steve Finch - Silicon Systems
David Evans – Symbios Logic
Burt Wagner- Symbios
Tokuyuki Totani – Toshiba
John Hanman – Western Digital

1. Opening Remarks

Pete McLean gave meeting rules and guidelines, Darrell Redford was made secretary for the meeting. The attendees introduced themselves.

2. Agenda

Pete McLean added Removable Media commands and a presentation by Compaq to the agenda. John Fuller offered to make a presentation from the 1394TA meeting on 1394 Power Management tomorrow at the joint meeting.

3. Minutes of previous meeting and old action items

Peter Johannson moved to accept the minutes from last meeting, Ron Roberts. seconded. Approved unanimously.

Old action items -

John Lohmeyer send letter to Compaq on patent 5,375,243, was sent 10 days ago, no response yet.

Peter Johannson – prepare SBP-2 rev 3 for t10 letter ballot - completed.

Darrell Redford didn't get full removable comand set done - carry over.

Mike Bryan - new rev of RBC - completed.

4. Tailgate doc

The Tailgate document is currently at NCITS public review. Public review closes 17 February.

5. SBP-2 status

Letter ballots closed 12 January, 49 yes, 1 no. Peter Johannson published proposed resolution for the editorial comments. He will publish proposed resolution of technical comments These will be discussed at the Tuesday March 17th meeting in San Diego.

6. RBC

Edward Chen from Compaq wants the RBC cmd set to be more like the SCSI primary commands. From Compaq's point of view, they can do better acting like SCSI devices. Single mode pages are used by Compaq that are spread apart in RBC that will make it harder for them. Troy Davidson feels like the RBC, overall, tries to present an easy implementation for OS's and wouldn't preclude you from doing your own things with mode pages. The OS assumes that each implementation is unique. George Chysanthakopoulos, from Microsoft says they do check class drivers to control devices and don't want to have things on a bus that is bus specific. For RBC commands to differ from SCSI the OS has to make exceptions – port driver wouldn't have to do translations. Example: 6 bytes to 10 byte translations. Mike Bryan – we had lots of discussion about which command set to use. RBC is SCSI like to make it easier for SCSI devices – a good compromise. We didn't want to burden the OS with diagnostics. Pat LaVarre – Iomega Jaz drives failed seeks on purpose for performance reasons, customer problems arose. We put our own retry count in our own page. Nobody else knew.

Peter Johansson – are diagnostics going to have to be changed? Will the trade off be worth it from other code?

Edward Chen – Want to use SCSI code base for 1394 device – doesn't want to have to do it two ways. One for SCSI, one for 1394.

David Evans – don't want all the mode pages to parse out.

Mike Bryan was going to propose going back to 6 bytes for Mode Select, etc. Said if Ed Chen had something to present, bring it to the meeting to comment on, or bring the specifics to a meeting.

John Fuller – people want to take RBC and move it to other buses.

REMOVABILITY COMMANDS

Troy Davidson– tried to take the Media Status notifications one step further. Wants to know from an OS side, what we can do. Stemmed from the host point of view – if you're not ready do I care? Also, can I lock the media. Wanted to get rid of polling – NT and unit attention, and put it into the device. Under Win 98 the usability GUID feature were added that made life better for the user.

Not polling, advanced guess of the device capabilities. Already used to talking with hard drives, now what is different. Capabilities or problems can happen on the fly. This was a way to identify what has happened or is happening to the host. Historical semantics, drive is spun down, get TUR, are you ready, or not ready? Each device was different. A Zip took very little time to spin up so it's ok, a Jaz took too long so it failed.

John Hanman – have we looked at all the buses, do they all have Unsolicited Status. John Fuller – need to define all mechanisms on all buses that will use RBC. Will probably see it on Fibre Channel, USB and maybe SCSI. Worried about INQUIRY. Iomega wasn't proposing encoding at this point. Need a defined way of doing this.

Pete McLean said what RBC is doing to simplify the command set, other committees are wanting to adopt it.

Ron Roberts was asked about MMC2 how to get back media type, etc. The Get Configuration stuff that would eliminate most of this conversation. Ron said that most of the RWFL conversation would go away.

The physical hardware isn't changing, the media is. The capabilities of the device doesn't change, the device media pair capabilities change. The pair change has to be polled or interrupt.

John Fuller - Unsolicited Status, works for 1394, not for parallel or SCSI. We have to accommodate the solutions here. It would be good to have bits somewhere that would be bus independent for the class driver that told device capabilities.

George Chysanthakopoulos – even if SCSI had it, the OS couldn't do it. On NT 5 there would be notification from the device all the way to the user. Planning the different buses, the drivers would send

the information. For media change, errors, etc. The class driver would need to poll if the bus couldn't handle it. For 1394 it would just propagate the data. This concept applies to scanners and printers also. The registration on the 'bus' is necessary. Need a way for the SBP2 driver to say you are using RBC, and Unsolicited Status. The OS needs to know a way if the Unsolicited Status isn't available, how the device will act.

Mike Bryan – says all devices need to notify the OS of what it will do and how.

Pat LaVarre – basic RBC device has to say I'm an RBC device, don't have isochronous.

John Hanmann - how is this different from GESN. Pat LaVarre – a protocol issue. 1 – polled, 2 – queued for SCSI bus. The GESN command is useful for SCSI bus disconnects. John Fuller– for all buses, may need to define a 3rd method. Make all as compatible as possible. Pat LaVarre – GESN doesn't cover all the possibilities. But both agree that a mutually beneficial result is possible. John Hanmann – as reading the spec, power management was evident. Don't want to have to spin up to eject media by getting rid of the tag the OS has.

Pat, Troy and Darrell The Iomega proposal is conceptual, not encoding. All attending agree that we need to cover the bases for all buses possible. Ron Roberts– Get Config and GESN are the two primary commands being proposed to the MMC2. Mike Bryan – what is the difference between RBC and Get Configuration.

Pete McLean Tangent issue-

Pete went to 1394 meeting in January and heard Suspend/Resume discussed in detail. There is a chance that we can be 'suspended' with BIOS current gone. The link will cause a bus reset on Suspend and Resume. A wake-up is done by re-issuing a bus reset to configure itself. Right now, RBC isn't clear what a device does to itself on a bus reset. Need to make it clear that the current status must remain. If the bus is down and a Zip disk is inserted a reset will be sent and the event can't be cleared.

John Fuller. – The power mgr will not suspend the bus if the device is active. The link will be checked. Need to maintain the log in with the Unsolicited Status even with power issues.
End Tangent issue

Pete McLean - Need a way for all devices to notify the host of what and how notification will be used.

Mike Bryan doesn't want to use Get Configuration, and doesn't want another command. Mike likes INQUIRY and John Fuller likes a Mode Page. Pete McLean– the removable would be a subset of the main command. Make sure the subset is not required. Leave the RMB bit in INQUIRY. That command is static. Config ROM, LUN characteristics, and INQUIRY.

Ron Roberts - In MMC, removable media was removable media. In the CD world media type is changed dynamically. Pete McLean – already have RMB in INQUIRY. If that bit is set it's a notification to the host that the subset cmd set is used. Otherwise the main cmd set only. George Chysanthakopoulos – just look at the bit, and do what is right. Pete McLaen - Is anyone disagreeing with adding a bit to INQUIRY to say I support or not support Unsolicited Status. Mike Bryan – so many bits in INQUIRY for parallel and others that T10 doesn't want.

Pete McLean – we may be able to sell this bit called AEN – asynchronous event notification. Mike Bryan will pick the bit, and text. Second issue – how the removable device defines capabilities to the host. The capabilities may change without the media being changed. The legacy world has the OS not knowing what to do.

George Chysanthakopoulos – use RMB, and Unsolicited Status. On any bus, notify the OS whether US is used or not.

Ron Roberts – Get Configuration does allow the change in status. That can be done through Unsolicited Status.

Pete McLean – use the MMC stuff to use the ‘Solicited Status’

Summary – Use the remv bit being added for Unsolicited Status use, otherwise use the Get Config as defined in MMC2.

Pete McLean went over the concept of MMC2 Get Configuration command. Gives a whole list in a matrix that defines device capabilities. It’s going into SPC 2 and it’s not defined whether or not it will be a required command. SCSI 3 working group meeting will discuss this (T10). Pat LaVarre – all we’re trying to do is capture the intersection of Get Config matrix, want to just send the specific location with US to cover device capabilities.

George Chysanthakopoulos – doesn’t want overlapping codes, etc. and would like MMC2 and RBC use common commands. Whatever the format, that both return the same data. Pete and Pat agreed. Mike Bryan tried to move the GESN command into US status. If there is a better way proposed, he’ll adopt it.

Rob Simms (not present) was charged with presenting the Get Configuration command to the SCSI committee. Pete McLean is trying to find how to get the right thing into our document. The people that are concerned with the content of that document need to be at that meeting and then report back to the RBC committee.

Pat LaVarre – Continued with the two page command consideration proposal. Different length CDB’s. 6 bytes are the norm. Mike Bryan wants longer LBA’s, not necessarily a longer transfer byte length.

Pete McLean – Is there anyone who object to having Mike Bryan change the document to 6 byte. Ron Roberts wants 10 bytes. Mike Bryan says you can have longer mode pages. David Evans says that 10 bytes should be used for consistency. Ron Roberts agreed. People use 10 byte reads and writes all the time, not 10 byte modes. George Chysanthakopoulos says that the code works on 100’s of devices and 10 bytes brings consistency but it’s outweighed by legacy. The only things that uses 10 bytes is ATAPI, for IDE, SCSI or 1394 the only thing you’ll see is a 6 byte CDB for disk drives.

Mike Bryan – proposes a move to 6 byte CDB’s, John Fuller seconded.
16 for 0 against 0 abstaining

Pat LaVarre – scratch additional length for CDB to cover transfer size. Pete McLean says after lengthy discussions the RBC wants to leave the commands as short as possible. Pat LaVarre - Button Pressed – some arguing that it will go away (Apple face plate doesn’t have one). The industry says that they aren’t going away yet. It has to be like an extra key on the keyboard. Notify the host that it’s been pressed (once or many doesn’t matter). AEN covers this. Tells the drive to eject.

Pat LaVarre - try to get out of the method of having to host to constantly monitor the device while it’s trying to get ready. Want a separate transition state for the drive. As far as the OS is concerned it’s immediate. John Fuller says concept is right. OS wants to know transition to a state for power management. Pat LaVarre - This covers spin downs, etc. Troy Davidson - The OS tags the media for tracking, actually written to the media. John Fuller calls this the ‘dirty’ bit. Pat LaVarre - The dirty bit stays set, even when it’s cleared cache. Now it’s a ‘mounted’ bit. John Hanmann - System is a power managed state, say power is gone; enter certain modes things need to be preserved. The OS would want the chance to turn off the ‘dirty’ bit. Pat LaVarre - Removability has different reasons to spin down than power management. It needs to spin down anyway. George Chysanthakopoulos doesn’t want the device to control spin down but understands that each device may be specific. Pat LaVarre just wants to enumerate the issues. Dan Colegrove - their 2-1/2” drives have spin down issues also. Generally the OS doesn’t keep statistics as well as the device. John Hanmann - dirty media applies to other things than just eject. Knut Grimsrud - Iomega just wants to eject without spin-up. Darrell Redford - use US to tell the

host when the device wants to spin down. That way the device won't have to spin-up to eject. Pat LaVarre wants to tell the host 'hey, I'm going to eject in 1 min, get ready.'

Pat LaVarre –Media Status – device returns 'not ready' to the host until it is ready to receive commands. Electromechanical failure can be reported also – can notify the host. Changing capabilities on the fly.

FORMAT – progress in SCSI is reported in 64,000 steps – overkill. Iomega would be like to notify at 1% or so. The committee can say how often, and could be device specific. Pete McLean and Mike Bryan just let the user know it's working. Pete McLean – each device use own granularity for reporting, but 64k times is too much. John Hanmann - recommend a minimum of 1% and maybe a time slice. NOTE: If you poll the device while formatting, it may not return ready. George Chysanthakopoulos - everything is AUTONSENSE by OS standard.

Pat LaVarre - CANCEL – RESET – ABORT – etc. If necessary by device, or power reasons, etc. A cancel has never been clearly defined. Format, Eject, Write, Read – if they take too long, we need to have a way to say 'forget it.' Pete McLean – SBP2 already has an Abort Task (particular) that's an optional ORB. Also a Target Reset or Abort Task Set which covers everything. Steve Finch – can't use it for a specific device because the device has been released. In SCSI it's Terminate Task. Pat LaVarre – what should the mechanism be? John Hanmann. – need a standard mechanism, old SCSI drives had a checkpoint. George Chysanthakopoulos – user expects a cancel to stop the command. Target reset is a dire situation. A user won't see it. Abort Task Set is mandatory, Abort Task is optional. Steve Finch – don't send Target Reset to RAID – all drives would be reset. Immediate bit is the biggest problem. Mike Bryan - need immediate for specific commands. Some take very long and need the bit (DVD eject, etc.). How do you flush a command, that is ongoing, in a LUN? Peter Johannson. which of the commands should we use to clear up the ambiguity? This applies to everything not just 1394.

Darrell Redford was nominated to come back with a proposal with Immediate Commands Abort/Reset/Cancel.

The command set needs to be available for the next meeting will be T10 Plenary meeting. Pete McLean asked if the Removability should be a separate document, the agreement was yes. Iomega will providing a first draft for Removable Media chapter for discussion, in Mike Bryan's format for March meeting. Should show what the Unsolicited Status should look like – intended to match whatever is worked out with SPC and MMC and Get Configuration. The concern is that one is Unsolicited and the other is not. Mike Bryan said to check Annex B, it's a start. MMC2 will roll that annex in. George Chysanthakopoulos says we'll still need a cmd in RBC. John Hanmann - commands return more data that would be expected – need to try and mapping. Steve Finch stated that if the removable commands don't get submitted by the next meeting, there may be a motion to approve RBC without them to keep things from bogging down.

6. REDUCED BLOCK COMMANDS

6.1 POWER MANAGEMENT

Pete McLean - need to clarify what we do on bus resets. State in the 1394 annex that on a bus reset, the bus manager aborts task under jurisdiction, but do NOT clear status. 'Event state' needs to ride over the reset state. Steve Finch– if a button is pushed, an asynchronous event is generated. If the link is power down, the initiator button press has one second to notify that the button was pressed. Otherwise, it never happened. This should be a document for the 1394 TA, and then presented for standardization. George Chysanthakopoulos and Pete McLean mentioned that a bus reset should be covered in RBC, separate from the full power management issue.

Steve, Pat and George went over several scenarios regarding power management and host notification (wake-up). John Fuller offer a specific 'wake-up' bit. Power state change in RBC need the ability for this based on vendor specific instances. Not going to a higher power level, and if the OS doesn't hear from the device, the device won't be taking any more power. Pat verified this should be stated in RBC. Mike Bryan says he doesn't know much about the removable stuff, and that it will take someone to define this in

and annex or somewhere, to clarify. Power management for 2-1/2" drives – want less timers to notify the host.

Pete McLean suggests that someone put this concept (bus/reset generic) to put it on the reflector. George Chysanthakopoulos agreed to do this. Pete asked if RBC has enough power management coverage, or should more be added. Mike Bryan said that Start/Stop covered most of it, but Mt.Fuji may have more. Mike has some CSR and Config ROM registers to allow host to look at the state we're in. State that they're in the Power Management document. John Fuller said that the 'wake-up' bit should be in RBC. John Hanmann asked if people were comfortable with not having really anything in RBC, and wonders how we can have any problems with it when there is nothing there.

Pete McLean – does anyone have a problem with power management left to the 1394 Power Management document. Mike Bryan does. He feels we at least need to say that RBC shall support 1394 Power Management. The specification isn't stable enough. John Hanmann says that RBC is a natural model for showing, or giving examples of how power management should work. Steve Finch– go ahead and put it in and lock it down in RBC – different modes. Ron Roberts - last meeting of MMC2 talked about inserting Mt. Fuji into the MMC2 document for power management. Worried about stating this in multiple places. Dan Colegrove - would like to add Start/Stop information into the best 'universal' place (SPC?). Need to make things apply as well as possible across the board.

Pete McLaen– make this one of the prime considerations of tomorrow. The John Fuller presentation will help this – tomorrow.

6.2 START/STOP UNIT

Mike Bryan - Power Management proposal for MMC2 tomorrow (Feb 10, 1998)

SBC - Start/Stop

- 0 – No Change
- 1 – Active
- 2 – Idle-spinning, lower power than active
- 3 – Standby – NOT spinning, all buffers empty
- 4 – Rsvd
- 5 – Sleep
- 6-F – Rsvd
- 7 – Transfer Pwr Condition control to block device
- A – Force idle timer to 0. Mode Page 1A *
- B – Force standby timer to zero. Mode Page 1A *

Mt. Fuji

- 0 – No Change
- 1 – Rsvd
- 2 – F – same as SBC

*(these two were removed)

Proposal

ATA-set features – power control

Power/Performance field – where? A one byte field $\geq 80h$ = no standby, (put it in the “RBC Page”)

States other than 7 = ‘Sticky’

Default = 1

George Chysanthakopoulos wants the device to let the OS know, no moving without informing them (Unsolicited Status). Various discussions regarding drive types, sizes, ‘dirty bit’ and other models were covered. The device says it’s going to sleep state. It lets the OS know (informative), the OS can then take care of housekeeping. This covers various error conditions, or power issues that may arise. Dan Colegrove talked about moving heads for the greatest power management possible. It has to be hid from the OS. With multiple initiators, the highest power level required is what is done. The history is that ATA 2-1/2” drives looked at one line for these power issues. We need to be at a different level of sophistication.

John Fuller D0 and D3 are required, D1 and D2 are optional

D0 – Active

D1 – Idle

D2 – Standby - Capable of being a wake-up source.

D3 – Standby – can’t be woke up w/o reset. Greatest power saving state.

Devices don’t get put to ‘sleep,’ and now it just provides lowest power consumption for working on 1394.

Pete McLean proposed that MMC and RBC proposes the power management, but that RBC doesn’t support ‘sleep’ because it is bus specific. Pete, Steve, Pat, Knut, George, John - Many discussions on wake-up source, power issues and who is responsible. Legacy issues and examples were covered. Notification to the host is also a concern. Correct trade-offs between device and host seem to be the best option

Steve Finch - AEN gets an acknowledgement, and resends if there is a problem. John Fuller - if he ack doesn’t get back, the FIFO gets overwritten. It would be ACK’d busy.

Not wake-up source from bit 5 (sleep – Not spinning) goes away. Sleep is optional depending on the interface, and there is no 0 state for 1394 devices.

For Mike Bryan -A wake-up causes Unsolicited Status, and if your bus is suspended it needs to wake up everything involved. Wake-up states cause power consumption. Pat LaVarre - For Iomega – 1 spin-down to save media life, 2 – want to draw zero (transient) power but see user interface action. Want device hardware to be ready to go. Asynchronous events draw no power until the switch is closed. Idle is parked. We have different flavors of state 3.

State Notification/Request

A. Unsolicited Status – request to put device into reduced power state. (hard drives use for power mgmnt)

B. If no Unsolicited Status on physical bus, use GESN.

If A is supported, B is prohibited for fixed media. B polled (immediate-GESN Immed bit) is mandatory for Removable Media, B deferred is optional.

George Chysanthakopoulos - When a device requires a state, and the OS has to know, the device will send information to the OS and the OS will allow the necessary changes (when all is clear, or within the necessary bounds). The OS will explicitly or implicitly shut down the device when all is clear. Pete McLean - all RBC devices use AEN, other notify and use GESN. Steve Finch proposed if AEN is supported that the device shall not support GESN. Darrell asked why GESN would be needed if AEN can be used. John Fuller isn’t comfortable moving either way. Says that hard drives don’t need AEN or

GESN. Other devices may need it. Discussion bantered back and forth regarding what level, and if GESN should be implemented. Knut Grimsrud - is there an OS constraint for obtaining the Unsolicited Status information? The data has to be presented. Mike Bryan asked if Win 98 would support Unsolicited Status, and George Chysanthakopoulos said yes. It will use the same stuff as NT. John Fuller -if all your state change timers are required, report to the OS and let it do the timing.

6.3 READ PROTECT

This will be covered by commands set proposal by Iomega in Unsolicited Status.

6.4 BUS RETRY REJECTION

Mike Bryan brought up issues. Having rejection issues. Told that newer implementations have solved the problem.

6.5 EDITORIAL REVIEW

Mike will make changes after Iomega chapter has been presented.

Action Items:

Darrell Redford – Immediate command reporting, no longer in task set, how do they get reported.

Iomega – provide removable media chapter in Mike’s format for March meeting.

George Chysanthakopoulos – list of events that survive bus reset.

AEN – on list to discuss in tomorrow’s meeting

Items for joint meeting tomorrow:

Power Management – John Fuller

Power Management – discussion

Start/Stop Unit

CALL FOR PATENTS if you know of a patent, or have one, you are asked to notify the committee and abide by the rules – reasonable and non-discriminatory license.

Meeting Schedules

March 17 San Diego SBP-2 Letter ballot response resolution

March 18 San Diego RBC Document Review

Pete McLean proposes the next meeting for T10 week in May, seeing how the March meeting goes. Mike Bryan needs to turn a new rev of the document and Iomega needs to get document done and proposed.

Minutes of combined RBC/MMC2 meeting Feb. 10, 1998

Attendees:

- Ron Roberts Apple
- Edward Chen Compaq
- Peter Johansson Congruent
- Kazuo Nakashima Fujitsu
- Dan Colegrove IBM
- Knut Grimsrud Intel
- Tim Bradshaw Iomega
- Pat LaVarre Iomega
- Gary Brandvold Maxtor
- Pete McLean Maxtor
- John Fuller Microsoft
- Randy Hines Philips
- Mike Bryan Seagate

Anthony Fung SGS-Thomson
 Danny Hui SGS-Thomson
 Stephen Finch Silicon Systems
 Renee Depew Symbios
 Dave Evans Symbios
 Burt Wagner Symbios
 Frank Banul TI
 Tokuyuki Totani Toshiba
 Jonathan Hanmann WD

Pete McLean began the meeting, and said that per mutual consent between he and Ron Roberts (MMC2 editor), he would be conducting the meeting.

Pete then brought the meeting to order at 9:00 a.m., and issued standard NCITS introductory info.

John Fuller (Microsoft) presented the Power Management presentation that he gave at the 1394 Trade Association. John lead a lively discussion on several of his slides, in particular, Link_Power_States entires. John presented the different power types available: 0 = Manageable, 1 = Device Bay, 2 = Embedded, 3 – 7 = Reserved. There was discussion on differences between power types, and what each power type characteristics are. For disk drives, all three power types are reported, and the host will know which power management to implement by the port type that the drive is connected to. John said that if the device can be cable powered, it can never own its own power policy.

To download revision 0.71 of the spec from the web site: <http://www.p1394pm.org>

To send feedback on the revision send to mail to: list@p1394pm.org

To join the reflector, send email to Steve Bard: Steve_Bard@mail.intel.com

There are two weeks remaining to send feedback on the latest revision of the spec.

After the presentation, John distributed a soft copy of his slides.

Pete McLean then began a review of the discussion from yesterday, for those that were not in attendance yesterday. This centered on the discussion of the START/STOP command, and the differences of the command in RBC and Mt. Fuji.

SBC	Mt. Fuji
0 No change	No Change
1 Active	Rsvd
2 Idle – spinning - lower Power consumption	
3 Standby	
4 Rsvd	
5 Sleep – not spinning (bus dependant) wake up disabled	
6 Rsvd	
7 Control to device 0 = No device	

(GET NOTES FROM PETE)

Also discussed from yesterday was the STATE NOTIFICATION/REQUEST

- A. Unsolicited status -
 - Request put device into reduced power state
- B. If no solicited status on physical bus, use GESN.

If A is supported, B is prohibited for fixed media. B immediate is mandatory for removeable devices.

Ron Roberts took the podium to discuss the GET_CONFIGURATION command in MMC2/Mt. Fuji. Prior to this, both soft and hard copies were distributed to the group (a copy of the document is attached to these minutes). He mentioned that this document is going to be presented to the T10 committee in March, for inclusion into SPC-2.

The discussion centered around how this command could be made to work in both RBC (1394) and in parallel SCSI. There was much lively discussion on the use of SEND EVENT vs. UNSOLICITED STATUS for 1394. It was discussed that probably SEND EVENT wouldn't absolutely be needed, since we have START/STOP and GESN. This would make the addition of two new commands to RBC; GESN, and GET CONFIGURATION.

Ron noted that the "bottom line" of the whole thing is the feature section; and how features affect the device/host relationship, and how they are implemented via GESN and GET_CONFIGURATION.

Ron mentioned that tomorrows MMC2 working group meeting would be to work on the Feature set.

Pete McLean stated that RBC would leave it up to the removable device people to look over the GET_CONFIGURATION proposal; working with the MMC2 working group, and then present to the March meeting of RBC what was decided.

The schedule for the meetings of T10 week in March:

March 17 (Tuesday):	SBP-2 SCSI-3 WG MMC2 WG
March 18 (Wednesday):	SCSI-3 MMC2 RBC

Ron Roberts asked for any comments on the GET_CONFIGURATION command go to Rob Simms of the MMC2 working group.

Pete McLean asked for "volunteers" to write up the proposal that START/STOP command be moved into SPC-2. Pete McLean asked Ron Roberts to also include START/STOP into MMC2, and that they also ask that it be moved into SPC-2. This action might provide more leverage to get the command into SPC-2. Mike Bryan will work on the command for the RBC group.