

YANG Data Model for ARP

RTG WG IETF 104

draft-ietf-rtgwg-arp-yang-model-02

Bo Wu, Feng Zheng, Huawei

Robert Wilton, Cisco (Presenting)

Xiaojian Ding

Recap – What does this model cover

- Existing ietf-ip.yang [RFC 8344] **covers basic dynamic and static ARP** entries on an interface
- This draft covers the **extra bits of ARP** implementations that many vendors support, but ietf-ip doesn't cover, e.g.
 - ARP statistics
 - Proxy ARP, Grat ARP configuration, etc.

Current tree:

```
module: ietf-arp
  +--rw arp
    +--rw dynamic-learning?    boolean

augment /if:interfaces/if:interface/ip:ipv4:
  +--rw arp
    +--rw expiry-time?        uint32
    +--rw dynamic-learning?    boolean
    +--rw proxy-arp
      | +--rw mode?            enumeration
    +--rw gratuitous-arp
      | +--rw enable?          boolean
      | +--rw interval?        uint32
    +--ro statistics
      +--ro discontinuity-time? yang:date-and-time
      +--ro in-requests-pkts?   yang:counter32
      +--ro in-replies-pkts?    yang:counter32
      +--ro in-gratuitous-pkts? yang:counter32
      +--ro out-requests-pkts?  yang:counter32
      +--ro out-replies-pkts?   yang:counter32
      +--ro out-gratuitous-pkts? yang:counter32
  augment /if:interfaces/if:interface/ip:ipv4/ip:neighbor:
    +--ro remaining-expiry-time? uint32
```

Changes since -01 (IETF 103)

- Editorial improvements to introductory text, security sections
- Simplified model - trying to align to minimal viable subset of vendor config, so removed:
 - Global static ARP entries
 - ARP probe configuration
 - Grac ARP drop config flag

... changes since -01 (IETF 103)

- Fix dynamic ARP global default setting
- Aligned global and interface config
- Improved YANG formatting
- Added discontinuity timestamp for counters

Issue 1

- Should ARP stats have a separate discontinuity counter, or should they reuse the one for interface statistics?
- Currently optional to implement, but use what semantics if it isn't provided?
 - Could use interface stats discontinuity timestamp?
 - Or perhaps implementation defined?

Issue 2: Grac ARP default?

- Grac ARP is a boolean config leaf
- Default is currently implementation defined
- Is this the right choice, or would it be better if this was enabled by default?

Other remaining work

- Probably not much more before we are done.