

T10/02-144r0 SPC-3 Informational exceptions, linked commands, and CONDITION MET

To: T10 Technical Committee  
From: Rob Elliott, Compaq Computer Corporation (Robert.Elliott@compaq.com)  
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Subject: T10/02-144r0 SPC-3 Informational exceptions, linked commands, and CONDITION MET

### **Revision History**

Revision 0 (16 April 2002) first revision

### **Related Documents**

spc3r06 - SCSI Primary Commands - 3 revision 6

### **Overview**

#### **Issue #1: Linked commands**

In SPC-3 section 8.4.10 (Informational Exceptions Control mode page), the Method for Reporting Informational Exceptions (MRIE) field allows IEs to be reported on commands that complete without errors.

For these MRIE settings:

- 3h Conditionally generate recovered error
- 4h Unconditionally generate recovered error
- 5h Generate no sense

this rule applies:

A command that has the CHECK CONDITION shall complete without error before any informational exception condition may be reported.

If the commands being processed are linked commands, all but the last in a set return INTERMEDIATE status rather than GOOD status. If a CHECK CONDITION is returned instead of an IMMEDIATE, the whole task is finished (the service response is TASK COMPLETE rather than LINKED COMMAND COMPLETE), interfering with the remaining linked commands. The informational exception should be prohibited until the last command of a linked command set (if it is GOOD) - in other words, until a command that completes with GOOD status.

MRIE of 2h (Unit attention) does not mention any restrictions on which commands may be overridden by a UNIT ATTENTION, so no changes are necessary.

#### **Issue #2: Commands returning CONDITION MET status**

One command - SBC-2's PREFETCH command - completes "without error" but returns CONDITION MET status rather than GOOD status. If an informational exception is reported over such a command, the CONDITION MET vs. GOOD distinction is lost on the successful command.

Again, SPC-3 should require the command to complete with GOOD status rather than just "without error."

**Suggested Changes to SPC-3**

**8.4.10 Informational Exceptions Control mode page**

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**Table 234 — Method of reporting informational exceptions (MRIE) field**

**2h Generate unit attention:** This method instructs the device server to report informational exception conditions by returning a CHECK CONDITION status. The sense key shall be set to UNIT ATTENTION and the additional sense code shall indicate the cause of the informational exception condition.

The command that has the CHECK CONDITION shall not be executed before the informational exception condition is reported.

**3h Conditionally generate recovered error:** This method instructs the device server to report informational exception conditions, if the reporting of recovered errors is allowed, by returning a CHECK CONDITION status. If the TEST bit equals zero, the status may be returned ~~on any command~~ after the informational exception condition occurs on any command for which GOOD status would have been returned. If the TEST bit equals one, the status shall be returned on the next command that is normally capable of returning an informational exception condition when the TEST bit equals zero. The sense key shall be set to RECOVERED ERROR and the additional sense code shall indicate the cause of the informational exception condition.

~~A-The~~ command that ~~has-returns~~ the CHECK CONDITION for the informational exception shall complete without error before any informational exception condition may be reported.

**4h Unconditionally generate recovered error:** This method instructs the device server to report informational exception conditions, regardless of the value of the post error (PER) bit of the Read-Write Error Recovery mode page a, by returning a CHECK CONDITION status. If the TEST bit equals zero, the status may be returned ~~on any command~~ after the informational exception condition occurs on any command for which GOOD status would have been returned. If the TEST bit equals one, the status shall be returned on the next command that is normally capable of returning an informational exception condition when the TEST bit equals zero. The sense key shall be set to RECOVERED ERROR and the additional sense code shall indicate the cause of the informational exception condition.

The command that ~~returns has~~ the CHECK CONDITION for the informational exception shall complete without error before any informational exception condition may be reported.

**5h Generate no sense:** This method instructs the device server to report informational exception conditions by returning a CHECK CONDITION status. If the TEST bit equals zero, the status may be returned ~~on any command~~ after the informational exception condition occurs on any command for which GOOD status would have been returned. If the TEST bit equals one, the status shall be returned on the next command that is normally capable of returning an informational exception condition when the TEST bit equals zero. The sense key shall be set to NO SENSE and the additional sense code shall indicate the cause of the informational exception condition.

The command that ~~returns has~~ the CHECK CONDITION for the informational exception shall complete without error before any informational exception condition may be reported.