

RFC 6775 Update

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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

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Passed WGLC

In Depth review by Charlie Perkins

Many editorials

-10 published October 13th

-11 for nits