A YANG Data Model for Segment Routing
draft-ietf-spring-sr-yang-09

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module: ietf-segment-routing

augment /rt:routing:

--rw segment-routing
  +--rw transport-type? identityref
  +--ro node-capabilities
  | +--ro transport-planes* [transport-plane]
  | | +--ro transport-plane identityref
  | +--ro entropy-label-stack-depth? uint8
  +--rw msd {msd}?
  | ....
  +--rw bindings
  | +--rw mapping-server {mapping-server}?
  | | +--rw policy* [name]
  | | +--rw name string
  | | +--rw ipv4
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv6
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | | | | +--rw ipv6
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | | | | +--rw ipv6
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | | | | +--rw ipv6
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  | | | | +--rw ipv4
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  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | | | | +--rw ipv6
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | | | | +--rw ipv6
  | | | | +--rw mapping-entry* [prefix algorithm]
  | | | | +--rw ipv4
  | ...
Segment Routing Global Block

- Defines a list of label blocks represented by a pair of lower-bound/upper-bound labels.

```perl
module: ietf-segment-routing
augment /rt:routing:
    +-rw global-srgb
        |   +-rw srgb* [lower-bound upper-bound]
        |   |   +-rw lower-bound  uint32
        |   |   +-rw upper-bound  uint32
```
Segment Routing Local Block (SRLB)

- Defines a list of label blocks represented by a pair of lower-bound/upper-bound labels, reserved for local SIDs.

```plaintext
grouping srlb-cfg {
  description "Grouping for SR Local Block range configuration.";
  list srlb {
    key "lower-bound upper-bound";
    ordered-by user;
    description "List of SRLBs.";
    uses srlr;
  }
}
container srlb {
  description "SR Local Block configuration.";
  uses sr-cmn:srlb-cfg;
}
```

```
augment /rt:routing:
  +--rw segment-routing
      |    ....
      +--rw srlb
          |   +--rw srlb* [lower-bound upper-bound]
          |   |   +--rw lower-bound  uint32
          |   |   +--rw upper-bound  uint32
```
Maximum SID Depth (MSD)

**feature msd**
- description
  "Support of signaling MSD (Maximum SID Depth) in IGR."

**grouping msd-cfg**
- description
  "MSD configuration grouping."
- leaf node-msd
  - type uint8
  - description
    "Node MSD is the lowest MSD supported by the node."

**container link-msd**
- description
  "Link MSD is a number represents the particular link MSD value."
- list link-msds
  - key "interface"
  - description

**container msd**
- if-feature "msd"
  - description
    "MSD configuration."
  - uses msd-cfg

**module**: ietf-segment-routing
augment /rt:routing:
  +--rw msd? {msd}?
     |   +--rw node-msd? uint8
     |   +--rw link-msd
     |   |   +--rw link-msds* [interface]
     |   |   |   +--rw interface if:interface-ref
     |   |   |   +--rw msd? uint8
Notifications

++++n segment-routing-global-srgb-collision
 | |++--ro srgb-collisions* uint32
 | |+--ro lower-bound? uint32
 | |+--ro upper-bound? uint32
 | |+--ro routing-protocol? /rt:routing/control-plane-protocols
 | | | |/control-plane-protocol/name
 | |+--ro originating-rtr-id? router-id
++++n segment-routing-global-sid-collision
 | |+--ro received-target? string
 | |+--ro new-sid-rtr-id? router-id
 | |+--ro original-target? string
 | |+--ro original-sid-rtr-id? router-id
 | |+--ro index? uint32
 | |+--ro routing-protocol? /rt:routing/control-plane-protocols
 | | | |/control-plane-protocol/name
++++n segment-routing-index-out-of-range
 | |+--ro received-target? string
 | |+--ro received-index? uint32
 | |+--ro routing-protocol? /rt:routing/control-plane-protocols
 | | | |/control-plane-protocol/name
Segment Routing Transport

```yaml
identity segment-routing-transport {
    description
        "Base identity for segment routing transport.";
}

identity segment-routing-transport-mpls {
    base segment-routing-transport;
    description
        "This identity represents MPLS transport for segment routing.";
}

identity segment-routing-transport-ipv6 {
    base segment-routing-transport;
    description
        "This identity represents IPv6 transport for segment routing.";
}
```

Transport protocols have been defined using identities. SRv6 YANG module should be defined to augment this base model.
Next Steps

• Collect/address comments
• Request YANG Doctor review
• WGLC soon
Question?

Thank You