MTU Extended Community for BGP-4

draft-zeng-idr-bgp-mtu-extension-00

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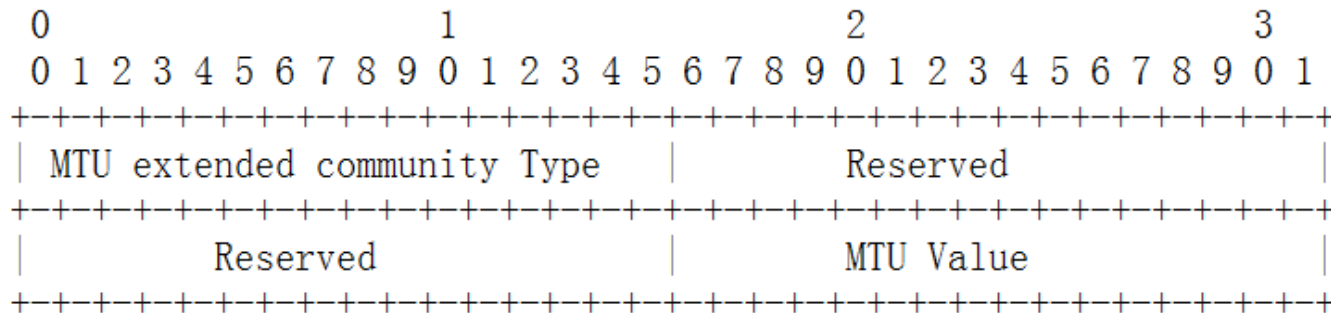IETF81 IDR July 2011 Quebec

Background

- Path MTU Discovery: RFC1191, RFC1981

- LDP MTU Discovery: RFC3988
  - To make path MTU discovery work properly in MPLS network

- There is a gap in MTU discovery in MPLS network
 - An example, Inter-AS IP VPN, Option C
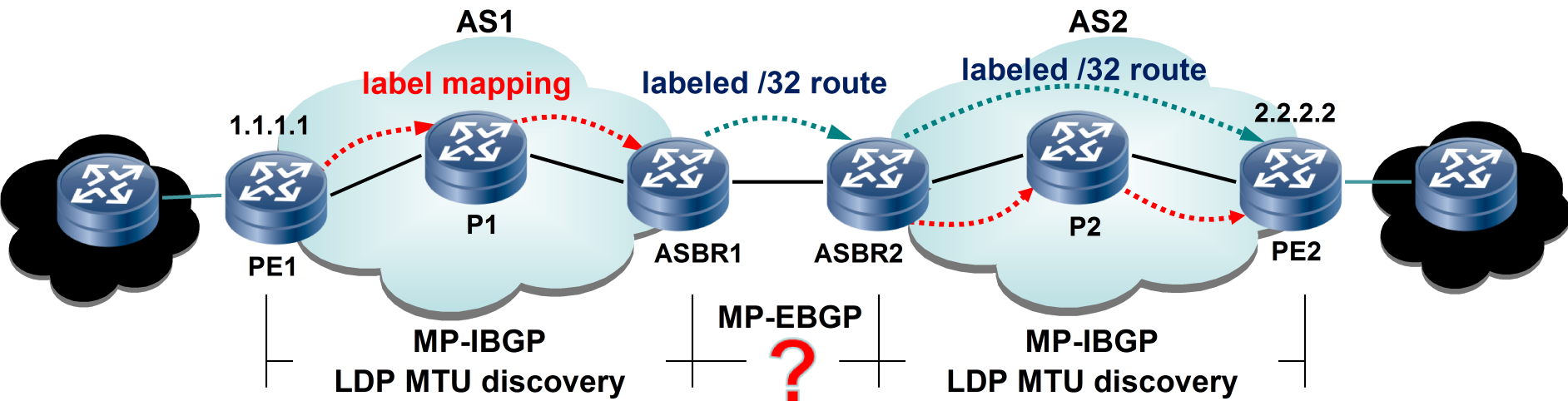
Solution

- ## BGP LSP Path MTU:
  - Path MTU of the LSP from a given BGP LSR to a specific prefix

- ## BGP LSR Link MTU:
  - Minimum MTU between a given BGP LSR and its downstream BGP LSR

- ## A new BGP extended community
  - MTU extended community

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| MTU extended community Type   |           Reserved            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|          Reserved             |          MTU Value            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Solution (Cont.)

- ## Signaling procedures
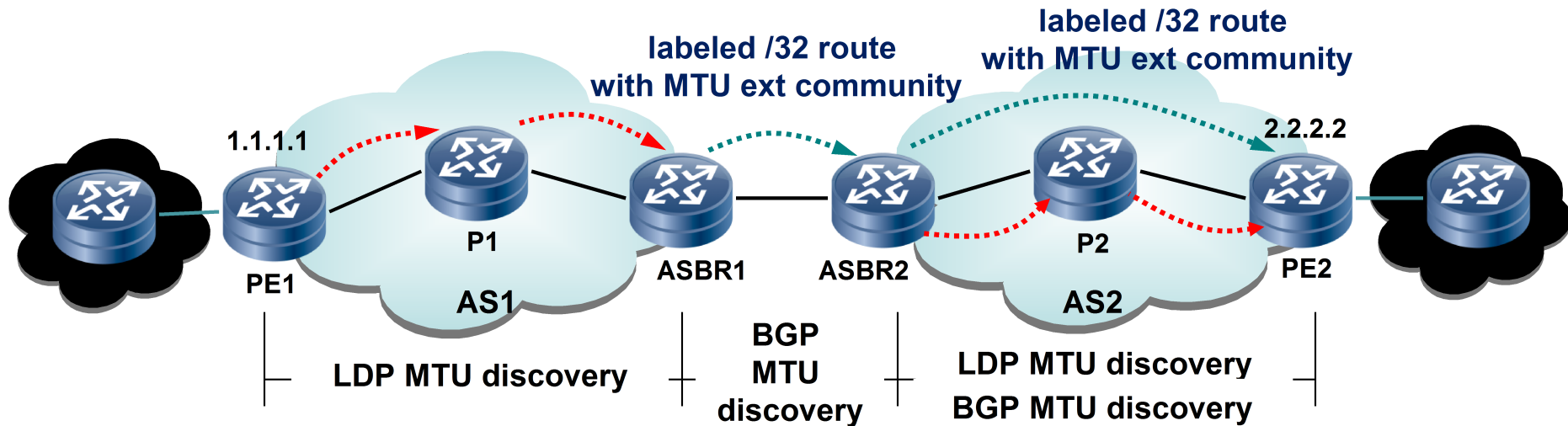
- ## Avoid unnecessary flapping
  - If the BGP LSP Path MTU decreases, a new update SHOULD be advertised immediately;
  - if the BGP LSP Path MTU increases, the speaker MAY hold down the update.

Next Steps

- Solicit comments & feedbacks