

SR-MPLS-TP Inter-domain use cases

draft-hu-mpls-sr-inter-domain-use-cases-01.txt

Quan Xiong(ZTE)

Greg Mirsky(ZTE)

Weiqiang Cheng(China Mobile)

IETF MPLS, March 2019, Prague

SR-MPLS-TP

- **Transport Profile in SR-MPLS (SR-MPLS-TP)**

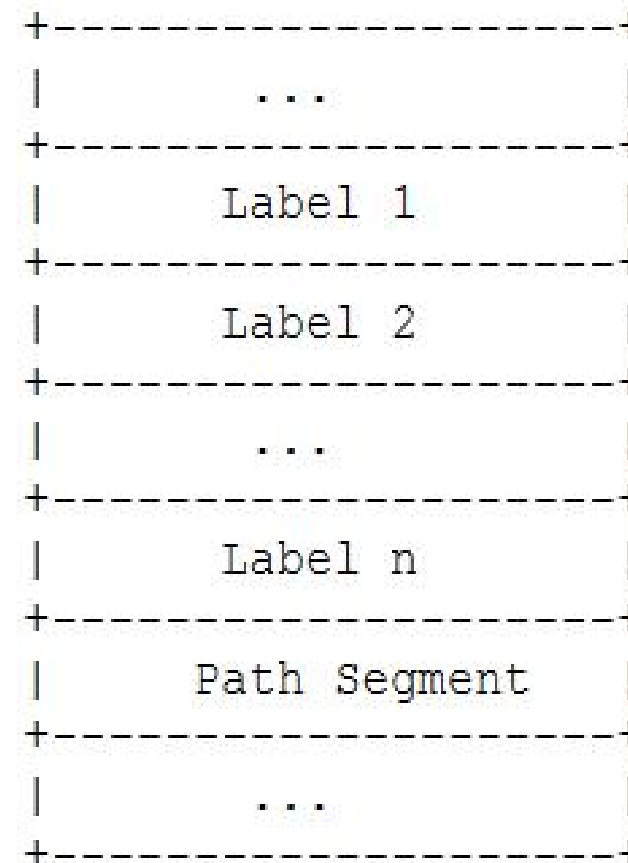
- ✓ The SR bidirectional path **MUST** be established in MPLS-TP networks.

- ✓ The Path Segment is defined to support SR bidirectional path correlation for transport network. (defined in [ID-ietf-spring-mpls-path-segment])

- ✓ This document discusses the inter-domain scenarios in SR-MPLS-TP networks.

- ✓ The SR bidirectional end-to-end paths across multiple domains.

- ✓ Path Segment is used to indicate the inter-domain path or the end-to-end path.



SR-MPLS-TP Inter-domain

- SR-MPLS-TP Inter-domain

- ✓ Stitching inter-domain model

- Domains are isolated and the stitching SR node will push the list of SIDs for the new sub-tunnel

- Border Node Inter-domain Scenario

- Border Link Inter-domain Scenario

- ✓ Nesting inter-domain model

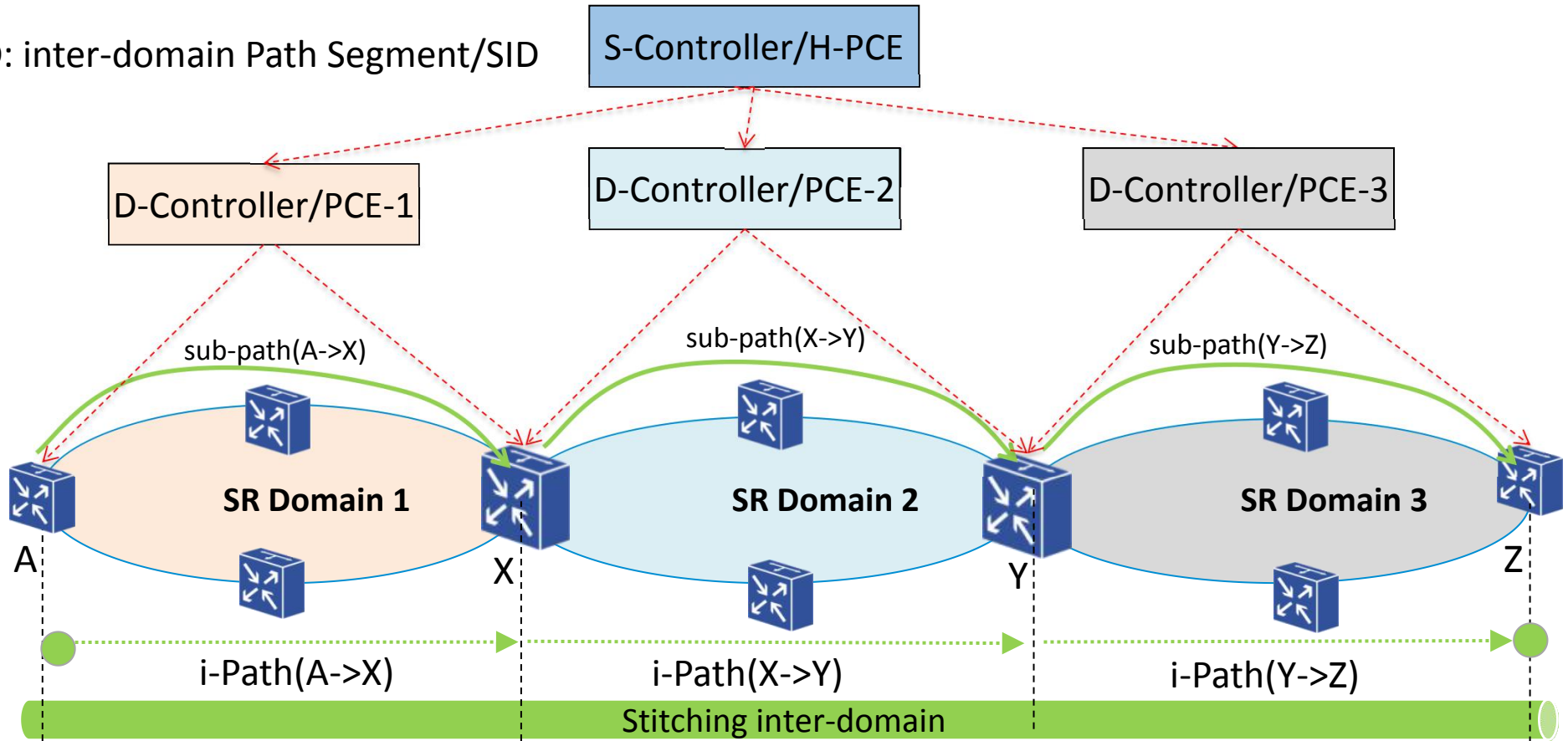
- Global segments listed at the ingress SR node and an end-to-end path SID uniquely across all the domains.

- SR-MPLS-TP Inter-working with MPLS-TP

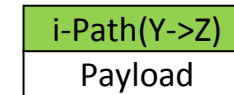
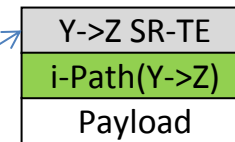
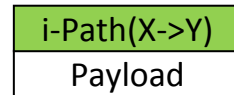
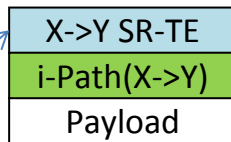
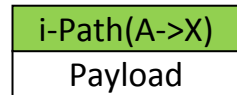
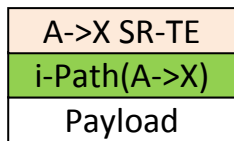
- The end-to-end VPN service can be achieved by inter-working between the SR and MPLS-TP networks with path segment .

SR-MPLS-TP Stitching inter-domain

✓ i-Path /i-PSID: inter-domain Path Segment/SID



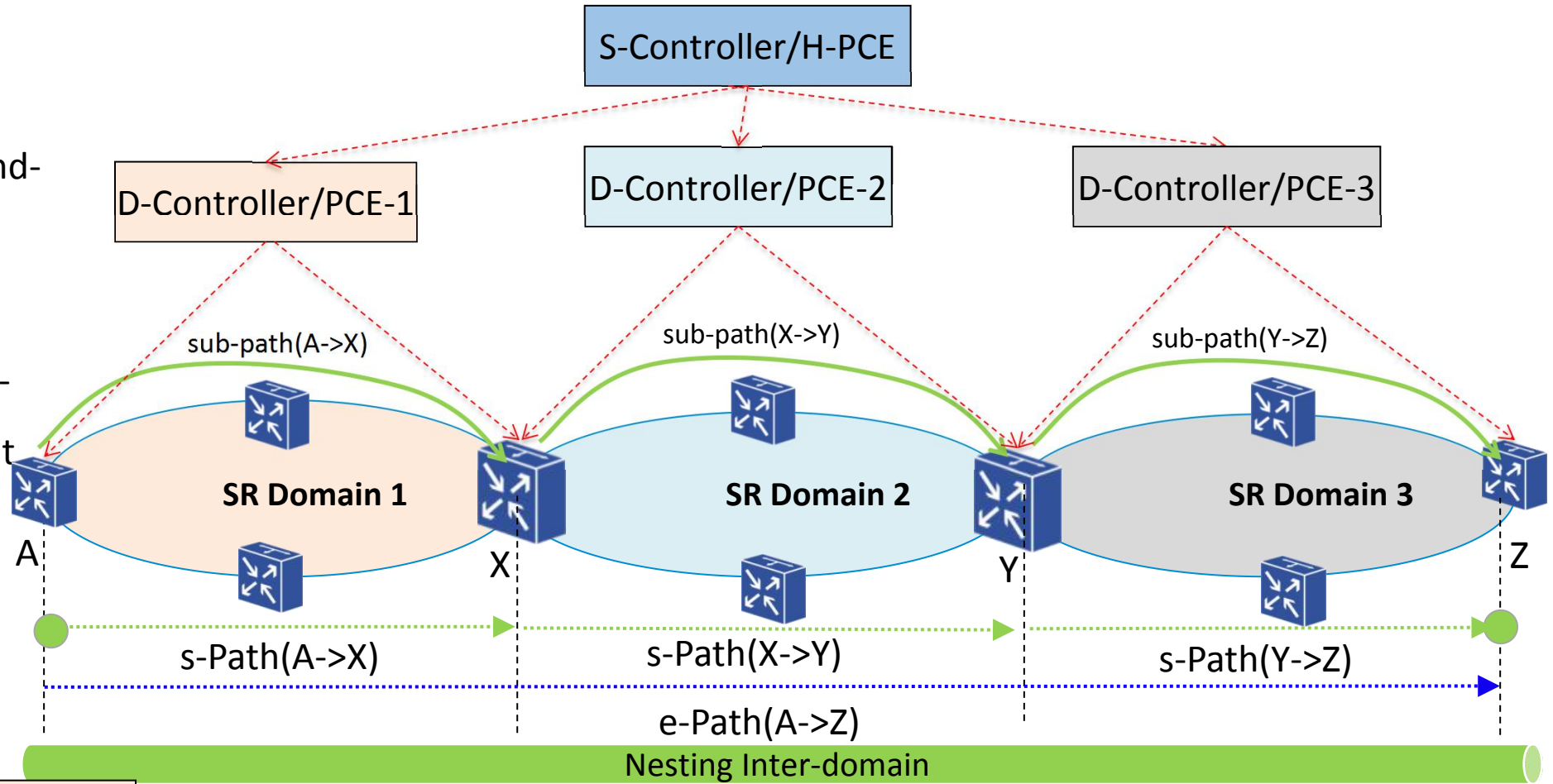
Forwarding path:



Reverse path:
Same Procedure

SR-MPLS-TP Nesting inter-domain

- ✓ BSID: Binding SID
- ✓ e-Path/e-PSID: end-to-end Path SID/Segment
- ✓ s-Path/PSID : sub-Path SID/Segment



Forwarding path:

A->X SR-TE
s-Path(A->X)
B-SID(X->Y)
B-SID(Y->Z)
e-Path(A->Z)
Payload

B-SID(X->Y)
B-SID(Y->Z)
e-Path(A->Z)
Payload

X->Y SR-TE
s-Path(X->Y)
B-SID(Y->Z)
e-Path(A->Z)
Payload

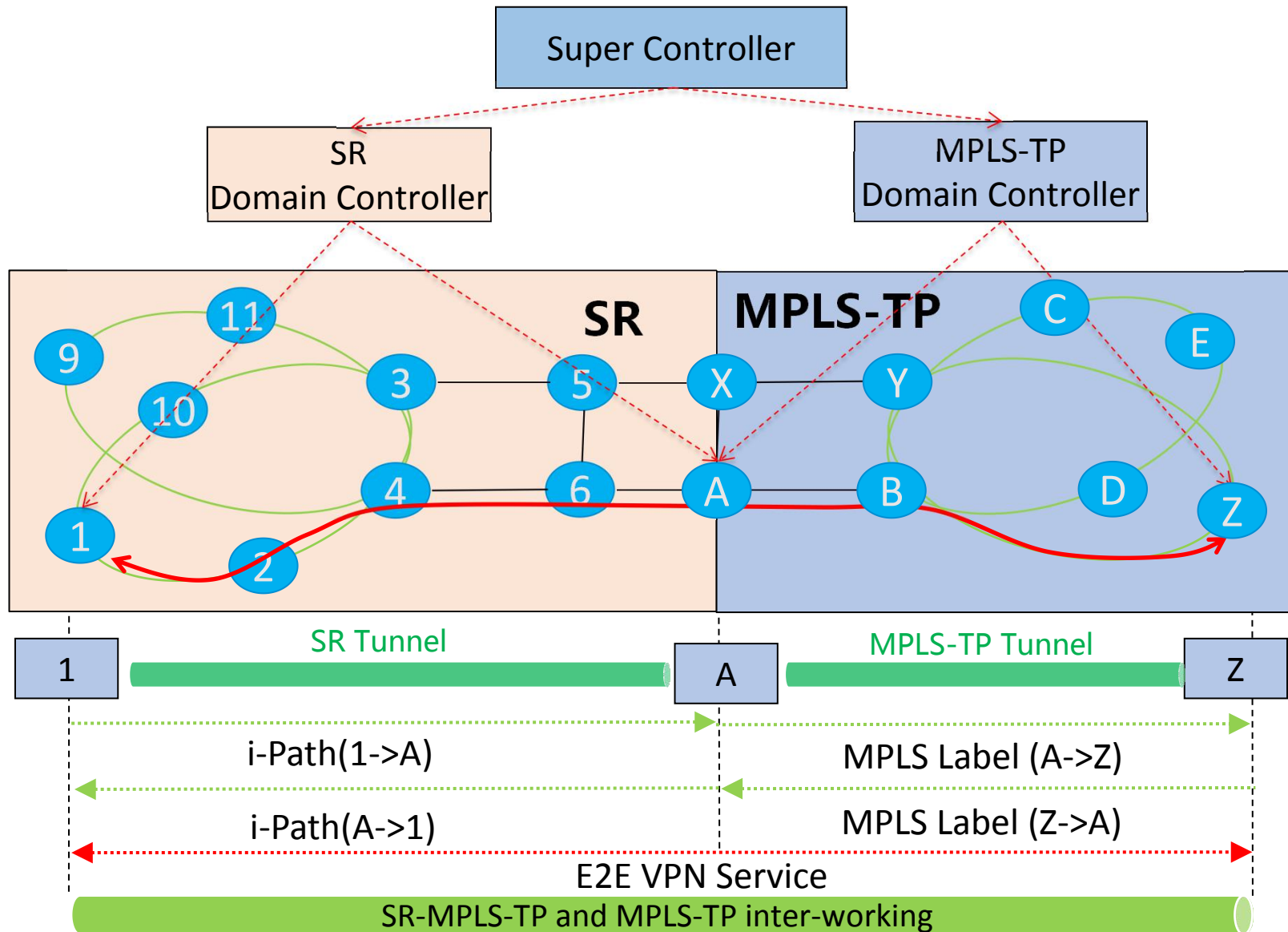
B-SID(Y->Z)
e-Path(A->Z)
Payload

Y->Z SR-TE
s-Path(Y->Z)
e-Path(A->Z)
Payload

e-Path(A->Z)
Payload

Reverse path:
Same Procedure

SR-MPLS-TP and MPLS-TP inter-working



Next Step

- Solutions for SR-MPLS-TP inter-domain.
- Comments and discussions are very welcome!

Thank you!