Lightweight IGMPv3/MLDv2

draft-ietf-mboned-lightweight-igmpv3-mldv2-02

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Changes

• Editorial changes, clarifications, and corrections
  – Terminology section is added
  – LW message type is illustrated in a separate section
  – Better wording and clearer expression

• Fix
  – Update router’s process for the new record set

• Preserve full version’s merging report operations, not being as “Optional”
Implementations

• Host-side implementation
  – NetBSD-current
  – LW-IGMPv3 implementation was done
    • http://www.sfc.wide.ad.jp/~asaeda/LW-IGMPv3/
  – LW-MLDv2 implementation is in progress
• Software-based router implementation (by Huawei)
  – XORP1.4
    • On NetBSD-3.1 and Linux 2.6.16
  – Both LW-IGMPv3 and LW-MLDv2 implementations were done
Compatibility Test Environment

- **Router Side**
  - OS: Linux 2.6.16, NetBSD
  - Platform: XORP1.4
  - Multicast protocols
    - PIM-SM, LW-IGMPv3, IGMPv3, IGMPv2/v1, LW-MLDv2, MLDv2, MLDv1

- **Host Side**
  - OS: Windows XP (IGMPv3), NetBSD-current (LW-IGMPv3)
  - Self-developed emulator: generating packets of (LW)IGMPv3/v2/v1 and (LW)MLDv2/v1

- **Other Software**
  - EtherealPro4.6: capturing testing packets
### Router-Router Compatibility Tests

#### LW-IGMPv3 router vs. other routers

<table>
<thead>
<tr>
<th></th>
<th>IGMPv3</th>
<th>IGMPv2</th>
<th>IGMPv1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case 1</strong></td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Case 2</strong></td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td><strong>Case 3</strong></td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td><strong>Case 4</strong></td>
<td></td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

#### LW-MLDv2 router vs. other routers

<table>
<thead>
<tr>
<th></th>
<th>MLDv1</th>
<th>MLDv2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case 1</strong></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td><strong>Case 2</strong></td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>
Host-Router Compatibility Tests

**LW-IGMPv3 host vs. other routers**

<table>
<thead>
<tr>
<th>Case</th>
<th>IGMPv3</th>
<th>LW-IGMPv3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Case 2</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Case 3</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**LW-IGMPv3 host vs. other routers and/or host**

<table>
<thead>
<tr>
<th>Case</th>
<th>IGMPv3 host</th>
<th>IGMPv3 router</th>
<th>LW-IGMPv3 router</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Case 2</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>
Next Step

• Finish implementations and tests
• Revise the draft
  – Thanks for all comments sent to the ML and authors
    • We appreciate more comments
  – The future’s direction
    • Goal: PS
    • After the next revision, we’ll start the WGLC