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Yang Data Model  
for RIB Extensions  

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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:adress? 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 adress]
        +--rw rib:interface    if:interface-ref
        +--rw rib:adress      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