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To: T10 Committee (SCSI)

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Subject: SAS Target Port Transfer Tag

## 1 Overview

The target port transfer tag should be clearly labeled as the property of the target. To make sure this occurs the following wording should be added into SAS.

### 2 9.2.1 SSP frame format

The following paragraph:

The TARGET PORT TRANSFER TAG field allows the target port to quickly establish a write data context when it has multiple outstanding XFER\_RDY frames. This field shall be set by the target port in the XFER\_RDY frame. Target ports that need this field shall set a value that is unique for the I\_T nexus. Target ports that do not need this field shall set it to FFFFh. For each DATA frame that is sent in response to a XFER\_RDY frame, the initiator port shall set the TARGET PORT TRANSFER TAG field to the value that was in the corresponding XFER\_RDY frame. For each DATA frame that is not sent in response to a XFER\_RDY frame (due to a non-zero FIRST BURST SIZE field in the Disconnect-Reconnect mode page), the initiator port shall set the TARGET PORT TRANSFER TAG field to FFFFh. The initiator port shall set this field to FFFFh for all frames other than DATA frames. The target port shall set this field to FFFFh for all frames other than XFER\_RDY frames.

Should be replaced with:

The TARGET PORT TRANSFER TAG field provides an additional method for an SSP target port to establish a write data context when receiving DATA frames while it has multiple outstanding XFER\_RDY frames. SSP target ports may set the TARGET PORT TRANSFER TAG field to any value when transmitting a frame. SSP target ports that use this field should set the field in every XFER\_RDY frame to a value that is unique for the L\_Q portion of the I\_T\_L\_Q nexus.

SSP initiator ports shall set the TARGET PORT TRANSFER TAG field as follows:

- a) For each DATA frame that is sent in response to a XFER\_RDY frame, the SSP initiator port shall set the TARGET PORT TRANSFER TAG field to the value that was in the corresponding XFER\_RDY frame;
- b) For each DATA frame that is sent containing first burst data (see xxx9.2.2.4), the SSP initiator port shall set the TARGET PORT TRANSFER TAG field to FFFFh; and
- c) For frames other than DATA frames, the SSP initiator port shall set the TARGET PORT TRANSFER TAG field to FFFFh.

SSP initiator ports shall ignore the TARGET PORT TRANSFER TAG field in all incoming frames other than XFER\_RDY frames. SSP target ports may ignore this field in all incoming frames other than DATA frames. [Target devices that check this field shall issue a response code of INVALID FRAME.](#)

#### 2.1 9.2.5.1 SSP target port error handling

If an SSP target port receives an XFER\_RDY frame or an unsupported frame type, it shall discard the frame (see 9.2.6.3.2).

If an SSP target port receives a COMMAND frame and:

- a) the frame is too short to contain a LUN field;
- b) the frame is too short to contain a CDB;
- c) the ADDITIONAL CDB LENGTH field indicates the frame should be a different length, [or](#)
- d) [if the SSP target port checks the target port transfer tag and the target port transfer tag is not set to FFFFh.](#)

the SSP target port shall return a RESPONSE frame with the DATAPRES field set to RESPONSE\_DATA and the RESPONSE CODE set to INVALID FRAME (see 9.2.6.3.3.8).

If an SSP target port receives a TASK frame and:

- a) the frame is too short; or
- b) [if the SSP target port checks the target port transfer tag and the target port transfer tag is not set to FFFFh.](#)

the SSP target port shall return a RESPONSE frame with the DATAPRES field set to RESPONSE\_DATA and the RESPONSE CODE set to INVALID FRAME (see 9.2.6.3.3.8).