IPv6 Neighbor Discovery Multicast Address Listener Registration

draft-ietf-6lo-multicast-registration

Pascal Thubert

IETF 114

Remote
6LoWPAN ND (IPv6 Stateful Address Autoconfiguration)

- **RFC 6775** (original 6LoWPAN ND)
  - Defines ARO for registration and DAD operations for stateful AAC
- **RFC 8505** (extended 6LoWPAN ND)
  - Extends ARO, updates the registration procedure
  - Allows registering to network services inc. proxy
- **RFC 8928** (Address Protection for ND)
  - Secures ownership and enables SAVI
- **RFC 8929** (Backbone Router – proxy ND)
  - Defines a proxy ND operation. Updates EDAR to transport ND options such as SLLAO.
- **draft-thubert-6lo-unicast-lookup** (Unicast Address lookup on backbone)
  - Allows the 6LBR to respond to lookups and saves broadcasts
- **draft-ietf-6lo-multicast-registration** (Anycast and Multicast Address Registration)
  - Registers anycast and multicast addresses (in addition to unicast per RFC 8505)
Changes in draft-ietf-6lo-multicast-registration since IETF 113

- Clarification as a push alternate to MLD
- Clarification that TID-based freshness assertion is not done
- New ARO Status to indicate a "Registration Refresh Request" (see Table 7)
  - In NA messages
  - sent to a unicast or a multicast link-scope address (e.g., all nodes)
    - 6LNs requested to reregister all previously registered addresses to sender
- New Node Uptime Option to discover a reboot (next slide)
- IANA revisited
New Node Uptime Option

This specification introduces a new option that characterizes the uptime of the sender. The option may be used by routers in RA messages and by any node in NA, NA, and RS messages. It is used by the receiver to infer whether some state synchronization might be lost, e.g., due to reboot.

```
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 |
+-----------------------------------------------+-----------------------------------------------+-----------------------------------------------+-----------------------------------------------+
| Type | Length | Checksum |
+-----------------------------------------------+-----------------------------------------------+-----------------------------------------------+
| S | flags | NSSI | Exponent | Uptime Mantissa |
+-----------------------------------------------+-----------------------------------------------+-----------------------------------------------+-----------------------------------------------+
```
Next steps

• Chairs?