Neighbor Discovery Registration Extension

<draft-nordmark-6lowpan-reg-00.txt>

Erik Nordmark
erik.nordmark@sun.com
Motivation (1)

• For 6lowpan there is a desire to avoid multicasts around
  – Duplicate address detection
  – Router needing to multicast NS for hosts
  – Router needing to multicast NS for non-existing hosts

• If the router/routers would know all the hosts on the link we could avoid those issues
Motivation (2)

- Over the years there has been various proposals to try to snoop information from Neighbor Discovery messages
  - For instance, to create reverse DNS information for autoconfigured hosts
Approach

- Add option to Router Advertisement
  - Router asks hosts to register every N seconds at a set of IP addresses
- Add a Registration Message
  - Unacknowledged
  - Sent every N seconds
- “set of IP addresses” allows for redundancy – two routers would receive the reg messages
- Soft-state; no acknowledgment, no deregistration
Security

- Can Secure Neighbor Discovery be applied?
- I think this is easy as long as each registration message is only for one IP address
  - That is what is in the draft
  - Otherwise we could make things more efficient when a host has multiple IP addresses
Open Issues

- If the registry is not on the router it doesn't know the registration period
  - Included in the RA but not in the reg messages
  - Add to the reg message?
- Add a 'lifetime' to the registration message to allow for deregistration?
- I don't know if the draft makes more sense in 6lowpan or in 6man WG