

Multicast Protocol for LLNs

(draft-ietf-roll-trickle-mcast-02)

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History

- 2012-07-13: draft-ietf-roll-trickle-mcast-01
- 2012-10-19: draft-ietf-roll-trickle-mcast-02
 - IPv6-in-IPv6 encapsulation
 - Proactive + Reactive Propagation
 - Discard packet on unrecognized HBH Option
 - Add reserved bits to HBH Option

Issues

- 103: Disable proactive propagation
- 104: Missing security considerations
- 105: How to determine scope of MPL domain?
- 106: Always use IPv6-in-IPv6 encapsulation?
- 107: Support multiple parameter sets?
- 108: Explicit version field?
- 109: Use well-known multicast addr?
- 110: Receive non-MPL multicast packets?

105: MPL Domains

- How to limit scope of MPL dissemination?
 1. Physical extent of connected MPL devices
 2. Something smaller than Option 1.
- How to identify the MPL domain?
 - Application IPv6 multicast addresses
 - Explicit IPv6 multicast address
 - MPL Domain/Instance identifier

How to determine MPL domain?

Application IPv6 multicast addresses

- Combine domain and app endpoint identifiers
 - Outer IPv6 Destination Address (when used)
 - Well-known link-local MPL address
 - Inner IPv6 Destination Address
 - Full address defines application endpoints
 - Prefix defines MPL domain
- Comments
 - Does not require 6in6
 - Link-local destination address in outer header
 - Forwarding logic requires both MPL Option (outer) and IPv6 Destination (inner)
 - How to support arbitrary multicast addresses?

How to determine MPL domain?

Explicit IPv6 multicast address

- Separate domain and app endpoint identifiers
 - Outer IPv6 Destination Address (when used)
 - Non-link-local multicast address identifies MPL domain
 - Inner IPv6 Destination Address
 - Identifies application endpoints
- Comments
 - Requires 6in6 encapsulation when MPL domain and endpoint addresses do not match
 - Non-link-local destination address in outer header
 - Forwarding logic inspects a single header
 - Must configure MPL interfaces with MPL group address

How to determine MPL domain?

MPL Instance ID

- Include “Instance ID” in MPL Option
 - Outer IPv6 Destination Address (when used)
 - Well-known link-local MPL address
 - Inner IPv6 Destination Address
 - Identifies application endpoints
- Comments
 - Does not require 6in6
 - Link-local destination address in outer header
 - Forwarding logic inspects a single header
 - Must configure MPL interfaces with Instance ID