To: X3T10 Committee (SCSI)

From: George Penokie (IBM)/Giles Frazier (IBM)

Subject: Commands required by SCSI-2 and optional in SCSI-3

THE PROBLEM:

• Up to now, simplified device drivers only used CCS commands because all those commands were mandatory in SCSI-2

• If the ANSI-approved version in the Inquiry data was SCSI-2, CCS support was guaranteed.
  - No recovery code for unsupported commands was required.

• If the ANSI-approved version is SCSI-3, CCS support is NOT guaranteed:
  - Until now, CCS support WAS guaranteed by SCSI-3, and drivers exist which assume CCS support if a SCSI-3 ANSI version is reported.
  - Now, uncertainty exists for the mandatory SCSI-2 commands which are now optional in SCSI-3 (e.g., six-byte RESERVE, & RELEASE are examples).

• Device drivers must rely on trial and error to determine if SCSI-2 mandatory commands that are now optional in SCSI-3 are supported(i.e., CCS support).
  - Trial and error recovery code adds complexity.

SOLUTION

• Make the INQUIRY commands command support data mandatory if and only if any command that was mandatory in a previous standard and is NOT implemented.
  - Devices need not implement the command support data option if all previous mandatory commands are implemented

• This solution allows a device driver to determine if the previous mandatory commands are supported without trial and error:
  - If ANSI version is SCSI-2, then driver uses CCS
  - If version is SCSI-3, then driver issues INQUIRY commands requesting command support data about the newly made SCSI-3 optional commands (e.g. RESERVE, RELEASE)
  - CCS can be used either if the INQUIARY commands command support data is unavailable (ILLEGAL REQUEST) or if it is available and the command is supported.