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To: T10 Committee Membership
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Subject: Mandating Large LBA Commands in SBC-2

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We have recently added commands to SBC-2 to support 64-bit block numbers. The intent of this proposal can be succinctly stated: support for large block numbers should be mandatory for all devices that claim compliance with SBC-2.

A similar transition occurred in the past, when we went from the 21-bit block numbers of READ(6) to the 32-bit block numbers of READ(10). Unfortunately, by the time anyone realized that it might be desirable to mandate support for the larger block numbers, devices were already shipping and that was impractical. The result is kludges such as drivers that check the block number being accessed and conditionally issue either a READ(6) or a READ(10).

Such business realities do not apply for SBC-2 if we address this promptly. SBC-2 is still sufficiently undone that no sane person could claim compliance with it. Its target forwarding date is nearly two years away (July 2002). That is sufficient time for any product that wishes to claim SBC-2 compliance to include support for 64-bit block numbers. We either do this now, or we will regret that we didn't.

Note that SBC-2 already mandates support for the 64-bit block number version of READ CAPACITY.

The important step at this time is to agree on direction, to either mandate 64-bit block number support (for all block devices, regardless of size) or leave it optional. The exact wording will no doubt be refined over time. The following is a partial list of spec changes:

1. Table 8, Commands for direct-access block devices (listed as Table 1 in the list of tables), change the entry for READ(16) from O (optional) to M (mandatory).
2. Add a statement somewhere that if either WRITE(6) or WRITE(10) is supported, then WRITE(16) shall be supported.
3. Add similar statements as item 2 for other data transfer commands, including XOR commands.
4. Notes such as Note 7 on page 50, recommending that application clients should migrate from READ(6) to READ(10), should be changed to recommend migrating from READ(6) and READ(10) to READ(16).

A completely separate issue is whether we continue to mandate support for six byte commands. That is NOT part of this proposal, I'll leave that windmill for someone else.