

Simplifying IPv6 MLD Snooping Switches
draft-pashby-magma-simplify-mld-snooping-00.txt

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Purpose

- Simplify the forwarding rules for Local Network Control and Dynamically Assigned Link-Local Scoped groups
 - Reduce cost of hardware
 - Reduce number of multicast group states
 - Provide additional network discovery
 - Provide detection of non-authorized network access and possible spoofing attacks

Justification

- A network with 1000 IPv6 nodes has at least 1000 multicast groups, just to support Neighbor Discovery (ND)
- Some current OS' don't implement MLD Joins for ND
- Providing Solicited-node Multicast Addresses (SMA) to be forwarded everywhere enhances the ability to discover nodes
- Providing SMA to be forwarded everywhere may allow for detection of spoofing attacks

New Forwarding Rules

- Forward Local Network Control Block multicast Ids to every port (includes All-hosts Multicast Address)
- Forward Dynamically Assigned Link-Local Scoped multicast Ids to every port (includes Solicited-node Multicast Addresses)
- Track MLD joins and leaves for forwarding all other multicast groups

Related Drafts

draft-pashby-mboned-mc-scoped-addr

- “Multicast Scoped Address Assignment Guidance”
- Defines Dynamically Assigned Link-Local Scoped multicast Id range (SMAs are included in this range)
- Defines Local Network Control Block multicast Id range (All Hosts Multicast Address is included in this range)

draft-pashby-ipv6-detecting-spoofing

- “Detection of IPv6 Neighbor Discovery and Host Redirection Spoofing”
- Relies on Dynamically Assigned Link-Local Scoped to be sent to all ports

Recommendation

- Update draft-ietf-magma-snoop-12 to include these changes

Questions?