TO: X3T10
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**Bus Extender/Converter Control and Status Elements**

This proposal extends SES to support parallel SCSI bus extenders. These extenders convert between LVDS, SE, and DE SCSI, and they allow configurations such as those below.

**Problem:** A host needs a method of determining the physical bus on which a parallel SCSI bus extender resides. One reason that it needs this information is to keep from cutting itself off when it disables a converter to remove a section of a bus with a problem. These converters may convert between LVDS, single ended, and differential SCSI.

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Graphical representation of configurations:

1. **Enclosure 1**
   - Host
   - SCSI bus extender/converter
   - Enclosure Services Device
   - DASD (May also be Enclosure Device)

2. **Enclosure 2**
   - Host

3. **Enclosure**
   - Host
   - SCSI bus extender/converter
   - Enclosure Services Device
   - DASD (May also be enclosure device.)
**Solution:** Provide Bus Converter elements for Control and Status pagers.

### TABLE 1. SCSI Converter Element for Enclosure Control Page

<table>
<thead>
<tr>
<th>Bits Bytes</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Select</td>
<td>PredFail</td>
<td>Disable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 2</td>
<td></td>
<td>Reserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Disable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This element is identical to the SCSI Port/transceiver enclosure element for the control page.

### TABLE 2. SCSI Converter Element for Enclosure Status Page

<table>
<thead>
<tr>
<th>Bits Bytes</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Reserved</td>
<td>PredFail</td>
<td>Disable</td>
<td>r</td>
<td>r</td>
<td></td>
<td></td>
<td>Status Code</td>
</tr>
<tr>
<td>1 - 2</td>
<td></td>
<td>Reserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Disabled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Active</td>
</tr>
</tbody>
</table>

This element is an extension of the SCSI Port/transceiver element for the enclosure status page.

**Disabled.**  
A 1 indicates that the converter has been disabled. (Same as Port/Transceiver element)

**Active.**  
A 1 indicates that the ES device received the Request Diagnostics command through this converter.

Note: One way in which the ES device determines that a given converter is active is by checking the converter during the time it is selected or during the time it reselects the initiator to return data for the RECEIVE DIAGNOSTICS command.