

# SRv6 Deployment and Operation

## Problem Summary

draft-liu-srv6ops-problem-summary-03

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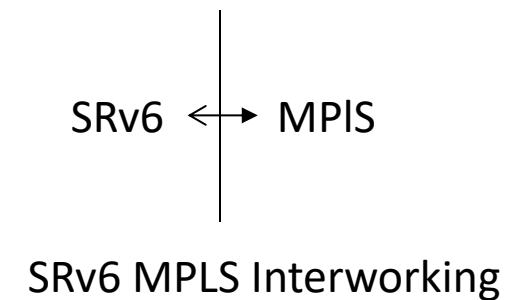
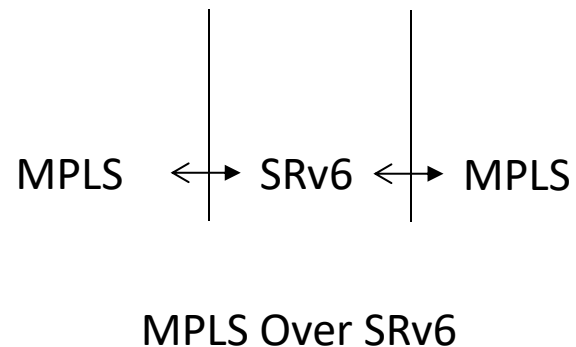
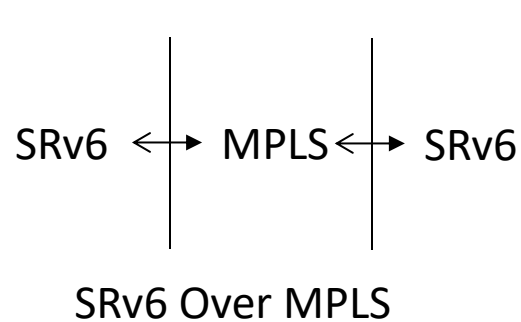
# Agenda

- SRv6 inter-domain deployment considerations
- SRv6 data plane visualization
- SRv6 address assignment considerations
- Traffic steering to SRv6 network considerations
- SRv6 protection deployment practices

# SRv6 Inter-domain Deployment Considerations(1/2)

- SRv6 naturally support end-to-end inter-domain by utilizing IPv6 route reachability
- IPv6 route aggregation reduces the number of SRv6 locators distribution for inter-domain deployment

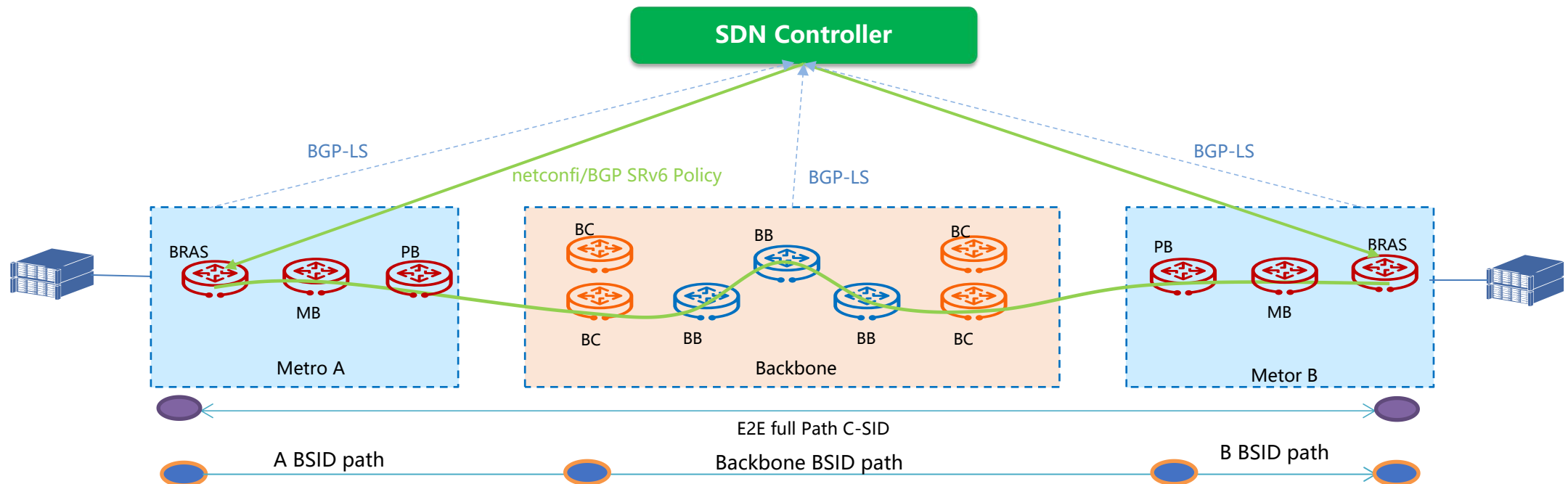
DOP-1 How to deploy SRv6 in the existing MPLS network, which requires consideration of existing mechanism and potential migration strategies.



# SRv6 Inter-domain Deployment Considerations(2/2)

DOP-2 Utilizing SRv6 compression techniques in inter-domain scenario to further optimize bandwidth usage, which requires effective IPv6 address planning and block allocation strategies to achieve optimal aggregation benefits.

- For example of deployment practice : E2E Full Path with C-SID or BSID Path.



# SRv6 Data Plane Visualization

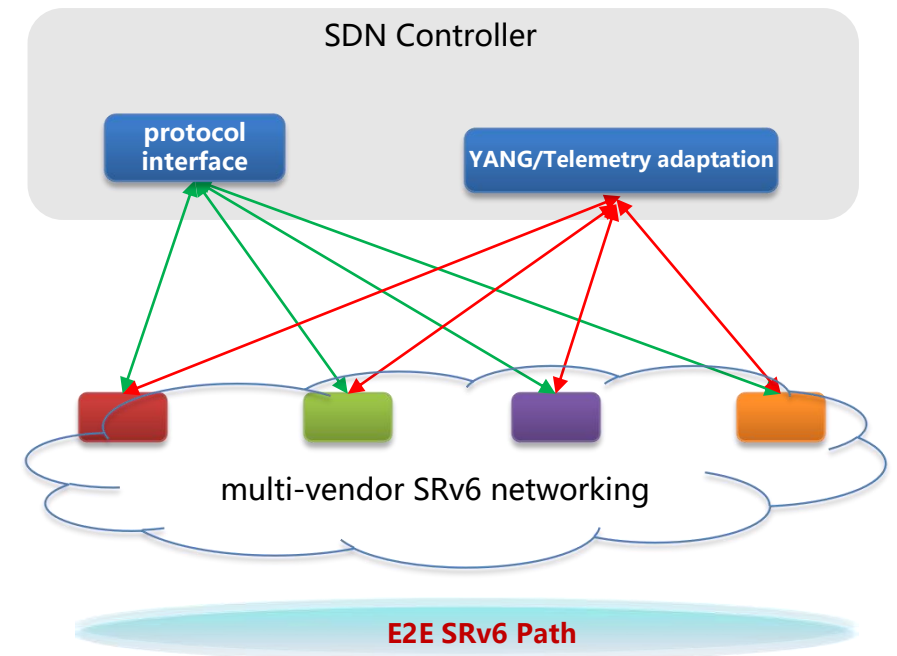
- Provide essential insights into network traffic flow, resource utilization, and potential performance bottlenecks
- Leverage existing frameworks with new parameters to define SRv6-specific customization information

**DOP-3: Reuse Telemetry Framework:** The telemetry framework, used for collecting and transmitting network telemetry data, offers a solid foundation. While specific content and parameters need to be defined to capture SRv6-specific information relevant for visualization.

**DOP-4: Reuse Netconf/Yang Framework:** SRPING already defines the Yang Model for protocol extension; for better operation and maintenance of SRv6 network, the Yang Model for information collection, status notification, failure handling and recovery may also be required.

- Network analysis and performance optimization for SRv6 by the data collected from the network devices

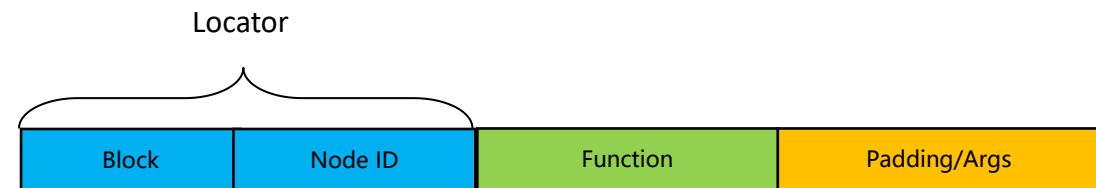
**DOP-5: Identification of techniques for performance optimization in operational scenarios.**



# SRv6 Address Assignment Considerations

DOP-6 : Existing IPv6 address planning approach ensures efficient address utilization and simplifies network management for IPv6 network, which can't satisfy the SRv6 SID planning for service provider, especially considering the complexities introduced by advanced features like SRv6 compression.

- Further work should be considered:
  - ✓ SRv6 SID Block assignment
  - ✓ SRv6 Node ID assignment
  - ✓ SRv6 Function ID assignment
  - ✓ SRv6 Compression SID assignment
  - ✓ SRv6 SID assignment for both unicast and multicast
  - ✓ .....
- Some initial work could refer to draft-liu-srv6ops-sid-address-assignment



# Traffic Steering to SRv6 Network Considerations

## DOP-7: Efficient traffic steering to SRv6 Network

- There are various SRv6 traffic steering methods, each with its own unique advantages and challenges.
- How to select the appropriate traffic steering method tailored to SRv6 specific application scenarios and ensuring efficient execution

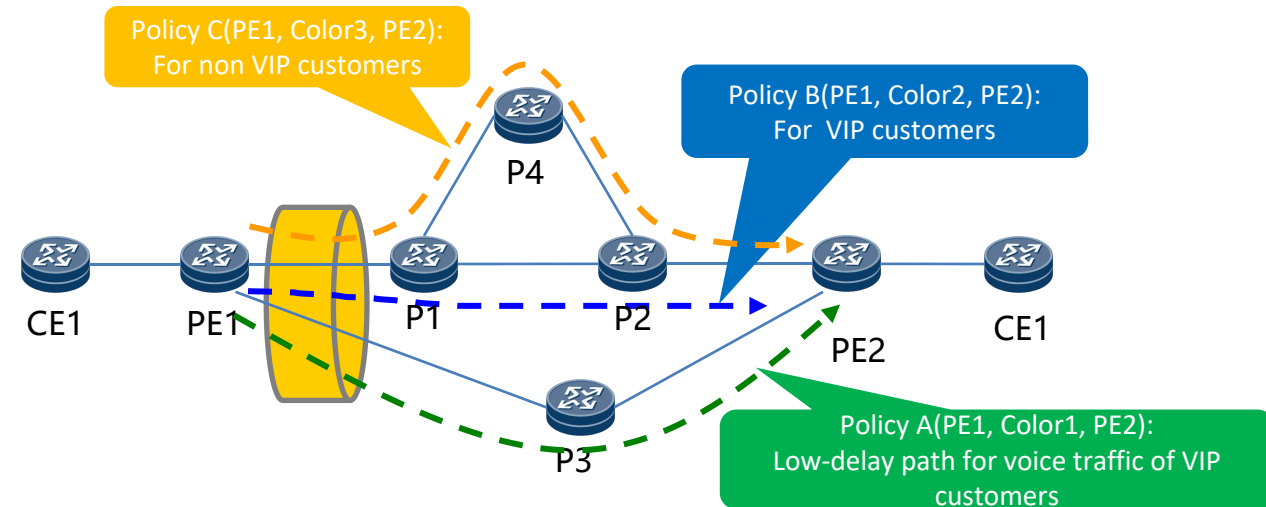
1) BSID-based Traffic Steering

2) Color-based Traffic Steering

3) IGP-Shortcut Traffic Steering

4) Static Route、PBR、Flowspec...

5) Based on flow characteristics, such as DSCP



DSCP mapping to color:

- DSCP1 -> Color1
- DSCP2 -> Color2
- Other DSCPs -> Color3

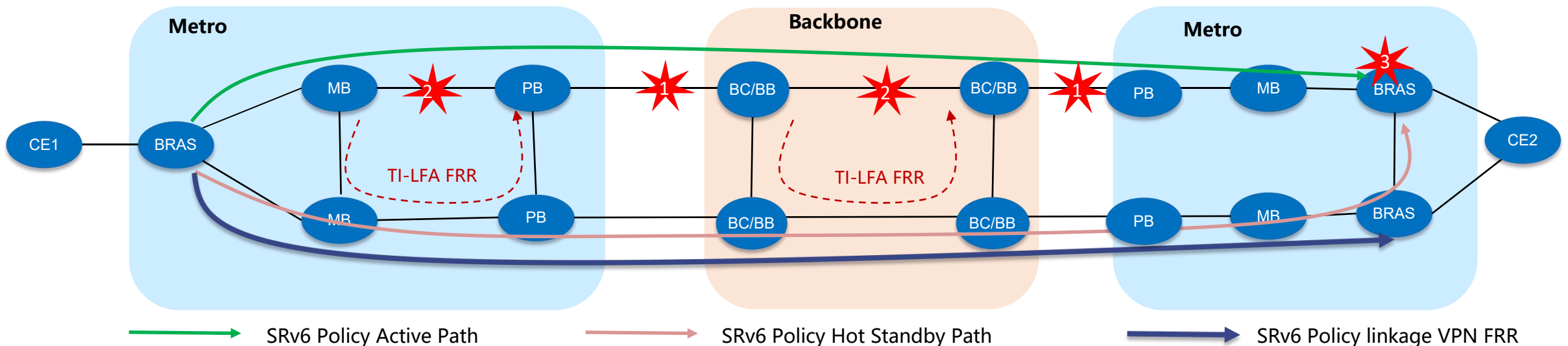
Some initial work could refer to

[draft-geng-srv6ops-traffic-steering-to-srv6](#)

# SRv6 Protection Deployment Practices

DOP-8: Different deployment practices suitable for different SRv6 protection scenarios.

- Protection deployment can improve network stability and performance, enhance fault handling capabilities, optimize management and monitoring, and enhance deployment experience
- Protection includes path protection, local protection, and egress service protection etc., which require different deployment strategies
- Some initial work could refer to draft-liu-srv6ops-sr-protection





# Next Steps

- Welcome questions and comments
- Seeking for feedback from WG