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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

Full Version	Lite Version	Description
IS_EX()	IS_EX()	query response for (*,G) join
IS_EX(x)	N/A	query response for EXCLUDE (x,G) join
IS_IN(x)	ALLOW(x)	query response for INCLUDE (x,G) join
ALLOW(x)	ALLOW(x)	INCLUDE (x,G) join
BLOCK(x)	BLOCK(x)	INCLUDE (x,G) leave
TO_IN(x)	TO_IN(x)	change to INCLUDE (x,G) join
TO_IN()	TO_IN()	(*,G) leave
TO_EX(x)	N/A	change to EXCLUDE (x,G) join
TO_EX()	IS_EX()	(*,G) join

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?