



BGP SR Policy

YANG Operational Model

<https://datatracker.ietf.org/doc/draft-deevi-idr-bgp-srte-yang/>

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MUST READ !!!

- `ietf-idr-segment-routing-te-policy`
- `ietf-spring-segment-routing-policy`

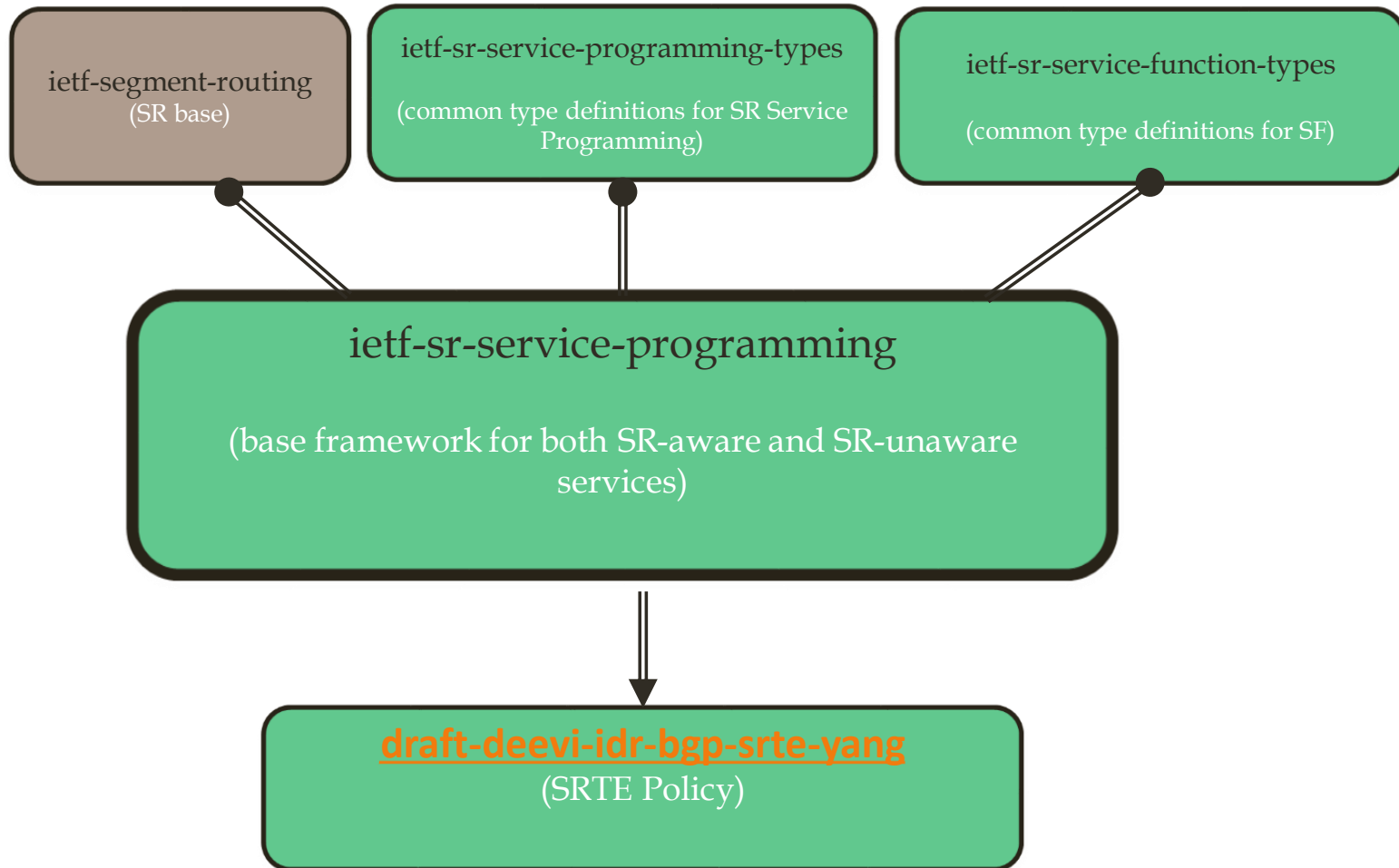
Overview

- YANG Operational data model for BGP SR Dynamic and Static Policy

Provides base framework managing the operation data model for BGP On-Demand Nexthop (Dynamic) and BGP learned Static SR policy from Controllers

Expected to be augmented by other SR-aware technology models accordingly

YANG modules



BGP Dynamic SR Policy (Operational State)

/rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/bgp:bgp/bgp:global:

```
+--rw segment-routing
  +--rw on-demand-policies
    | +--ro authorized-colors
    | | +--ro colors* [color]
    | |   +--ro color  uint32
    | +--ro installed-policies
    |   +--ro sr-policy* [color end-point]
    |     +--ro color      uint32
    |     +--ro end-point  inet:ip-address
  +--ro policy-state
    +--ro sr-policy* [color end-point]
      +--ro color          uint32
      +--ro end-point      inet:ip-address
      +--ro policy-state?  enumeration
      +--ro binding-sid?   sid-type
      +--ro steering-disabled? empty
      +--ro ref-count?     uint32
```

BGP Dynamic SR Policy (Operational State)

```
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-
protocol/bgp:bgp/bgp:global/bgp:afi-safis/bgp:afi-safi/bgp:ipv4-unicast:
  +--ro routes
    +--ro route* [prefix neighbor add-path-id]
      +--ro prefix          union
      +--ro neighbor        inet:ip-address
      +--ro add-path-id     uint32
      +--ro automatic-steering
        +--ro color?       -> /rt:routing/control-plane-protocols/control-plane-
protocol/bgp:bgp/global/ietf-bgp-srte:segment-routing/policy-state/sr-
policy/color
          +--ro end-point?  -> /rt:routing/control-plane-protocols/control-
plane-protocol/bgp:bgp/global/ietf-bgp-srte:segment-routing/policy-
state/sr-policy/end-point
            +--ro co-flag?   enumeration
            +--ro binding-sid? -> /rt:routing/control-plane-protocols/control-
plane-protocol/bgp:bgp/global/ietf-bgp-srte:segment-routing/policy-
state/sr-policy/binding-sid
```

BGP Static SR Policy (Operational State)

/rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/bgp:bgp/bgp:global/bgp:afi-safis/bgp:afi-safi:

```
+--rw ipv4-srpolicy
  +--ro explicit-policies
    +--ro sr-policy* [distinguisher color end-point]
      +--ro distinguisher      uint32
      +--ro color              uint32
      +--ro end-point         inet:ip-address
      +--ro preference?       uint32
      +--ro explicit-binding-sid
        | +--ro binding-sid?   sid-type
        | +--ro strict?        boolean
        | +--ro drop-on-invalid? boolean
      +--ro usable?           boolean
      +--ro registered?       boolean
```

BGP Static SR Policy (Operational State) (Contd..)

```
+--ro segment-lists
  +--ro segment-list* [weight]
    +--ro weight      uint32
    +--ro segments
      +--ro segment* [index]
        +--ro index      uint32
        +--ro type?     segment-type
        +--ro segment-types
          +--ro segment-type-1
            | +--ro sid-value?  rt-types:mpls-label
          +--ro segment-type-2
            | +--ro sid-value?  srv6-types:srv6-sid
          +--ro segment-type-3
            | +--ro ipv4-address?  inet:ipv4-address
            | +--ro algorithm?    uint8
          +--ro segment-type-4
            | +--ro ipv6-address?  inet:ipv6-address
            | +--ro algorithm?    uint8
```


BGP Static SR Policy (Operational State) (Contd..)

```
+--ro segment-type-5
  | +--ro ipv4-address?      inet:ipv4-address
  | +--ro interface-identifier? uint32
+--ro segment-type-6
  | +--ro local-ipv4-address? inet:ipv4-address
  | +--ro remote-ipv4-address?
  |                               inet:ipv4-address
+--ro segment-type-7
  | +--ro local-ipv6-address? inet:ipv6-address
  | +--ro local-interface-identifier? uint32
  | +--ro remote-ipv6-address?
  |                               inet:ipv6-address
  | +--ro remote-interface-identifier? uint32
+--ro segment-type-8
  | +--ro local-ipv6-address? inet:ipv6-address
  | +--ro remote-ipv6-address?
  |                               inet:ipv6-address
```

BGP Static SR Policy (Operational State) (Contd..)

```
+--ro segment-type-9
  | +--ro ipv6-address?  inet:ipv6-address
  | +--ro algorithm?    uint8
+--ro segment-type-10
  | +--ro local-ipv6-address?  inet:ipv6-address
  | +--ro local-interface-identifier?  uint32
  | +--ro remote-ipv6-address?
  |                                     inet:ipv6-address
  | +--ro remote-interface-identifier?  uint32
+--ro segment-type-11
  +--ro local-ipv6-address?  inet:ipv6-address
  +--ro remote-ipv6-address?
  |                                     inet:ipv6-address
```

Next Steps

- Seeking WG input and feedback