

IETF 94 Yokohama, Japan
Yang Data Model
for RIB Extensions

Acee Lindem, Cisco
Yingzhen Qu, Cisco

Requirements

- Routing Information Base (RIB) is an entity that contains routes.
- ROUTING-CFG model defines the basic building blocks for RIB
- Augmenting to support multiple next-hops, as well as other attributes

Next-Hop in routing-cfg model

+--ro route*

+--ro route-preference? route-preference

+--ro next-hop

| +--ro (next-hop-options)

| +--:(outgoing-interface)

| | +--ro outgoing-interface? if:interface-state-ref

| +--:(special-next-hop)

| | +--ro special-next-hop? enumeration

| +--:(next-hop-address)

| | +--ro v4ur:next-hop-address? inet:ipv4-address

| +--:(next-hop-address)

| +--ro v6ur:next-hop-address? inet:ipv6-address

Multiple next-hops

+--:(multi-paths)

+--ro rib:path-entries*

+--ro rib:interface? Leafref

+--ro rib:adrees? inet:ip-address

Route/Path Attributes

- Only route-preference is defined in routing-cfg mode
- Metric
- Tag
- Repair Path

Repair path

- The loop-free alternate (LFA) Fast Reroute (FRR) repair paths.

+--ro rib:repair-path

+--ro rib:interface? Leafref

+--ro rib:address? inet:ip-address

+--ro rib:metric? Uint32

+--ro rib:tag? uint32

RIB Extensions Tree

+--ro rib:metric?	Uint32
+--ro rib:tag?	Uint32
+--ro rib:repair-path	
+--ro rib:interface?	Leafref
+--ro rib:adress?	inet:ip-address
+--ro rib:metric?	uint32
+--ro rib:tag?	uint32

Static Route

+--:(multi-next-hop)

+--rw rib:next-hop-entries* [interface
address]

+--rw rib:interface if:interface-ref

+--rw rib:address inet:ipv4-address

+--rw rib:preference? Uint32

+--rw rib:tag? uint32

Summary

- More RIB common attributes are defined.
- ROUTING-CFG and RIB-Extensions together define a generic RIB YANG model.
- Request WG Adoption