

# BGP-LS Advertisement of BGP EPE Performance Metric Extensions

draft-liu-idr-bgpls-epe-te-pm-00

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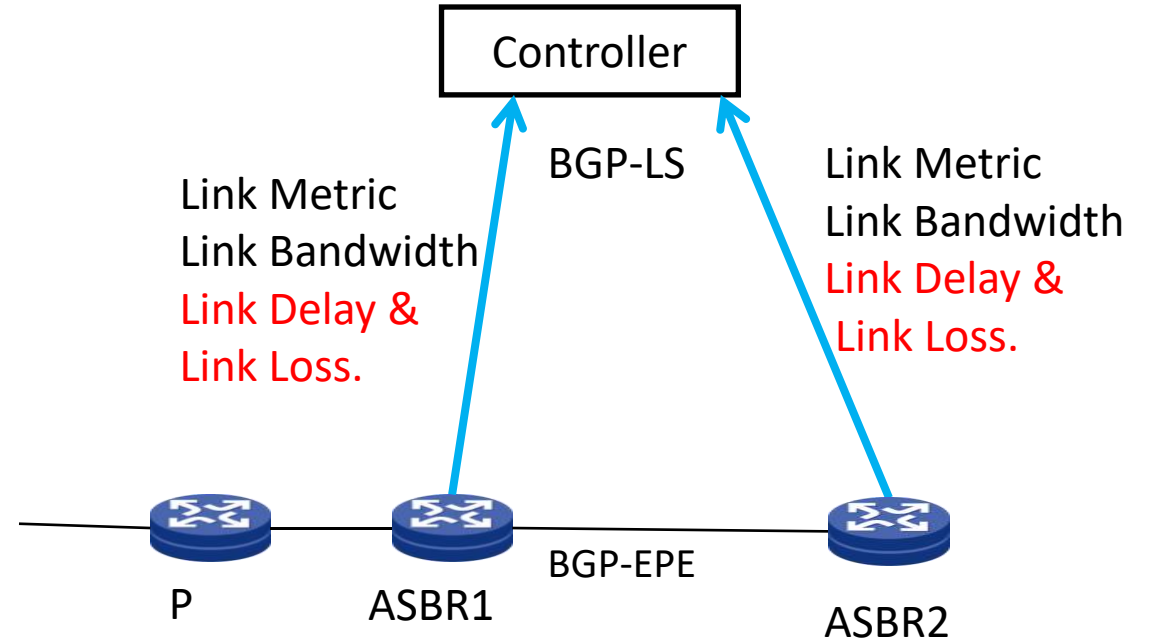
# Scenario 1: Obtaining New TE Metric

## Problem:

- BGP-LS advertise BGP EPE TE information to transmit Metric and Bandwidth information
- Lack Link Delay and Link Loss information necessary for network path optimization

## Solution:

- New BGP-LS TLVs to carry the IGP TE Metric Extensions defined in IS-IS and OSPF in RFC8571
- The same TE metric also needed when the controller performs BGP-EPE traffic scheduling, including Link Delay and Link Loss



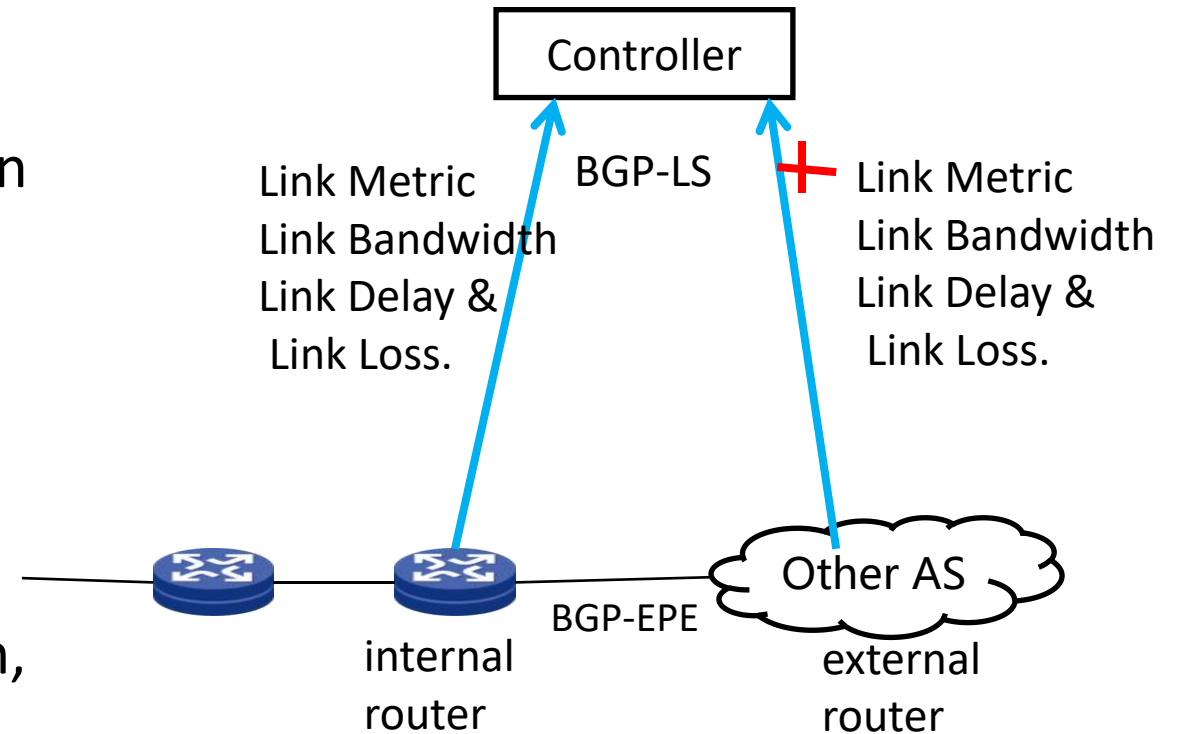
# Scenario 2: Obtaining TE Metric of External Router

## Problem:

- Controller intending to establish BGP-LS connections with both internal router and external router to get EPE TE PM information
- Due to the division of different domains, controller can not establish BGP-LS connection with external router or obtain the EPE TE PM of external router

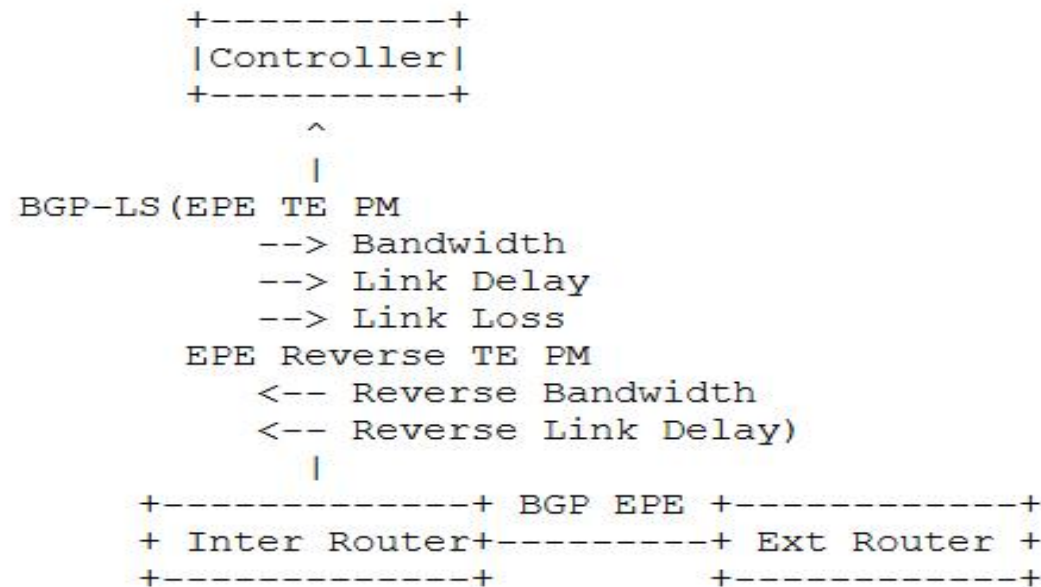
## Solution:

- Internal router advertise Reverse Bandwidth, Reverse Link Delay for external router
- Reverse Link Loss is currently unable to be obtained from the remote device



# Proposal Summary

- Advertise Link Delay and Link Loss in EPE TE PM (for scenario 1)
- Advertise Reverse EPE TE PM, including Reverse Bandwidth, Reverse Link Delay by interal router for external router (for scenario 2)



# Protocol Extension

New definition of Reverse Bandwidth,  
Reverse Link Delay by reusing TE PM  
extension TLVs in RFC8571

BGP-LS Link NLRI for Link Attributes in  
RFC9086 :

① **SR-MPLS:**

Peer Adj SID TLV (Label)

② **SRv6:**

SRv6 End.X SID TLV(SID)

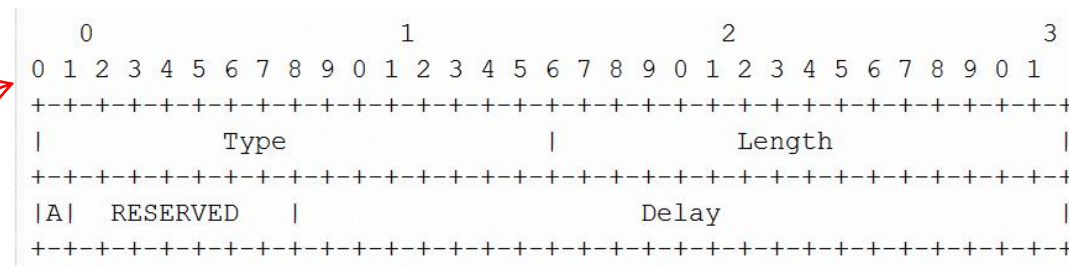
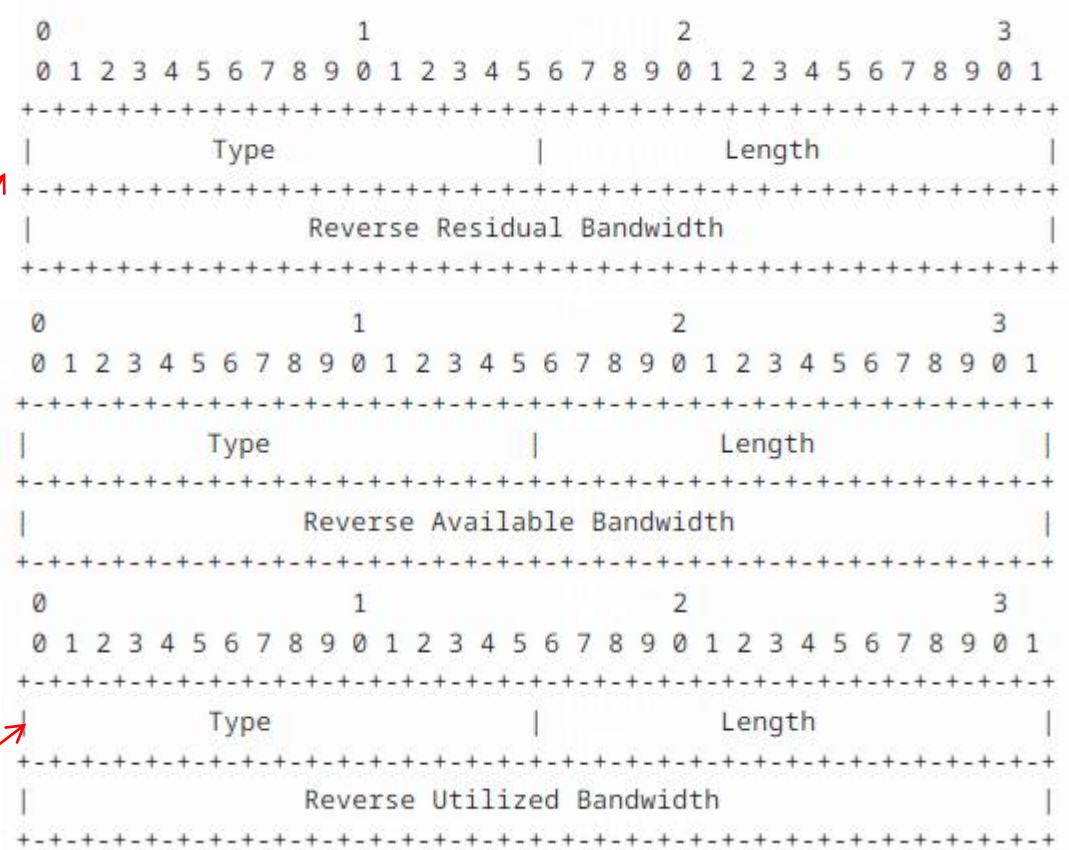
TE Bandwidth[RFC8571]

TE Link Delay[RFC8571]

TE Link Loss[RFC8571]

Reverse Bandwidth

Reverse Link Delay



# Next Step

- Welcome any questions and comments
- Seeking for feedback from WG