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

DHCPv6-YANG

- options
- server
- relay
- client
- types

IETF-101 (London)
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?