L2VPN/EVPN/L3VPN

Yang

IETF-96

Berlin
L2VPN
What’s new?

• L2VPN yang document is WG adopted
• Operational Data is added

Wait!

• Model is not ready YET!
  • Many feedback from the alias (@ WG adoption)
  • Still need to go thru some change in term of “layout”
EVPN
What’s new?

• EVPN yang document is WG adopted
• Updated the author list
• Operational Data is added
• Statistics are added
• Few cosmetic changes
What’s next?

• Need feedback from everyone
• Enhancement to cover latest EVPN development
  • Flexible-xconnect-service
  • Some DC functionality
• Add RPC, Notifications
Open questions:

• EVPN routes oper data.
  • Which models should be owning this? BGP or per application?

• BGP common parameters
  • Should we create a separate Yang model?
Update:

• No update has been done since last IETF

• The routing-instance model has changed so we need to align with it.
ietf-ethernet-segment (operational state)

### Old
++-ro ethernet-segments-state
  +-ro ethernet-segment-state* [name]
    +-ro name                           string
    +-ro service-type?                  string
    +-ro status?                        status-type
    +-ro (ac-or-pw-or-intf)?
      |  +--:(ac)
      |    |  +-ro ac?                            string
      |  +--:(pw)
      |      |  +-ro pw?                            string
      |      +-+(physical-intf)
      |        +-ro physical-intf?                 string
     +-ro intf-status?                   status-type
     +-ro ethernet-segment-identifier?   uint32
     +-ro active-mode?                   string
     +-ro df-election
       |  +--ro enable-hrw?           empty
       |  +--ro election-wait-time?   uint32
     +-ro pbb-parameters
       |  +-ro backbone-src-mac?   yang:mac-address
       |  +-ro ead-evi-route?                 boolean
       |  +-ro rt?                            string
       |  +-ro esi-label?                     string
     +-ro member*
       |  +-ro ip-address?   inet:ip-address
       |  +-ro df*
         |    +-ro evpn-instance-identifier?   uint32
         |    +-ro vlan?                        uint32
         |    +-ro ip-address?                inet:ip-address

### New
++-ro ethernet-segments-state
  +-ro ethernet-segment-state* [name]  
    +-ro name                           string
    +-ro service-type?                  string
    +-ro status?                        status-type
    +-ro (ac-or-pw)?
      |  +--:(ac)
      |    |  +-ro ac?                            string
      |  +--:(pw)
      |      |  +-ro pw?                            string
     +-ro interface-status?              status-type
     +-ro ethernet-segment-identifier?   uint32
     +-ro active-mode?                   string
     +-ro pbb-parameters {ethernet-segment-pbb-params}? 
       |  +-ro backbone-src-mac?   yang:mac-address
       |  +-ro ead-evi-route-enabled?         boolean
       |  +-ro rt?                            string
       |  +-ro esi-label?                     string
     +-ro member*
       |  +-ro ip-address?   inet:ip-address
       |  +-ro df*
         |    +-ro evpn-instance-identifier?   uint32
         |    +-ro vlan?                        uint32
         |    +-ro ip-address?                inet:ip-address

### Changes
- Renamed:
  - `interface-status` to `intf-status`
  - `physical-intf` to `physical-intf?`
  - `enable-hrw` to `hrw-enabled`
  - `election-wait-time` to `election-wait-time?`
  - `route-distinguisher` to `route-distinguisher`
  - `vpn-target` to `vpn-target`
  - `rt-type` to `rt-type`
  - `member` to `member`

- Added to match config:
  - `interface-status`
  - `active-mode`
  - `hrw-enabled`
  - `election-wait-time?`
  - `route-distinguisher`
  - `vpn-target`
  - `rt-type`
  - `member`

- Also type change:
  - `enable-hrw` to `hrw-enabled`
Added pbb-parameters sub-mode
This matches bgp-parameters sub-mode
## ietf-evpn (operation state)

### Old

- `+--ro evpn-instances-state
  +--ro evpn-instance-state*
    +--ro name? string
    +--ro evi? uint32
    +--ro source-bmac? yang:hex-string
  +--ro bgp-parameters
    |  +--ro common
    |     +--ro rd-rt* [route-distinguisher]
    |     |  +--ro route-distinguisher string
    |     |  +--ro vpn-target* [rt-value]
    |     |     +--ro rt-value string
    |     +--ro rt-type bgp-rt-type
    +--ro advertise-mac-suppression? boolean
    +--ro arp-proxy? boolean
    +--ro arp-suppression? boolean
    +--ro nd-proxy? boolean
    +--ro nd-suppression? boolean
    +--ro underlay-multicast? boolean
    +--ro flood-unknown-unicast-suppression? boolean
  +--ro routes
    +--ro /* skipped */
  +--ro statistics
    +--ro tx-count? uint32
    +--ro rx-count? uint32

### New

- `+--ro evpn-instances-state
  +--ro evpn-instance-state*
    +--ro name? string
    +--ro evi? uint32
    +--ro source-bmac? yang:hex-string
  +--ro bgp-parameters
    |  +--ro common
    |     +--ro rd-rt* [route-distinguisher]
    |     |  +--ro route-distinguisher string
    |     |  +--ro vpn-target* [rt-value]
    |     |     +--ro rt-value string
    |     +--ro rt-type bgp-rt-type
    +--ro advertise-mac-suppression-enabled? boolean
    +--ro arp-proxy-enabled? boolean
    +--ro arp-suppression-enabled? boolean
    +--ro nd-proxy-enabled? boolean
    +--ro nd-suppression-enabled? boolean
    +--ro underlay-multicast-enabled? boolean
    +--ro flood-unknown-unicast-suppression-enabled? boolean
    +--ro routes
    +--ro /* skipped---no change since last version */
  +--ro statistics
    +--ro tx-count? uint32
    +--ro rx-count? uint32
    +--ro detail
      +--ro broadcast-tx-count? uint32
      +--ro broadcast-rx-count? uint32
      +--ro multicast-tx-count? uint32
      +--ro multicast-rx-count? uint32
      +--ro unicast-tx-count? uint32
      +--ro unicast-rx-count? uint32

### Changes

- Added `pbb-parameters` sub-mode
- Renamed `bgp-parameters` sub-mode
- New detailed stats
- Other changes
Naming Convention: “enabled” in operational state

Old

+-ro evpn-instances-state
  +-ro evpn-instance-state
    |   +-ro name? string
    |   +-ro evi? uint32
    |   +-ro source-bmac? yang:hex-string
    +-ro bgp-parameters
      |   +-ro rd-rt* [route-distinguisher]
      |     +-ro route-distinguisher string
      |     +-ro vpn-target* [rt-value]
      |        +-ro rt-value string
      |     +-ro rt-type bgp-rt-type
      |   +-ro advertise-mac-suppression? boolean
      |   +-ro arp-proxy? boolean
      |   +-ro arp-suppression? boolean
      |   +-ro nd-proxy? boolean
      |   +-ro nd-suppression? boolean
      +-ro underlay-multicast? boolean
      +-ro flood-unknown-unicast-suppression? boolean
      +-ro routes
        |   +-ro /* skipped */
        +-ro statistics
          |   +-ro tx-count? uint32
          +-ro rx-count? uint32

New

+-ro evpn-instances-state
  +-ro evpn-instance-state
    |   +-ro name? string
    |   +-ro evi? uint32
    +-ro pbb-parameters
      |   +-ro source-bmac? yang:hex-string
      +-ro bgp-parameters
        |   +-ro rd-rt* [route-distinguisher]
        |     +-ro route-distinguisher string
        |     +-ro vpn-target* [rt-value]
        |        +-ro rt-value string
        |     +-ro rt-type bgp-rt-type
        +-ro advertise-mac-suppression-enabled? boolean
        +-ro arp-proxy-enabled? boolean
        +-ro arp-suppression-enabled? boolean
        +-ro nd-proxy-enabled? boolean
        +-ro nd-suppression-enabled? boolean
        +-ro underlay-multicast-enabled? boolean
        +-ro flood-unknown-unicast-suppression-enabled? boolean
        +-ro routes
          |   +-ro /* skipped---no change since last version */
        +-ro statistics
          |   +-ro tx-count? uint32
          +-ro rx-count? uint32
        +-ro detail
          |   +-ro broadcast-tx-count? uint32
          +-ro broadcast-rx-count? uint32
          +-ro multicast-tx-count? uint32
          +-ro multicast-rx-count? uint32
          +-ro unicast-tx-count? uint32
          +-ro unicast-rx-count? uint32
Naming Convention: “enabled” in operational state (2)

Config
<evpn-instance>
  <name>1</name>
  <arp-proxy>
    true
  </arp-proxy>
  <arp-suppression>
    false
  </arp-suppression>
  <nd-proxy>
    false
  </nd-proxy>
  <underlay-multicast>
    false
  </underlay-multicast>
  <flood-unknown-unicast-suppression>
    true
  </flood-unknown-unicast-suppression>
</evpn-instance>

Operational State
<evpn-instance>
  <name>1</name>
  <arp-proxy-enabled>
    true
  </arp-proxy-enabled>
  <arp-suppression-enabled>
    false
  </arp-suppression-enabled>
  <nd-proxy-enabled>
    false
  </nd-proxy-enabled>
  <underlay-multicast-enabled>
    false
  </underlay-multicast-enabled>
  <flood-unknown-unicast-suppression-enabled>
    true
  </flood-unknown-unicast-suppression-enabled>
</evpn-instance>

I find that “enabled” sounds correct only operational state...