T10/04-170 revision 1

Date: May 25, 2004

To: T10 Committee (SCSI)

From: George Penokie (IBM/Tivoli)

Subject: SAS 1.1: Number of Pad Bytes Fix

1 Overview

There is a problem in the description of how pad bytes are handled in SAS in that SAS states that fill byte field should be set to zero for all command frames except for data frame. However, a Response IU is allowed to have fill bytes. The two conflicting statements are:

In Section 9.2.1 - SSP Frame Format states that:

"The NUMBER OF FILL BYTES field indicates the number of fill bytes between the INFORMATION UNIT field and the CRC field. The NUMBER OF FILL BYTES field shall be set to zero for all frame types except DATA frames (i.e., all other frame types are already four-byte aligned)."

However, Section 9.2.2.5.4 - Response Information Unit Sense Data Format states that:

"The value in the SENSE DATA LENGTH field need not be a multiple of four. If it is not, the NUMBER OF FILL BYTES field in the SSP frame header is non-zero and fill bytes are present."

2 Proposed fix

Change Section 9.2.1 - SSP Frame Format as follows:

The NUMBER OF FILL BYTES field indicates the number of fill bytes between the INFORMATION UNIT field and the CRC field. The NUMBER OF FILL BYTES field shall be set to zero for all frame types except DATA frames (see 9.2.2.4) and RESPONSE frames (see 9.2.2.5.4) (i.e., all other frame types are already four-byte aligned).