

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
 Date: 21 October 2003
 Subject: 03-362r0 SBC-2 Obsolete SEEK (10)

Revision history

Revision 0 (21 October 2003) First revision

Related documents

sbc2r10 - SCSI Block Commands - 2 revision 10
 T13/e02101r0 Proposal to obsolete the SEEK command (Pete McLean, Maxtor)
 T13/e02118r0 April T13 plenary meeting minutes (vote was 11-0-4-7)

Overview

T13 made the SEEK command obsolete in ATA/ATAPI-7 in April 2002. The whole proposal (e02101r0) reads:
 "Today the operation of the SEEK command is not defined and the behavior of the devices from different vendors is unpredictable. It is therefore proposed that the SEEK command be made obsolete in ATA/ATAPI-7."

Prior to that, a 48-bit LBA version of SEEK had not been included in the 48-bit LBA feature set.

In SCSI SBC-2, SEEK is in the same situation. SEEK (6) has been obsolete for years, last defined in SCSI-2. SEEK (10) supports a 4 byte LBA, but a SEEK (16) supporting an 8-byte LBA is not defined.

Either SEEK (10) should be made obsolete or SEEK (16) should be defined. This proposal requests the former.

Note that "obsolete" means "defined in prior standards," so the 4-byte LBA versions could still be implemented per SBC-1. Obsoleting the command discourages new uses.

Suggested changes

4.2.1.10 SEEK (10) command

~~The SEEK (10) command provides a way for the application client to position the actuator of the block device in preparation for access to a particular logical block at some later time. Since this positioning action is implicit in other commands, the SEEK (10) command may not be useful with some direct access block devices.~~

4.2.2.3 Sequential media

~~Some tape logical units are implemented as a direct access block device so that they may be used in disk-oriented operating system environments. These logical units are sometimes referred to as random access tape or floppy tape. These logical units might be thought of as a disk device with one or more long tracks. Access time to a logical block is usually longer than for a disk device, since the tape requires that it be fast forwarded or rewound to the block. As a result, the SEEK command often is more useful for a tape than for a disk. The only way an application client may determine if a direct access block device is a tape is by using the medium type code returned by the MODE SENSE command.~~

{5.2.10 SEEK (10) command}

Delete SEEK (10) row from table 3 (reservations).

Add SEEK (10) to the obsolete commands table note in tables 12 (direct-access), 86 (optical), and 95 (write-once).

Backup option: add SEEK (16)

4.2.1.10 SEEK (10) commands

The SEEK (10) and SEEK (16) commands provides a way for the application client to position the actuator of the block device in preparation for access to a particular logical block at some later time. Since this positioning action is implicit in other commands, the SEEK (10) commands may not be useful with some direct-access block devices.

4.2.2.3 Sequential media

Some tape logical units are implemented as a direct access block device so that they may be used in disk oriented operating system environments. These logical units are sometimes referred to as random access tape or floppy tape. These logical units might be thought of as a disk device with one or more long tracks. Access time to a logical block is usually longer than for a disk device, since the tape requires that it be fast forwarded or rewound to the block. As a result, the SEEK command often is more useful for a tape than for a disk. The only way an application client may determine if a direct-access block device is a tape is by using the medium type code returned by the MODE SENSE command.

5.2 Commands for direct-access block devices

5.2.1 Commands for direct-access block devices overview

The commands for direct-access block devices are listed in table 12.

Table 12 — Commands for direct-access block devices

...

SEEK (10), 2Bh, O, 5.2.21

[SEEK \(16\), 9Eh/11h, O, 5.2.xx](#)

Editor's Note 1: does a non-data command more appropriately belong to SERVICE ACTION IN (9Eh) or SERVICE ACTION OUT (9Fh)?

...

The following operation codes are obsolete: 01h (REZERO UNIT), 0Bh (SEEK(6)), 16h (RESERVE(6)), 17h (RELEASE(6)), 18h (COPY), 30h (SEARCH DATA HIGH(10)), 31h (SEARCH DATA EQUAL(10)), 32h (SEARCH DATA LOW(10)), 39h (COMPARE), 3Ah (COPY AND VERIFY), 40h (CHANGE DEFINITION), 56h (RESERVE(10)), 57h (RELEASE(10h)).

5.2.10 SEEK (10) command

The SEEK (10) (see table 1) command requests that the block device seek to the specified logical block address. ~~This command is included for multimedia device types (see MMC-4).~~ This command allows the host to provide advanced notification that particular data may be requested in a subsequent command.

Table 1 — SEEK (10) command

Byte/Bit	7	6	5	4	3	2	1	0
0	OPERATION CODE (2Bh)							
1	Reserved							
2	(MSB)							
5	LOGICAL BLOCK ADDRESS							(LSB)
6	Reserved							
7	Reserved							
8	Reserved							
9	CONTROL							

See 4.2.1.9 for reservation requirements for this command.

The LOGICAL BLOCK ADDRESS field specifies the logical block address to which the block device should seek.

5.2.xx SEEK(16) command [new]

The SEEK (16) command (see table 2) requests that the block device seek to the specified logical block address. This command is implemented as a service action of the SERVICE ACTION IN opcode.

Table 2 — SEEK (16) command

Byte\Bit	7	6	5	4	3	2	1	0
0	OPERATION CODE (9Eh)							
1	Reserved			SERVICE ACTION (11h)				
2	(MSB) _____							
9	LOGICAL BLOCK ADDRESS							(LSB)
10	(MSB) _____							
14	ALLOCATION LENGTH							(LSB)
15	CONTROL							

See 4.2.1.9 for reservation requirements for this command. See the SEEK (10) command (table 33) for a description of the fields in this command.