Encoding 3 PCN-States in the IP header using a single DSCP

draft-ietf-pcn-3-in-1-encoding-04.txt

Bob Briscoe, BT
Toby Moncaster, independent
Michael Menth, Uni Tuebingen
IETF-80 PCN Mar 2011
status

- Encoding 3 PCN-States in the IP header using a single DSCP
  - **mature draft:** [draft-ietf-pcn-3-in-1-encoding-04.txt](https://example.com/draft-ietf-pcn-3-in-1-encoding-04.txt)
  - **dependency:** RFC6040 (now Proposed Standard)
  - **intended status:** experimental → standards track
  - **exec summary:** very simple but complete draft
  - **immediate intent:** WGLC over, but some spare text needs a home
    Consider implications of “updates 5696”

<table>
<thead>
<tr>
<th></th>
<th>DSCP</th>
<th>00</th>
<th>10</th>
<th>01</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline RFC 5696</td>
<td>DSCPn</td>
<td>Not-PCN</td>
<td>NM</td>
<td>EXP</td>
<td>PM</td>
</tr>
<tr>
<td>3-in-1</td>
<td>DSCPn</td>
<td>Not-PCN</td>
<td>NM</td>
<td>ThM</td>
<td>ETM</td>
</tr>
</tbody>
</table>
additional section: support for e2e ECN

• 4 approaches in baseline encoding app’x are imprecise:
  1. tunnel across PCN domain
  2. encode e2e ECN into an extended PCN encoding
  3. signal lack of ECN support to source (e.g. by drop)
  4. remark ECN-capable packets to a non-PCN-capable DSCP

• now clearer what to recommend
  • lay out all the possible cases
  • esp. document precisely how PCN uses a tunnel to protect e2e ECN
  • flag when updates or deprecates each of the above 4 approaches

• main point: e2e ECN safe if PCN placed logically within tunnel
  • any tunnel endpoint within 3-in-1 PCN domain must satisfy RFC6040

* experimentally, could leave PCN unchanged to trigger codec adaptation
Encoding 3 PCN-States in the IP header using a single DSCP

draft-ietf-pcn-3-in-1-encoding-04.txt

Q&A