

Multi-Upstream Interfaces IGMP/MLD Proxy

draft-zhang-pim-multi-upstream-igmp-mld-proxy-01

Shuai Gao

Beijing Jiaotong University

HAW Hamburg

2013.8

History of this Work

- Initial idea in MAGMA
- Picked up in MULTIMOB
 - draft-zhang-multimob-msm-03, July 2011
 - draft-ietf-multimob-pmipv6-source-00, Jan 2012
- Work deferred to PIM WG
 - moved to Appendix in source-draft
 - draft-zhang-pim-multi-upstream-igmp-mld-proxy-00, in Orlando.

Basic Operation Rules

- ✓ Inherits basic rules of the IGMP/MLD proxy and extends with multiple upstream interfaces
- ✓ The proxy device should initiate unique traffic subscriptions
- ✓ Policy List for default upstream interface selection
 - ✓ Default upstream interface
 - ✓ (node prefix, G prefix/multicast state)
- ✓ Different operation for source and receiver

Different operation for source and receiver

- ✓ For multicast senders attached:
 - For packets received from downstream interface
 - Direct connection check for the (first) PIM-SM multicast router

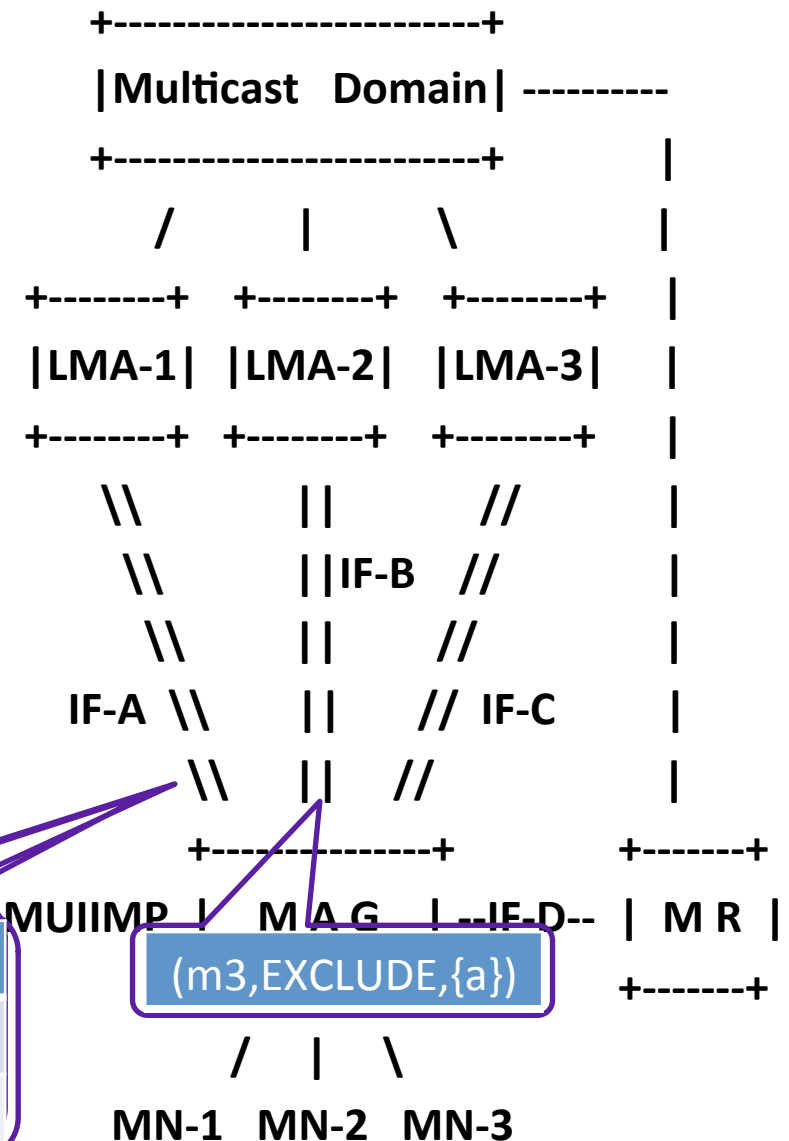
- ✓ For multicast listeners attached:
 - For packets received on its upstream interfaces.
 - For the subscriptions from downstream

Report of subscriptions on upstream interfaces

- Initiate unique traffic subscriptions to avoid the redundant multicast traffic.
- Compare the receiving subscription with existing subscriptions.
 - A new one
 - The same one
 - Included
 - Overlapped
- All subscriptions sent on the same upstream interface SHOULD be merged according the merging rule in RFC 4605
- Local source should be excluded.

Use Case in PMIPv6 Environment

Node	LMA	Type	Multicast Channel	Default U-IF
MN-1	LMA-1	R	(m1,EXCLUDE,{})	IF-A
			(m2,EXCLUDE,{})	
			(m3,INCLUDE,{a})	
MN-2	LMA-2	R	(m1,EXCLUDE,{})	IF-B
			(m2,INCLUDE,{b})	
			(m3,EXCLUDE,{})	
MN-3	LMA-3	R	(m1,EXCLUDE,{})	IF-C
		S	m2	



Work of Interest?