A YANG Data Model for Routing Management

draft-ietf-netmod-routing-cfg-19

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Changes since IETF 92

- Container `ribs` was moved under `routing-instance`.
- Default RIB is now marked with a flag (both config and state).
- Typedefs `rib-ref` and `rib-state-ref` were removed.
- Explicit configuration of connections protocol-RIB and RIB-RIB was removed (`connected-ribs`, `recipient-ribs`).
- Configuration and state data for IPv6 RA were moved under `if:interface` and `if:interface-state`.
- Assigment of interfaces to routing instances now uses a leaf-list instead of list.
- The opposite reference in state data

  `if:interface` → `rt:routing-instance`

  is now a single leaf rather than leaf-list (an interface can be in no more than one instance).

- `route-preference` was removed from `routing-protocol` (both config and state).
- Flag `enabled` was removed from `routing-protocol` configuration.
- Identity `vrf-routing-instance` was added.

Users of *ietf-routing*

- draft-ietf-isis-yang-isis-cfg-04
- draft-ietf-l3sm-l3vpn-service-model-00 *
- draft-ietf-ospf-yang-00
- draft-chh-bier-bier-yang-00
- draft-litkowski-spring-sr-yang-00
- draft-liu-rtgwg-yang-rip-01
- draft-l3vpn-service-yang-00 *
- draft-mcallister-pim-yang-00
- draft-zhdankin-idr-bgp-cfg-00

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* limited use only (identities)

Open Issues

1. Roadmap for the document;
2. Assignment of interfaces to routing instances (configuration).

Issue #1: Roadmap

- This document eventually needs to be stabilised and published.
- Rigid rules for updating published YANG modules allow for almost no changes (except optional additions).

Proposal: Publish the document soon.

Issue #2: Interfaces in Routing Instances

State data: links in both directions

- `if:interface/rt:routing-instance`
- `rt:routing-instance/rt:interfaces/rt:interface`

Configuration in `routing-instance`:

- `rt:routing-instance/rt:interfaces/rt:interface`

Advantages:

- No augment is needed.
- A routing instance can easily refer to its own interfaces.
- I2RS RIB data model does the same.

Issue #2: Alternatives

A. `if:interface/rt:routing-instance`

B. `if:interface/ip:ipv[46]/rt:routing-instance`

Advantages:

- IP address configuration is co-located with routing instance assignment.

Alternative B implies that IPv4 and IPv6 interfaces are independent. Opposite reference in state data

`rt:routing-instance` → `if:interface`

would be impossible unless IPv4 and IPv6 layers are configured in separate entries of `if:interface`.