

Determining the status of an immediate command X3T10/94-244r0

To: Membership of X3T10

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Subject: Determining the status of an immediate command

Background:

During the SSC discussion on 11/10/94, it was concluded that we need a clarification on the definition of ready for sequential devices (such as tape). We agreed on the following rules:

1. If the volume is being mounted or unmounted, the logical unit shall return CHECK CONDITION to a TUR command, with an appropriate status (depends if unloading or loading).
2. If the volume is mounted, the logical unit shall return GOOD STATUS in response to a TUR.
3. If the volume is not mounted, the logical unit shall return NOT READY in response to a TUR.

Therefore, the processing of an immediate command (such as erase immediate) will not change the ready status of the logical unit. Because of this, another reporting mechanism is required to determine if an immediate command is in progress and the approximate stage of processing.

Proposal:

1. That a new ASC/ASCQ pair be added to SCSI-3 SPC.

ASC	ASCQ	DTLPWRSOMC	Description
00	16	DTLPWRSOMC	IMMEDIATE COMMAND IN PROGRESS

2. That the Sense-key specific section of Request Sense in SCSI-3 SPC be amended to change the text for the progress indication bytes.

Old text:

If the sense key is NOT READY and the SKSV bit is one, the sense-key specific field shall be as shown in table 45. These fields only apply to the FORMAT UNIT command with the Immed bit set to one.

New text:

If the sense key is NOT READY or NO SENSE and the SKSV bit is one, the sense-key specific field shall be as shown in table 45.

Old table caption:

Table 45 - Format progress indication bytes

New table caption:

Table 45 - Progress indication bytes

Notes:

1. This change removes the requirement that the FORMAT UNIT immediate command change the ready status to NOT READY. If needed, this requirement can be stated in SBC.
2. Any ASC/ASCQ may report a progress indication if the sense key is NOT READY. However, to make sense, the progress indication should only be used if there is progress to report, such as progress towards ready, or possibly, progress towards completion of the not ready (such as unloading a tape).
3. Any ASC/ASCQ may report a progress indication if the sense key is NO SENSE. This change allows a device to support the reporting of relative progress for any command without changing the ready status of the device. Currently, I believe that only immediate commands would report a progress indication with NO SENSE but I do not believe we should restrict this reporting if a device wishes to support it. If no command is in progress and there is no expected change in the ready state of the device, the SKSV bit shall be 0.
4. The use of the ASC/ASCQ of LOGICAL UNIT NOT READY, FORMAT IN PROGRESS would still be used if the logical unit reports NOT READY. If the logical unit reports READY, the ASC/ASCQ of IMMEDIATE COMMAND IN PROGRESS should be used instead.
5. It is the intent of this change to allow an initiator to poll the logical unit with REQUEST SENSE to determine if the immediate command has completed, and if supported, determine the progress of the command. Polling with TUR will not work since the logical unit is ready (though it is not guaranteed to be able to queue or process the command). It is not the intent of this change to report CHECK CONDITION on a TUR command while an immediate command is in progress.