Registering Self-generated IPv6 Addresses using DHCPv6

draft-wkumari-dhc-addr-notification-04

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Quick Recap

**What:** a new DHCPv6 message to inform DHCPv6 server about statically configured or SLAAC addresses (like DHCPINFORM)

**Why:**
- Better visibility to IPv6 addresses used by devices
- Useful for troubleshooting and security/forensics
- Easy to integrate into existing DHCPv6 logging/IPAM infra
- Allows host to send network other information, such as hostname

**More details:** [IETF114 Slides](#)
Changes Since IETF114
Sending Registration Message

Message MUST be sent...

- from the address being registered
  - combined with SAVI/L2 security - reduced spoofing
    - implies that each message contains one IA_NA only
  - via the interface the address is configured on
    - to deal with multihomed hosts

MUST NOT be sent for DHCPv6-provided addresses

- so only SLAAC/Static addresses are registered
Receiving Registration Message

Discard the message if:

“the address is not appropriate for the link” (RFC8415)

Valid message:

Mark the address as unavailable, do not offer it

*SHOULD it be doing this? Or MAY?*

Log the binding
Retransmits

Proposed approach:

- ADDRREG_XMIT (default: 3) packets
- ADDRREG_RT_DELAY (default: 3 secs) between each packet
- Jittered
- Variables SHOULD be configurable

Not much point adding ACKs, since initially no servers will respond
Registration Refresh

Refresh messages frequency is minimal of:

- 4 hrs
- \( \frac{1}{3} \) of Valid Lifetime in the PIO which caused the address creation
  - to avoid issues caused by subsequent PIOs with different lifetimes

Retransmit logic as described on the previous slide
Another retransmit option (not in -04)

Retransmit strategy as per RFC8415 section 15:

IRT: REG_TIMEOUT

REG_TIMEOUT: new, default: 1 sec

MRT: 3600

MRC: 0

MRD: 0

Takes care of refreshing as well
Next Steps

More comments, suggestions?

Open questions:

  Retransmit strategy?

  Rename “Registration” to “Inform”?

Adoption Call?