RFC 6775 Update

P. Thubert, E. Nordmark, S. Chakrabarti, C. Perkins

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Singapore
Unmet expectations

• Solicited node multicast requires highly scalable L2 multicast
  IEEE does not provide it => turns everything into broadcast
  IPv6 ND appears to work with broadcast on 802.1 fabrics up to some scale ~10K nodes

• IPv6 ND requires reliable and cheap broadcast
  Radios do not provide that => conserving 802.1 properties over wireless is illusory
  RFC 4862 cannot operate as designed on wireless
  Address uniqueness is an unguaranteed side effect of entropy

• 802.11 expects proxy operation and broadcast domain separation
  802.11 provides a registration and proxy bridging at L2
  Requires the same at L3, which does not exist
  Implementations provide proprietary techniques based on snooping => widely imperfect

⇒ RFC 6775 solves the problem for DAD in one LL
⇒ This update enable establishing proxy services directly (ND for now), over a LLN, across multiple LLNs
What are the 6LoWPAN ND extensions?

Provide for draft-thubert-6lo-rfc6775-update-reqs

- **draft-ietf-6lo-rfc6775-update**
  - Simplifies the protocol (no DAR/DAC for LL, no secondary NC)
  - Enables proxy registration
- **draft-ietf-6lo-ap-nd**
  - Protects addresses against theft (Crypto ID in registration)
- **draft-ietf-6lo-backbone-router**
  - Federates 6lo meshes over a high speed backbone
  - ND proxy that mimics 802.11 association but at Layer 3
RFC 6775 update

Passed WGLC
In Depth review by Charlie Perkins
Many editorials
-10 published October 13\textsuperscript{th}
-11 for nits