

SAT-2: TUR Enhancement

T10/07-452r0

1 Issue

The reason one issues a TEST UNIT READY command is to determine whether or not the device is in an operational state.

Per SPC-3, the preferred returns are to indicate the device is in a ready state, the LUN is invalid, or not ready; if the latter, why not & what needs to be done about it.

Per SAT-2 8.12.2, assuming that none of the initial 6 conditions apply, the returned value is to be GOOD if the CHECK POWER MODE command completes without error.

Per ATA8-ACS, normal returns from the CHECK POWER MODE include information returned in the Count register that may indicate that the device is in standby mode, spinning up or down, etc.

These states aren't what one normally associates with a ready device.

2 Proposed change

Replace the current text in 8.12.2, par b):

b) If the ATA CHECK POWER MODE command completes without error, then the SATL shall complete the TEST UNIT READY command with GOOD status.

with

b) If the ATA CHECK POWER MODE command completes without error, and the COUNT register returned in the D-H FIS contains either 0x80 or 0xff, the SATL shall complete the TEST UNIT READY command with GOOD status.

c) If the ATA CHECK POWER MODE command completes without error, and the COUNT register contains 0x41, then the SATL shall terminate the TEST UNIT READY command with a CHECK CONDITION status, with the sense key set to NOT READY, and the Additional Sense Code set to LOGICAL UNIT IS IN PROCESS OF BECOMING READY

d) If the ATA CHECK POWER MODE command completes without error, and the COUNT register contains a value of 0x00, then the SATL shall terminate the TEST UNIT READY command with a CHECK CONDITION status, with the sense key set to NOT READY, and the Additional Sense Code set to LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED.

e) If the ATA CHECK POWER MODE command completes without error, and the COUNT register contains a value other than 0x00, 0x41, 0x80, or 0xff, then the SATL shall terminate the TEST UNIT READY command with a CHECK CONDITION status, with the sense key set to NOT READY, and the Additional Sense Code set to LOGICAL UNIT NOT READY, CAUSE NOT REPORTABLE.