YANG Data Model for ARP

RTGWG IETF 104
draft-ietf-rtgwg-arp-yang-model-02

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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
  – Grat 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: Grat ARP default?

- Grat 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.