SMC-2 Proposal

Read Element Status Device Identifier

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Introduction

Objective

Clarify the Read Element Status reporting of Identifier fields of differing length for the same Element Type.

Problems with Current Draft Technical Standard

The current draft technical standard does not specify clearly how to handle Identifier fields of differing length in the Read Element Status' Element Descriptor data.

Consider a media changer containing data transport elements of several differing types, say for example one SDLT tape drive and one HP LTO tape drive. The SDLT tape drive supports Identifier types 1, 2, and 3 whilst the HP LTO tape drive supports only type 1 Identifiers. For consistency then the designer of the media changer chooses to return type 1 Identifiers in the Read Element Status data. However the SDLT type 1 Identifier requires two more bytes that the HP LTO type 1 Identifier.

This situation presents the designers of the media changer and the application client unnecessary complexity and ambiguity, as the standard does not clearly specify how to report the differing length Identifiers.

Change Concept

HP propose two different approaches to resolving this problem:

1. Allow padding of the Identifier fields of Element Descriptors of the same Element Status page such that all Element Descriptors for the page have the same length.

2. Add a note that clarifies permission to use multiple Element Status pages of the same Element Type to accommodate Element Descriptors of differing lengths.

HP prefers the first approach but believes that either approach will resolve the problem.

Detailed Changes to Draft Technical Standard

1. Section 6.10.7 insert a new paragraph between paragraphs two and three. The new paragraph reads, 'Within the element descriptors for a single element status page, the device server may pad IDENTIFIER fields to the right with zeros to achieve a consistent length between such fields.'

   Section 6.10.7, paragraph 3, change 'The same CODE SET, IDENTIFIER TYPE, IDENTIFIER LENGTH and IDENTIFIER fields should be available via an INQUIRY command (see SPC) issued to the primary device' to 'With the exception of zero padding in the IDENTIFIER field, the same CODE SET, IDENTIFIER TYPE, IDENTIFIER LENGTH and IDENTIFIER fields should be available via an INQUIRY command (see SPC) issued to the primary device.'

2. Section 6.10.2 insert a new paragraph between paragraphs two and three. The new paragraph reads, 'NOTE 7 — Device servers should report multiple element status pages with the same ELEMENT TYPE CODE field if necessary to accommodate element descriptors of differing lengths.'

   Update other document note numbers appropriately.