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IGMPv3/MLDv2 Lite

draft-liu-magma-igmpv3-mldv2-lite-02

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Overview

• **Goal**
  – Define simplified IGMPv3/MLDv2 to facilitate further SSM deployment

• **Approach**
  – Remove an EXCLUDE filter-mode operation from a host (except (*,G) join)
  – Remove EXCLUDE filter-mode on routers
  – Simplify an INCLUDE filter-mode operation
    • ALLOW / BLOCK message is only sent under the INCLUDE mode
    • Several record types for IGMP/MLD report are eliminated
  – Keep compatibility with the full version
Changes from -01

• Clarify record types used by hosts
  – ALLOW, BLOCK, IS_EX, and TO_IN
    • TO_EX(), TO_EX(x) and IS_IN() are not used on a lite-version host.

• Merging an unsolicited report message is optional on a lite-version host
  – In the full version, a pending report should be merged to create a new State-Change report.
  – The lite-version host may not merge with the contents of the pending report, and can transmit each report sequentially.

• Describe MSF and SSM related issues
### Record Types

<table>
<thead>
<tr>
<th>Full Version</th>
<th>Lite Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS_EX()</td>
<td>IS_EX()</td>
<td>query response for (*,G) join</td>
</tr>
<tr>
<td>IS_EX(x)</td>
<td>N/A</td>
<td>query response for EXCLUDE (x,G) join</td>
</tr>
<tr>
<td>IS_IN(x)</td>
<td>ALLOW(x)</td>
<td>query response for INCLUDE (x,G) join</td>
</tr>
<tr>
<td>ALLOW(x)</td>
<td>ALLOW(x)</td>
<td>INCLUDE (x,G) join</td>
</tr>
<tr>
<td>BLOCK(x)</td>
<td>BLOCK(x)</td>
<td>INCLUDE (x,G) leave</td>
</tr>
<tr>
<td>TO_IN(x)</td>
<td>TO_IN(x)</td>
<td>change to INCLUDE (x,G) join</td>
</tr>
<tr>
<td>TO_IN()</td>
<td>TO_IN()</td>
<td>(*,G) leave</td>
</tr>
<tr>
<td>TO_EX(x)</td>
<td>N/A</td>
<td>change to EXCLUDE (x,G) join</td>
</tr>
<tr>
<td>TO_EX()</td>
<td>IS_EX()</td>
<td>(*,G) join</td>
</tr>
</tbody>
</table>
SSM Related Requirement

• Fully comply with RFC4604 [SSM]

• An SSM-aware application should not send IS_EX() report for an SSM address.

• An SSM-aware router should ignore IS_EX() report for an SSM address.
MSF Implementation Consideration

- Fully comply with RFC3768 [MSF API]

- IPv4/Protocol-Independent Basic MSF API should be implemented on a lite-version host.

- IPv4/Protocol-Independent Advanced MSF API are OPTIONAL on a lite-version host.
Discussions

• Open issues?

• The word of “IGMPv3 Lite” is used by Cisco. Should we use another name or not?
Next Step

- Improve the documentation
- This draft should be an mboned WG item?