YANG Data Model for ARP

RTGWG IETF 102

draft-ding-rtgwg-arp-yang-model-02

Xiaojian Ding, Huawei (Editor)

Feng Zheng, Huawei

Robert Wilton, Cisco (Presenting)

Our plea

- RTGWG adoption of this ARP YANG Model draft
- After that, we would like it to flow fairly expediently through the WG process …
- But for the moment, we would settle for WG adoption … ᴧ

Why is it needed?

- 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
  - Global ARP entries
  - Proxy ARP, etc.

Excitement Factor

- Relatively low, new protocols are much more exciting, but …
- Having a standardized model makes life much easier for operators
- It does not need to be perfect, just good enough, and it can evolve over time
- Follows reasonable design principles
- Draft is on third revision - ready for adoption

Can you help?

- By showing support that this work is relevant to IETF and useful?

- By agreeing to review and comment on the YANG model and draft

BACKUP SLIDES

What has changed since London

- Addressed some comments from Reshad Rahman
- Aligned with OpenConfig YANG module
- Reconstruct ARP YANG module (merge two modules into one)
- Removed global statistics information
- Removed 'if-limit' feature

Current structure (global):

```
module: ietf-arp
  +--rw arp
     +--rw global-static-entries {global-static-entries}?
     |  +--rw static-entry* [ip-address]
     |     +--rw ip-address      inet:ipv4-address-no-zone
     |     +--rw mac-address     yang:mac-address
     +--rw global-control
        +--rw enable-learning?   boolean
        +--rw enable-proxy?      boolean

  augment /if:interfaces/if:interface:
    ...
```

Current structure
(interface augmentations):

```
module: ietf-arp
  ...
  augment /if:interfaces/if:interface:
    +--rw arp-dynamic-learning
      +--rw expire-time?      yang:timeticks
      +--rw learn-disable?    boolean
      +--rw proxy
      |  +--rw mode?    enumeration
      +--rw probe
      |  +--rw interval?    uint8
      |  +--rw times?       uint8
      |  +--rw unicast?     boolean
      +--rw gratuitous
      |  +--rw enable?      boolean
      |  +--rw interval?    uint32
      |  +--rw drop?        boolean
      +--ro statistics
        +--ro in-requests-pkts?        uint16
        +--ro in-replies-pkts?         uint16
        +--ro in-gratuitous-pkts?      uint16
        +--ro out-requests-pkts?       uint16
        +--ro out-replies-pkts?        uint16
        +--ro out-gratuitous-pkts?     uint16
  augment /if:interfaces/if:interface/ip:ipv4/ip:neighbor:
    +--ro remaining-expire-time?    uint32
```