BMP Loc-RIB Peer Address
draft-francois-grow-bmp-loc-peer-03

Pierre FRANCOIS, INSA Lyon - pierre.francois@insa-lyon.fr
Maxence YOUNSI, INSA Lyon - maxence.younsi@insa-lyon.fr
Paolo LUCENTE, NTT - paolo@ntt.net
Quick diff from -02 to -03

- editorial changes
Local Path-ID

draft-younsi-grow-local-path-id-02

Maxence YOUNSI, INSA Lyon - maxence.younsi@insa-lyon.fr

Pierre FRANCOIS, INSA Lyon - pierre.francois@insa-lyon.fr

Paolo LUCENTE, NTT - paolo@ntt.net

IETF119-GROW

20/03/2024
Agenda

- Comments received
- Changes to the draft
- Working implementation
Comments received

- “This is more state to keep, with possibly expensive data structures”
  - Jeff

Changes to the draft

- Allow larger unicity scope for the LPID (Local Path ID)
- Add vrf_id in design recommendation
- Fixed an encoding ambiguity introduced in the -01 version

Implementations can generate LPIDs using the vrf_id to leverage already existing data structures (BGP RIBs)
Changes to the draft

- Add TLV Sub-Types to the “Local Path ID TLV”

```
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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|        Type (2 octets)        |       Length (2 octets)       |   Sub-Type   |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|        Index (2 octets)       |   Sub-Type    |   Value (variable)          |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
“Local Path ID TLV” encoding

+======+============================+==========+===============+
| Code | Name                       | Length   | Section       |
+======+============================+==========+===============+
| 0x00 | Local Path ID Value        | Variable | Section 3.2.1 |
+======+============================+==========+===============+
| 0x01 | Unavailability Reason Code | 2 bytes  | Section 3.2.2 |
+======+============================+==========+===============+
```

TLV “Sub-Type” List
Changes to the draft

- Add reason codes for unavailable Local Path IDs.
  - Sub-Type: 0x01 | Unavailability Reason Code
  - Value:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x00</td>
<td>Unknown Reason</td>
</tr>
<tr>
<td>0x01</td>
<td>Origin process did not provide a Local Path ID.</td>
</tr>
<tr>
<td>0x02</td>
<td>All Local Path ID have already been allocated.</td>
</tr>
</tbody>
</table>

LPID Unavailability Reason Codes
Working implementation (producer side)

- Implementation of -00 in FRRouting
  - Allocation implemented in two ways
    - Checking LPIDs already in use for the destination (CPU expensive)
    - Bitfield LPID allocator for each destination (MEM “expensive”)
  - Export in BMP with a BMPv4 TLV
  - [https://github.com/mxyns/frr/tree/local-path-id](https://github.com/mxyns/frr/tree/local-path-id)
Next steps

- IANA considerations section
- Ongoing: Implementation of LPID on the collector side
Thank you!

Questions?