Configuring Cryptographically Generated Addresses (CGA) using DHCPv6

draft-jiang-dhc-cga-config
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Requirements & Motivation

- **CGAs may be used in DHCPv6-managed networks**
  - Designed for SeND, also used in Shim6, Mobile IPv6, etc.

- **Network administrators may want to configure parameters used to generate CGAs and manage the use of CGAs**
  - CGAs are normally generated by hosts
  - Network management configures/enforces CGA relevant parameters to hosts
  - DHCPv6 server approves or rejects the usage of CGAs

- **New DHCPv6 options are needed to fulfill the functions**
CGA Configure Process Using DHCPv6

• Configuration of the parameters required for the generation of CGA
  – Parameters may be configured by network management
    ✓ Prefix    (RA or DHCP prefix assignment)
    ✓ Sec value (new DHCPv6 option in this draft)
    ✓ Public Key (not suitable for network transmission for security reasons)
    ✓ Extension Fields (no use yet)
  – Interaction procedure is described in details
• DHCPv6 server approves or rejects the usage of CGAs
  – Hosts send Option Request option, which requests Address Grant Option (new DHCPv6 option, defined in this draft)
  – CGAs are carried in the IA Address Options
  – Servers reply a Address Grant Option
  – Upon reception of the ack, hosts use approved CGA or generate new one
New DHCPv6 Options

- **DHCPv6 CGA Sec Option** is used to carry a Sec value

  ![DHCPv6 CGA Sec Option](image)

  - On receiving the CGA Sec Option, the client **SHOULD** generate a CGA using a Sec value that is not lower than the option indicated; the client **MAY** choose to generate a CGA using a lower sec value.

- **DHCPv6 Address Grant Option** to indicate the DHCPv6 client whether the requested address is granted or not

  ![DHCPv6 Address Grant Option](image)
Change Log

Removed CGA generation delegation

Comments are welcomed!

Should the WG work on this?

Thank You!