To: Members of X3T10
From: Michael E. O'Donnell,
       Erich Oetting
Date: 6 Nov 1996
Subject: Write Append Only Proposal

At the 18 July 1996 SSC Working Group Meeting, I agreed to propose an
additional write protect to the list presented by Mr. Gary R. Stephens of
FSI (Doc.# X3T10/96-179r0). In that proposal Mr. Stephens added three
additional write protect functions:

- Associated Write Protect - Currently mounted volume is logically
  write protected until volume dismounted
- Persistent Write Protect - Write protected via flag recorded with
  volume (presumably on the media). The write
  protect flag CAN be changed to non-write
  protect
- Permanent Write Protect - Once set for the volume. Cannot be changed.

In addition to these proposed changes, I would request the addition of the
following write protect function.

**Definition**

**Write Append Only** - A volume that is write append only behaves similarly
to WORM (Write Once Read Many) with the additional characteristic that the
tape drive can append customer data to the media. In this mode, the drive
allows the initiator to overwrite trailing tapemarks (EOF and EOD marks)
and ANSI standard header labels (writes at Begining of Partition),
but does NOT allow the initiator to overwrite existing user data. Write
data can be appended only.

Modify Mr. Stephens request to add 'Five optional means of setting the
write protects state...persistent write protect of a volume accross
mounts, permanent write protect of a volume also accross mounts and
append write protect of a volume.'

The Device Configuration page, byte 15, bit 3 would be changed from
Reserved to:

```
<table>
<thead>
<tr>
<th>Bit</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>PS</td>
<td>Rsvd</td>
<td>Page code (10h)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Reserved</td>
<td>AppdWp</td>
<td>AssoWp</td>
<td>PersWp</td>
<td>PermWp</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

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The Append Write protect field (AppdWp), when set to 1b, instructs the drive to place the mounted volume into write append only mode. A Unit Attention condition is not generated as the result of this change in write protect state. The drive shall determine the state of the volume when the volume is mounted and set the AppdWp bit if appropriate.

Once a volume is set to write append only mode, initiator attempts to reset the mode will be rejected by the logical unit with a CHECK CONDITION status for the Mode Select Command. The sense key shall be set to DATA PROTECT. The additional sense information shall be set to APPEND WRITE PROTECTED. (ASC/ASCQ – 27/06 – APPEND WRITE PROTECT).