

IGMP & MLD YANG Model

draft-ietf-pim-igmp-ml-d-yang-06

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Status

- version 06
 - Reviewed by WG chairs & yang doctor
 - Updated according to the NMDA version and review comments
 - Passed validations

Updating Yang Model Structure

- Still using three-level hierarchy : Global level, Interface-global, Interface-level
- Every level including configuration and operational state information (except interface-

Global Level)

```
+--rw igmp
  +--rw global
    | +--rw enable?          boolean {global-admin-enable}?
    | +--rw max-entries?    uint32 {global-max-entries}?
    | +--rw max-groups?    uint32 {global-max-groups}?
    | +--ro entries-count?  uint32
    | +--ro groups-count?  uint32
    | +--ro statistics
    |   +--ro discontinuity-time? yang:date-and-time
    |   +--ro error
    |     | +--ro total?      yang:counter64
    |     | +--ro query?     yang:counter64
    |     | +--ro report?    yang:counter64
    |     | +--ro leave?     yang:counter64
    |     | +--ro checksum?  yang:counter64
    |     | +--ro too-short? yang:counter64
    |   +--ro received
    |     | +--ro total?     yang:counter64
    |     | +--ro query?    yang:counter64
    |     | +--ro report?   yang:counter64
    |     | +--ro leave?    yang:counter64
    |   +--ro sent
    |     +--ro total?     yang:counter64
    |     +--ro query?     yang:counter64
    |     +--ro report?    yang:counter64
    |     +--ro leave?     yang:counter64
```

Interface-global

```
+--rw interfaces
  +--rw last-member-query-interval?  uint16
  +--rw max-groups-per-interface?    uint32 {intf-max-groups}?
  +--rw query-interval?              uint16
  +--rw query-max-response-time?     uint16
  +--rw require-router-alert?        boolean {intf-require-router-alert}?
  +--rw robustness-variable?         uint8
  +--rw version?                     uint8
```

Interface-level

```
+--rw interface* [interface-name]
  +--rw interface-name              if:interface-ref
  +--rw enable?                     boolean {intf-admin-enable}?
  +--rw group-policy?                string
  +--rw immediate-leave?             empty {intf-immediate-leave}?
  +--rw last-member-query-interval?  uint16
  +--rw max-groups?                  uint32 {intf-max-groups}?
  +--rw max-group-sources?           uint32 {intf-max-group-sources}?
  +--rw query-interval?              uint16
  +--rw query-max-response-time?     uint16
  +--rw require-router-alert?        boolean {intf-require-router-alert}?
  +--rw robustness-variable?         uint8
  +--rw source-policy?               string {intf-source-policy}?
  +--rw verify-source-subnet?        empty {intf-verify-source-subnet}?
  +--rw explicit-tracking?           boolean {intf-explicit-tracking}?
  +--rw exclude-lite?                boolean {intf-exclude-lite}?
  +--rw version?                     uint8
  +--rw join-group*                  inet:ipv4-address {intf-join-group}?
  +--rw ssm-map* [source-addr group-policy] {intf-ssm-map}?
  | +--rw source-addr                ssm-map-ipv4-addr-type
  | +--rw group-policy                string
  +--rw static-group* [group-addr source-address] {intf-static-group}?
  | +--rw group-addr                  inet:ipv4-address
  | +--rw source-addr                  source-ipv4-addr-type
  +--ro oper-status?                  enumeration
  +--ro querier?                       inet:ipv4-address
  +--ro joined-group*                  inet:ipv4-address {intf-join-group}?
  +--ro group* [group-address]
  | +--ro group-address                inet:ipv4-address
  | +--ro expire?                       uint32
  | +--ro filter-mode?                  enumeration
  | +--ro up-time?                       uint32
  | +--ro last-reporter?                inet:ipv4-address
  +--ro source* [source-address]
  | +--ro source-address                inet:ipv4-address
  | +--ro expire?                       uint32
  | +--ro up-time?                       uint32
  | +--ro host-count?                   uint32 {intf-explicit-tracking}?
  | +--ro last-reporter?                inet:ipv4-address
  +--ro host* [host-address] {intf-explicit-tracking}?
  | +--ro host-address                  inet:ipv4-address
  | +--ro host-filter-mode?             enumeration
```

Adding New Features

- lightweight IGMPv3 or MLDv2 protocol referenced RFC5790, i.e. simplified exclude mode function
- Explicit-tracking function for recording host information

```
+--rw interface* [interface-name]
  +--rw interface-name          if:interface-ref
  +--rw enable?                 boolean {intf-admin-enable}?
  +--rw group-policy?           string
  +--rw immediate-leave?        empty {intf-immediate-leave}?
  +--rw last-member-query-interval? uint16
  +--rw max-groups?             uint32 {intf-max-groups}?
  +--rw max-group-sources?      uint32 {intf-max-group-sources}?
  +--rw query-interval?         uint16
  +--rw query-max-response-time? uint16
  +--rw require-router-alert?   boolean {intf-require-router-alert}?
  +--rw robustness-variable?    uint8
  +--rw source-policy?          string {intf-source-policy}?
  +--rw verifv-source-subnet?   empty {intf-verifv-source-subnet}?
  +--rw explicit-tracking?      boolean {intf-explicit-tracking}?
  +--rw exclude-lite?          boolean {intf-exclude-lite}?
  +--rw version?                uint8
```

```
+--ro group* [group-address]
  +--ro group-address          inet:ipv4-address
  +--ro expire?                uint32
  +--ro filter-mode?           enumeration
  +--ro up-time?               uint32
  +--ro last-reporter?         inet:ipv4-address
  +--ro source* [source-address]
    +--ro source-address       inet:ipv4-address
    +--ro expire?              uint32
    +--ro up-time?             uint32
    +--ro host-count?          uint32 {intf-explicit-tracking}?
    +--ro last-reporter?       inet:ipv4-address
  +--ro host* [host-address] {intf-explicit-tracking}?
    +--ro host-address         inet:ipv4-address
    +--ro host-filter-mode?    enumeration
```

Next Step

- Any more comments
- Ready for WGLC