YANG Data Model for DHCPv6 Configuration

draft-ietf-dhc-dhcpv6-yang-06

Y. Cui, L. Sun, I. Farrer, S. Zechlin, **Z. He**

IETF101 London

What's happened since IETF100?

- Pretty much progress since v04!
- An issue tracker has started on github (thanks for Ian and DHC co-chairs)
- Two versions (v05 & v06) have been published
- Resolved most issues from
  - Ian
  - Bernie
  - Marcin Siodelski

Structural changes

- Split the monolithic model into five modules
  - server, relay, client, options, types
- Separated configuration data and state data
  - 'server/relay/client-config'
  - 'server/relay/client-state'
- Slimmed 'network-range' structure
  - 'address-pools', 'pd-pools' and 'host-reservations'
  - 'reserv-addresses' and 'reserv-prefixes' merged into 'host-reservations'
- Remodelled 'DUID' definition
 - 4 types defined in 3315bis and a 'duid-unknown' type

Detailed changes

- Addressed the utilization issue
  - 'max-address-count' & 'allocated-address-count'
  - 'max-pd-space-utilization' & 'pd-space-utilization'
- Used 'feature' to indicate support for each option
- Moved 'rapid-commit' to address/pd-pool
- Removed some unnecessary 'boolean' nodes
  - 'stateless-service', ('pd-function', 'stateless-service', 'inherit-option-set' – see later slide)

Added some interactions with 'ietf-interfaces'
  - interfaces-config* if: interface-ref
- Checked most modeling of options

Current Model Structure

View Tree Model
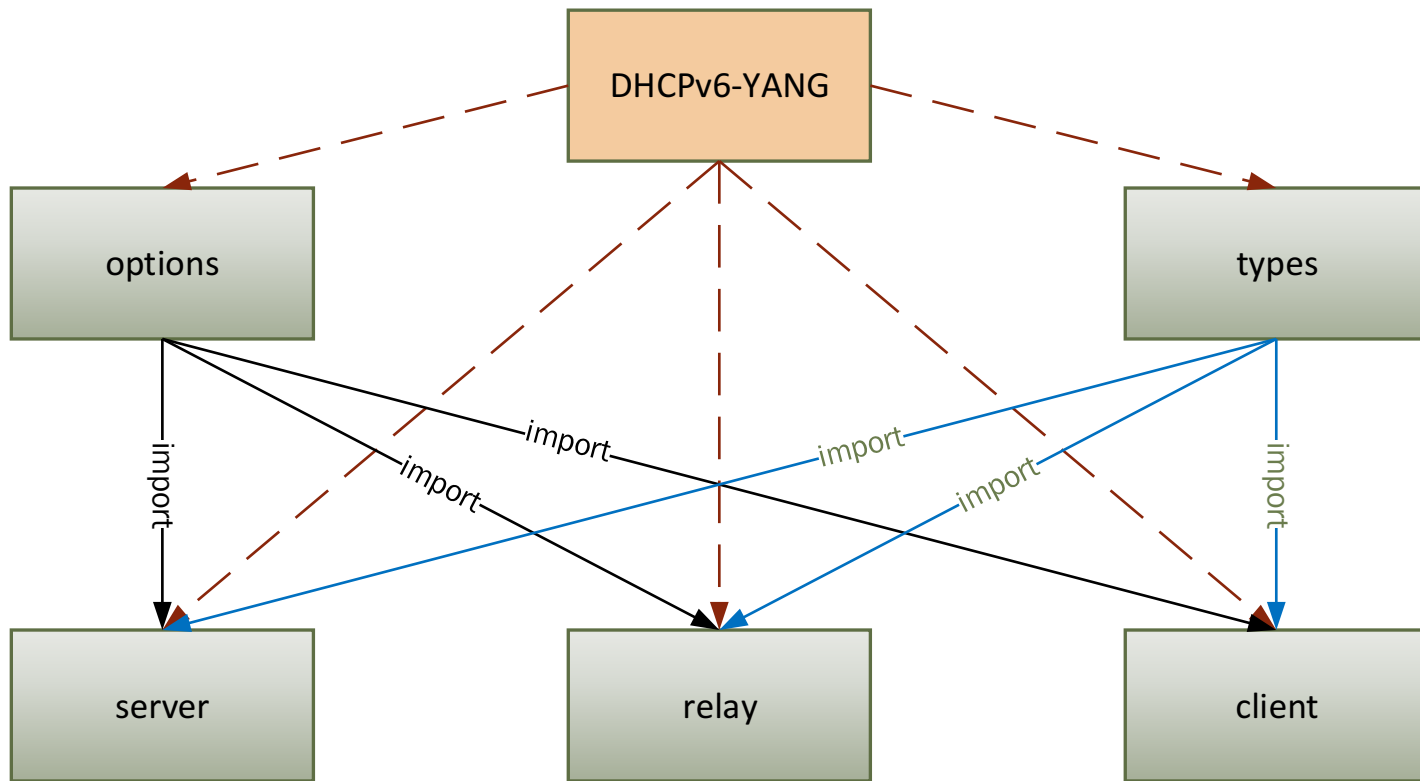
- Start at https://datatracker.ietf.org/doc/draft-ietf-dhc-dhcpv6-yang/ and click on links in Additional URLs section

Formats	📄 plain text	⟨⟩ xml	🗎 pdf	⟨⟩ html	🗎 bibtex

Yang Validation — ◕ 0 errors, 0 warnings.

Additional URLs — - Yang catalog entry for ietf-dhcpv6-client@2018-03-04.yang
- Yang catalog entry for ietf-dhcpv6-options@2018-03-04.yang
- Yang catalog entry for ietf-dhcpv6-relay@2018-03-04.yang
- Yang catalog entry for ietf-dhcpv6-server@2018-03-04.yang
- Yang catalog entry for ietf-dhcpv6-types@2018-01-30.yang
- Yang impact analysis for draft-ietf-dhc-dhcpv6-yang

Outstanding Issues

- Unconventional DUID
  - opaque values or a new 'duid-unknown' type?
- 'pd-function', 'inherit-option-set' booleans have been removed, but are they needed (possibly better enabled as features)?
- Re-location of DUID and rapid-commit
  - DUID in 'server-attributes' or options?
  - 'rapid-commit' in 'address/pd-pool' or options?

Outstanding Issues

- Serving requests from correct address/prefix pool
  - add 'client-class' under 'address/pd-pool'
  - the pool will only serve those clients that fall into this class
  - server gets to know client class from vendor class option (the way Kea does)
  - client classification too complicated (from Bernie)?
  - or do we need to define such a logic or not?

```
+--rw address-pools
|   +--rw address-pool* [pool-id]
|   |       +--rw client-class?          string
```

Next steps

- Continue to work on issues on github (hope more volunteers/contributors would fork the repo and get involved)

- Further check the correctness and completeness of option definitions

- Need input from vendors

- Any other comments/suggestions?