RIFT YANG
draft-zhang-rift-yang-01

RIFT WG
IETF103# Bangkok

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RIFT YANG

- This data model is defined according to [draft-ietf-rift-rift].
- This model includes protocol configuration, state information, some notifications and RPC(TBD).
- Some features are added to enhance protocol.

RIFT YANG update 01 version

- Change the “community” format to list
- Reference the common policy defined in [draft-ietf-rtgwg-policy-model]

RIFT configuration

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol:
+--rw rift!
      +--rw node-info
       |  +--rw systemid            systemid
       |  +--rw address?            inet:ip-address
       |  +--rw level-flag?         enumeration
       |  +--rw level-value?        level-value
       |  +--rw name?               string
       |  +--rw pod?                uint16
       |  +--rw hal?                level-value
       |  +--rw ol?                 boolean {overload}?
       |  +--rw ztp?                boolean {ztp-mode}?
       |  +--rw bfd?                boolean {bfd}?
       |  +--rw default-originate?   boolean {default-route-originate}?
       |  +--rw flood-reducing?      boolean {flood-reducing}?
       |  +--rw interfaces* [local-id]
       |  |  +--rw local-id     uint32
       |  |  +--rw name?        if:interface-ref
       |  |  +--rw intf-type
       |  |     +--rw link-type?   enumeration
       |  +--rw community
       |  |  +--rw community* [type value]
       |  |     +--rw type      enumeration
       |  |     +--rw value     uint64
       |  |     +--rw action?   enumeration
       |  +--rw policy-info {policy}?
       |     +--rw policy* [name]
       |        +--rw name    string
```

- The configuration includes node info, interface info, policy.
- Base node configuration includes node systemid, address, node level, etc.
- Policies include community and policy-guide-information.
- Some features can be used to enhance protocol, such as BFD, flooding-reducing, overload bit and default-route-origination. etc.

RIFT state

```
+--rw rift!
      ......
      +--ro neighbor
         ......
      +--ro database
         ......
      +--ro kv-store
         ......
```

```
+--ro neighbor
     |  +--ro nbrs* [systemid remote-id]
     |     +--ro systemid       systemid
     |     +--ro address?       inet:ip-address
     |     +--ro level-flag?    enumeration
     |     +--ro level-value?   level-value
     |     +--ro name?          string
     |     +--ro pod?           uint16
     |     +--ro remote-id      uint32
     |     +--ro distance?      uint32
     |     +--ro local-id?      uint32
```

RIFT State includes neighbor, database and kv-store information.

RIFT state

```
+--ro database
   |  +--ro ties* [tie-index]
   |  |  +--ro tie-index      uint32
   |  |  +--ro database-tie
   |  |     +--ro originator?   systemid
   |  |     +--ro direction
   |  |     |  +--ro direction-type?   enumeration
   |  |     +--ro type
   |  |     |  +--ro tie-type?   enumeration
   |  |     +--ro link-type
   |  |     |  +--ro link-type?   enumeration
   |  |     +--ro seq?         uint32
   |  |     +--ro lifetime?     uint16
   |  |     +--ro tie-node
   |  |     |  +--ro layer?      level-value
   |  |     |  +--ro nbr-info
   |  |     |  |  +--ro nbr-addr?    inet:ip-address
   |  |     |  |  +--ro distance?    uint32
   |  |     |  |  +--ro nbr-layer?   level-value
   |  |     |  |  +--ro cost?        uint32
   |  |     |  +--ro link-set* [local-id]
   |  |     |     +--ro local-id    uint32
   |  |     +--ro tie-prefix
   |  |        +--ro prefix?   inet:ip-prefix
   |  |        +--ro cost?     uint32
   |  +--ro (algorighm-type)?
   |     +--:(spf)
```

```
+--ro kv-store
      +--ro kvs* [kvs-index]
        +--ro kvs-index    uint32
        +--ro kvs-tie
          +--ro originator?   systemid
          +--ro direction
          |  +--ro direction-type?   enumeration
          +--ro type
          |  +--ro tie-type?   enumeration
          +--ro link-type
          |  +--ro link-type?   enumeration
          +--ro seq?         uint32
          +--ro lifetime?     uint16
          +--ro tie-node
          |  +--ro layer?      level-value
          |  +--ro nbr-info
          |  |  +--ro nbr-addr?    inet:ip-address
          |  |  +--ro distance?    uint32
          |  |  +--ro nbr-layer?   level-value
          |  |  +--ro cost?        uint32
          |  +--ro link-set* [local-id]
          |     +--ro local-id    uint32
          +--ro tie-prefix
            +--ro prefix?   inet:ip-prefix
            +--ro cost?     uint32
```

RIFT notification

Unexpected TIE and
neighbor's layer error should be
notified.

```
notifications:
  +---n error-set
     +--ro tie-level-error
     |  +--ro originator?   systemid
     |  +--ro direction
     |  |  +--ro direction-type?   enumeration
     |  +--ro type
     |  |  +--ro tie-type?   enumeration
     |  +--ro link-type
     |  |  +--ro link-type?   enumeration
     |  +--ro seq?          uint32
     |  +--ro lifetime?     uint16
     |  +--ro tie-node
     |  |  +--ro layer?      level-value
     |  |  +--ro nbr-info
     |  |  |  +--ro nbr-addr?    inet:ip-address
     |  |  |  +--ro distance?    uint32
     |  |  |  +--ro nbr-layer?   level-value
     |  |  |  +--ro cost?        uint32
     |  |  +--ro link-set* [local-id]
     |  |     +--ro local-id    uint32
     |  +--ro tie-prefix
     |     +--ro prefix?   inet:ip-prefix
     |     +--ro cost?     uint32
     +--ro nbr-error
        +--ro nbrs* [systemid remote-id]
           +--ro systemid       systemid
           +--ro address?       inet:ip-address
           +--ro level-flag?    enumeration
           +--ro level-value?   level-value
           +--ro name?          string
           +--ro pod?           uint16
           +--ro remote-id      uint32
           +--ro distance?      uint32
           +--ro local-id?      uint32
```

- Any comment is welcomed ^^

Thanks!