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draft-ietf-mboned-lightweight-igmpv3-mldv2

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Major Idea of LW draft

- Principle:
  - Removal of rarely used EXCLUDE (S,G) operation
  - Assurance of compatibility with full version

- Method:
  - Host side: Reducing report type relating to EXCLUDE(S,G)
  - Router side: Eliminate filter-mode and simplify processing

LW Message Type Evolution

	IGMPv3	LW Ver-00	LWVer-01	LW Ver-02
In response to query	IS_IN(S,G)	IS_IN(S,G)	**ALLOW(S,G)**	**ALLOW(S,G)**
	IS_EX(S,G) IS_EX(null,G)	IS_EX(null,G)	IS_EX(null,G)	**TO_EX(null,G)**
Interface state change	TO_IN(S,G) TO_IN(null,G)	TO_IN(S,G) TO_IN(null,G)	TO_IN(S,G) TO_IN(null,G)	TO_IN(S,G) TO_IN(null,G)
	TO_EX(S,G) TO_EX(null,G)	**IS_EX(null,G)**	**IS_EX(null,G)**	TO_EX(null,G)
Source list change	ALLOW(S,G)	ALLOW(S,G)	ALLOW(S,G)	ALLOW(S,G)
	BLOCK(S,G)	BLOCK(S,G)	BLOCK(S,G)	BLOCK(S,G)

- The evolution lies in further simplification of message types

LW Router-Side Evolution

- Version -00
  - Remove filter-mode on router side and simplify greatly correlative operation
  - Simplify source record list operation

- Version -01
  - Editorial Improvement

- Version -02
  - Increase more detailed description of protocol behavior

Router Side Performance Test Result

- LW-IGMPv3 improves element operation rate:
  - Theoretical analysis: by around 40%
  - Actual simulation result: by 30% average
- LW-IGMPv3 decrease memory occupation by 12.5%
- Router has better stability with LW-IGMPv3 when user number increases

Thanks for BUPT (Beijing University of Posts and Telecommunications) for the simulation test

History of The Draft

- IETF 66, Montreal
  - draft-liu-magma-igmpv3-mldv2-lite-00.txt
  - Individual draft, first discussion
- IETF 67, San Diego
  - draft-liu-magma-igmpv3-mldv2-lite-02.txt
  - Add Host side process, change “Lite” to “Light Weight”
- IETF 68, Prague
  - draft-ietf-mboned-lightweight-igmpv3-mldv2-00
  - Accepted as WG draft, began to prepare implementations
- IETF 69, Chicago
  - draft-ietf-mboned-lightweight-igmpv3-mldv2-01
  - Router side and host side implementation available
- IETF 70, Vancouver
  - draft-ietf-mboned-lightweight-igmpv3-mldv2-02
  - Compatibility test result is given

Future Plan

- Draft editorial improvement
- Publish of the Open Source Code
- Initiate LC Process

Thanks !