Tracking Static/AutoConfigured IPv6 Addresses

draft-asati-dhc-ipv6-autoconfig-address-tracking

Rajiv Asati
Dan Wing

IETF 86
Agenda

• Motivation
• Solution
• Next step
Motivation

• Need a way to convey SLAAC (or Static) assigned IPv6 addresses to the backend for various Use-Cases:
  1. IP address *Logging*
  2. IP address *Tracking*
  3. Compliance

• Avoid host changes/dependency (note BYOD)
Solution

- First Hop Router conveys the “Neighbor Cache” entries to the backend using DHCPv6

- New DHCPv6 messages and new DHCP option defined
  Add an IP:MAC binding entry
Solution

- **Host Behavior**
  No changes required.

- **Router Behavior**
  Uses the DHCP message to send one or more IP:MAC bindings (from Neighbor cache) to the DHCP server

- **Server Behavior**
  Receives/Stores the IP:MAC bindings
Solution – DHCP Message & Option

**Message**

```
+--------------------------------------------------+
| RECORD-CLIENTBINDING-ACK | transaction-id |
+--------------------------------------------------+
| :                      |               :
| Client-Binding-Ack-options :               :
+--------------------------------------------------+
```

**Option**

```
+--------------------------------------------------+
| OPTION_CLIENT_BINDING | option-len    |
+--------------------------------------------------+
| :                    |              :
| Client Identifier (variable) :              :
| +------------------------------------------+
| Lifetime (4 octets) :                       |
| +------------------------------------------+
| IPv6 Addresses (n x 16 octets) :            |
+--------------------------------------------------+
```
Next Steps

• Already had some discussion on the mailing list
  Already had good interest off-list

• Welcome Contribution/Participation

• Solicit usefulness/WG Adoption
Solution – Why DHCP?

• If DHCP is used for address assignment, then DHCP server already records the IP:MAC binding per host

• DHCP server has been the de facto placeholder for storing the IP-MAC binding information