IETF 94 Yokohama
Yang Data Model for OSPF Protocol
draft-ietf-ospf-yang-yang-03

Derek Yeung

Derek Yeung (myeung@cisco.com)
Dean Bogdanovic (deanb@juniper.net)
Jeffrey Zhang (zzhang@juniper.net)
Kiran Agrahara Sreenivasa (kkoushik@Brocade.com)
YingZhen Qu (yiqu@cisco.com)
Agenda

- Changes from -01 for ietf-ospf module
- Changes from -01 for ietf-ospf-sr module
- New ietf-ospf-bfd module
- Next step
ietf-ospf

- Add Ing-Wher Chen as new author
- Remove the abstract identity ospf.
  - Keep the identities ospfv2 and ospfv3
- Make area-id-type dotted-quad only.
- Use area-id-type for all area-id leafs.
- Move BFD support to the new ietf-ospf-bfd module
- Restructure notifications.
Restructure Notification

- 3 groupings
  - notification-instance-hdr
  - notification-interface
  - notification-neighbor
- Plus notification specific fields
Restructure Notification (Cont.)

```
+----n if-state-change
|    +--ro routing-instance? rt:routing-instance-ref
|    +--ro routing-protocol-type?   -> ...
|    +--ro routing-protocol-name?   -> ...
|    +--ro af?                      -> ...
|    +--ro (if-link-type-selection)?
|    |    +--:(interface)
|    |    |    +--ro interface
|    |    |    |    +--ro interface? if:interface-ref
|    |    |    +--:(virtual-link)
|    |    |    |    +--ro virtual-link
|    |    |    |    |    +--ro area-id? area-id-type
|    |    |    |    +--ro neighbor-router-id? yang:dotted-quad
|    |    |    |    |    |    +--ro sham-link
|    |    |    |    |    |    |    +--ro area-id?               area-id-type
|    |    |    |    |    |    |    |    +--ro local-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    +--ro remote-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    |    +--ro state?                   if-state-type
|    |    +--:(virtual-link)
|    |    |    +--ro virtual-link
|    |    |    |    +--ro area-id?          area-id-type
|    |    |    |    |    +--ro neighbor-router-id? yang:dotted-quad
|    |    |    |    |    |    +--ro sham-link
|    |    |    |    |    |    |    +--ro area-id?               area-id-type
|    |    |    |    |    |    |    |    +--ro local-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    +--ro remote-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    |    +--ro state?                   if-state-type
|    |    +--:(sham-link)
|    |    |    +--ro area-id?          area-id-type
|    |    |    +--ro local-ip-addr?    inet:ip-address
|    |    |    +--ro remote-ip-addr?    inet:ip-address
|    |    |    |    +--ro state?                   if-state-type
|    |    +--:(sham-link)
|    |    |    +--ro area-id?          area-id-type
|    |    |    +--ro local-ip-addr?    inet:ip-address
|    |    |    +--ro remote-ip-addr?    inet:ip-address
|    |    |    |    +--ro state?                   if-state-type
|    +--ro neighbor-router-id?      yang:dotted-quad
|    +--ro neighbor-ip-addr?        yang:dotted-quad
|    +--ro state?                   nbr-state-type

+----n nbr-state-change
|    +--ro routing-instance? rt:routing-instance-ref
|    +--ro routing-protocol-type?   -> ...
|    +--ro routing-protocol-name?   -> ...
|    +--ro af?                      -> ...
|    +--ro (if-link-type-selection)?
|    |    +--:(interface)
|    |    |    +--ro interface
|    |    |    |    +--ro interface? if:interface-ref
|    |    |    +--:(virtual-link)
|    |    |    |    +--ro virtual-link
|    |    |    |    |    +--ro area-id? area-id-type
|    |    |    |    +--ro neighbor-router-id? yang:dotted-quad
|    |    |    |    |    |    +--ro sham-link
|    |    |    |    |    |    |    +--ro area-id?               area-id-type
|    |    |    |    |    |    |    |    +--ro local-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    +--ro remote-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    |    +--ro state?                   if-state-type
|    |    |    +--:(virtual-link)
|    |    |    |    +--ro virtual-link
|    |    |    |    |    +--ro area-id?          area-id-type
|    |    |    |    |    |    +--ro neighbor-router-id? yang:dotted-quad
|    |    |    |    |    |    |    |    +--ro sham-link
|    |    |    |    |    |    |    |    |    +--ro area-id?               area-id-type
|    |    |    |    |    |    |    |    |    |    +--ro local-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    |    |    +--ro remote-ip-addr?     inet:ip-address
|    |    |    |    |    |    |    |    |    |    |    |    +--ro state?                   if-state-type
|    |    |    +--:(sham-link)
|    |    |    |    +--ro area-id?          area-id-type
|    |    |    |    +--ro local-ip-addr?    inet:ip-address
|    |    |    |    +--ro remote-ip-addr?    inet:ip-address
|    |    |    |    |    +--ro state?                   if-state-type
|    +--ro neighbor-router-id?      yang:dotted-quad
|    +--ro neighbor-ip-addr?        yang:dotted-quad
|    +--ro state?                   nbr-state-type
```
Add per-protocol SRGB support

Augment the ietf-ospf instance container for both config and operation state using the new sr:srgb-cfg grouping defined in draft-ietf-spring-sr-yang-01

```yaml
container protocol-srgb {
  if-feature sr:protocol-srgb;
  uses sr:srgb-cfg;
  description
    "Per-protocol SRGB."
}
```
ietf-ospf-bfd

- New ietf-ospf-bfd module in the same document
- Augment config and operation state in the ietf-ospf interface container using grouping defined in draft-ietf-spring-sr-yang-01 for per-protocol BFD parameter
container bfd {
  description "BFD configuration.";
  leaf enabled {
    type boolean;
    default false;
    description
      "True if BFD is enabled for the OSPF interface.";
  }
  uses bfd:bfd-grouping-base-cfg-parms {
    if-feature bfd-protocol-parms;
  }
}

+-rw bfd
  +-rw enabled?         boolean
  +-rw local-multiplier? multiplier
  +-rw (interval-config-type)?
    +-:(tx-rx-intervals)
      |  +-rw desired-min-tx-interval  uint32
      |  +-rw required-min-rx-interval  uint32
    +-:(single-interval)
      +-rw min-interval        uint32
Next Steps

- Implementation efforts
- Model
  - More config/operation state?
    - Policy
    - Inheritance
    - New requests
  - Operation state placement
- More feedback