Neighbor Discovery Unicast Lookup

draft-thubert-6lo-unicast-lookup

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IETF 113
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)
Draft operation

• EDAR is extended by RFC 8929 to transport SLLA
• An abstract 6LBR is placed on backbone
  • Maintains registration for unicast and anycast IPv6@
  • Contains ROVR and LLA(s) associated with IPv6@
  • learns SLLA from NS(EARO) and EDAR
  • Answers DAD requests (EDAR/EDAC)
  • New: Provides unicast Address Mapping services
• New Address Mapping messages
  • can have scope > link for off-link query
  • Unicast link.Scope NS/NA can also be used
• New status “not found”
Changes in draft-thubert-6lo-unicast-lookup

• Since IETF 112
  • Updated to reference draft-ietf-6lo-multicast-registration for anycast address registration

• Been Quite stable... Adopt?
To Dos

- Explain 6LBR is abstract, can be a distributed database
  - E.g., draft-thubert-bess-secure-evpn-mac-signaling using BGP
  - Or RFC 8929 using IPv6 ND