BGP-LS Extensions for Advertising Path MTU

draft-zhu-idr-bgp-ls-path-mtu-00

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Currently, MTU is not included in SegmentRouting

- SR may contain more MPLS labels or SRv6 SIDs in the forwarding packet header, and the packet size is larger than the traditional packets.
- Without the MTU information, path-calculation (Especially for Controller) cannot assure the packet size is less than the path MTU.
- This may lead to ineffective packet fragmentation.
- RFC 6326 (Transparent Interconnection of Lots of Links (TRILL) Use of IS-IS) has defined a Sub-TLV to advertise the MTU of a Link
  - Type : 28 (MTU)
  - Length: 3
  - Reserve Byte
  - MTU : MTU Value

- Solution: This new draft extends a new TLV to advertise the MTU(Defined in RFC6323) through BGP-LS
Solution

BGP_LS Extensions for Path MTU (ISIS)

[RFC7752] defines the TLVs that map link-state information to BGP-LS NLRI and the BGP-LS attribute. Therefore, according to this document, a new sub TLV is added to the Link Attribute TLV.

The format of the sub-TLV is as shown below.

- TYPE - TBD
- LENGTH - Total length of the value field, it should be 3
- Reserve Byte
- VALUE - 2-byte MTU value of the link

```
+-----------------+     No. of Octets
| MTU value       | 2
+-----------------+     +-----------------+
```

Whenever there is a change in MTU value represented by Link Attribute TLV, BGP-LS should re-originate the respective TLV with the new MTU value. Then, the controller can calculate the Path MTU.
NextStep

1. Any comments welcome.
2. Co-authors welcome
3. The Extension of OSPF

Any Questions?