

To: INCITS T10 Committee
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Subject: SSC-3 model sub clause for WORM

1 Revision History

Revision 0:
Posted to the T10 web site on 5 November 2004.

2 General

The concepts of archive tape and WORM mode have started creeping into SSC-3 without a good definition of these terms. This proposal adds definitions for the terms to the model section in SSC-3.

3 Proposed change

3.1 *Model clause*

Add the following sub clause to the model section of SSC-3.

4.2.19 Archive tape and WORM mode

4.2.19.1 WORM overview

An SSC-3 device may optionally support a Write Once, Read Many (WORM) mode of operations. This mode of operation places additional restrictions on the processing of commands by the device server.

4.2.19.2 Archive tape

An Archive tape is identified by a format defined method (e.g, the Medium Type attribute in the MAM data returning a Write Once Medium type value).

4.2.19.2 WORM mode

A device server that has detected an archive tape is mounted shall enter WORM mode. While in WORM mode, the following additional restrictions against altering the medium are placed on the device server.

While in WORM mode, WRITE, WRITE FILEMARKS, and ERASE commands are allowed only in the following conditions:

- a) if the medium position is at EOD (see 3.1.16);
- b) if there are only filemarks (i.e, no logical blocks or setmarks) between the current medium position and EOD; or
- c) if the medium position is at BOP and the partition contains no logical blocks or setmarks.

While in WORM mode, FORMAT MEDIUM, SET CAPACITY, and MODE SELECT commands that alter the partitioning or format are allowed only if the medium position is at BOP0 and there are no logical blocks or setmarks in any partition on the medium

If a device server operating in WORM mode detects that one of these additional restrictions is violated by a command being processed, the device server shall terminate the command with CHECK CONDITION status, the Sense Key shall be set to DATA PROTECT, and the additional sense code shall be set to WORM MEDIUM – OVERWRITE ATTEMPTED. If a write protection is in effect for the device server or medium (see 4.2.12), it shall take precedence over the WORM violation.

If a device server operating in WORM mode is unable to determine if medium position is such that one of these additional restrictions is violated by a command being processed, the device server shall terminate the command with CHECK CONDITION, the Sense Key shall be set to DATA PROTECT, and the additional sense code shall be set to WORM MEDIUM – OVERWRITE ATTEMPTED. If a write protection is in effect for the device server or medium (see 4.2.12), it shall take precedence over the WORM violation.

If a device server that does not support WORM mode detects that archive tape is mounted, it shall treat the medium as write protected. Any command that attempts to alter the medium shall be terminated with CHECK CONDITION status, the Sense Key shall be set to DATA PROTECT, and the additional sense code shall be set to CANNOT WRITE MEDIUM – INCOMPATIBLE FORMAT.

3.2 Add references

In section 4.2.16.4, add a reference:

“...it shall set that flag to one when an application client attempts to overwrite or erase user data [on an archive tape \(see 4.2.19\)](#).”

In 8.4.2, replace the sentence:

“The definition of write once capability and WORM mode operation is TBD.”

With:

“[See 4.2.19.2 for a definition of WORM mode](#)”.