

Extension for BMP Peer Header

draft-lin-grow-bmp-peer-interface-00

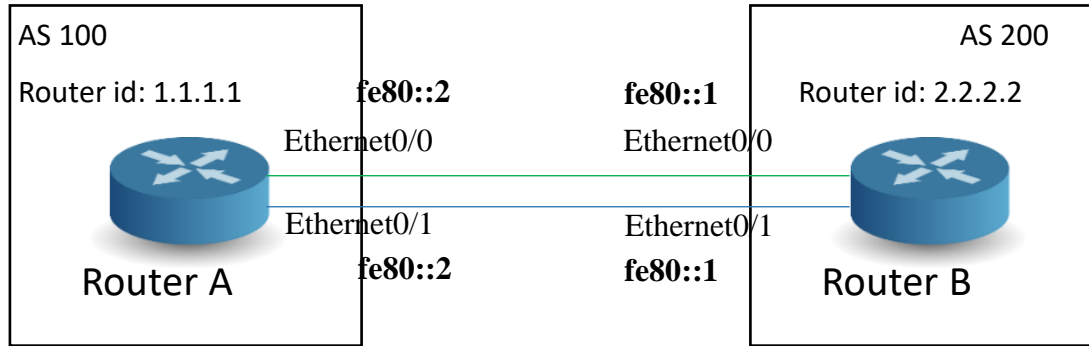
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Background



Router A and Router B established two parallel BGP peers based on two interfaces. The peer addresses are the link-local addresses learned from the Neighbor Discovery (ND) of the corresponding interfaces.

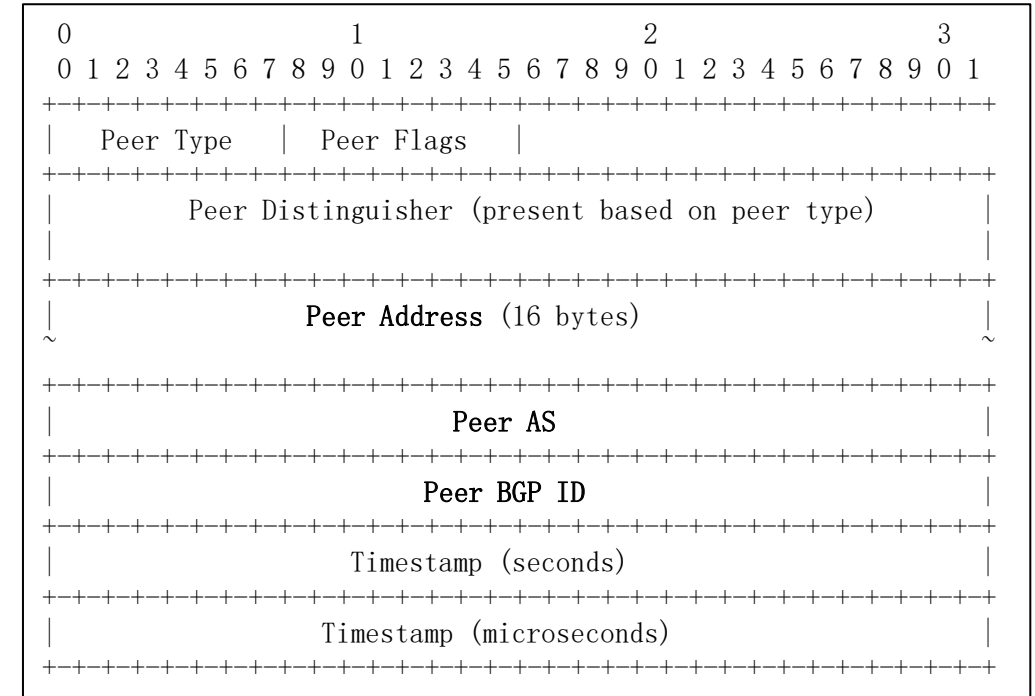
The parallel peers established by Router A with B are as follows:

1. Peer Ethernet0/0 (**fe80::1**) AS 200 Router-id 2.2.2.2
2. Peer Ethernet0/1 (**fe80::1**) AS 200 Router-id 2.2.2.2

Current BMP Report : Both peers include same key information (**Peer address**, **Peer AS**, and **Peer BGP ID** (Router ID)) in Per-Peer Header.

The monitoring station cannot determine which actual peer the BMP message came from!

BMP Per-Peer Header



BMP message types that support per-peer headers include:

- * Type = 0: Route Monitoring
- * Type = 1: Statistics Report
- * Type = 2: Peer Down Notification
- * Type = 3: Peer Up Notification
- * Type = 6: Route Mirroring Message

Solution

Monitored Router (BMP Producer)

- For common BGP peers, identification is composed of the following elements:
 - ✓ Peer address
 - ✓ Peer AS
 - ✓ Peer BGP ID (Router ID)

- For BGP peers established via IPv4 unnumbered or IPv6 Link-local address, identification is composed of the following elements:
 - ✓ **Interface index**
 - ✓ Peer address
 - ✓ Peer AS
 - ✓ Peer BGP ID (Router ID)

Monitoring Station (BMP Collector)

- The Peer address, Peer AS, and Peer BGP ID in the BMP Per-Peer Header are used to distinguish different peers.

- An interface index needs to be added to distinguish peers established via IPv4 unnumbered or IPv6 Link-local address.
- **In the BMP per-peer header, the Peer Interface Index MUST be added to indicate the interface used to establish BGP IPv4 unnumbered or IPv6 linklocal peers.**

The BMP Producer identifies peers established via IPv4 unnumbered or IPv6 Link-local address by adding an interface index. To enable this, the BMP per-peer header must be extended to include the interface index.

This ensures that the BMP Collector can correctly distinguish route monitoring, statistics report, and peer up/down messages for these peers.

Extension

Extended BMP Peer Types :

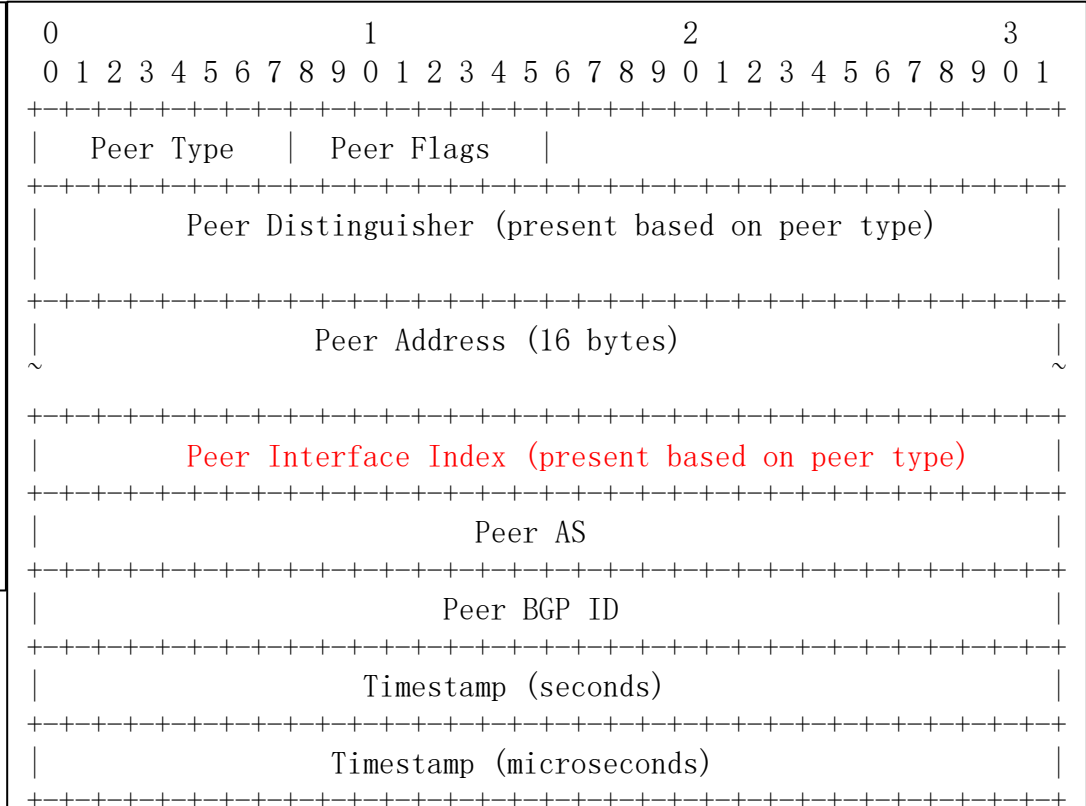
✓ Two New Peer Types Proposed

- ◆ Peer Type = 0: Global Instance Peer
- ◆ Peer Type = 1: RD Instance Peer
- ◆ Peer Type = 2: Local Instance Peer
- ◆ Peer Type = 3: Loc-RIB Instance Peer
- Peer Type = TBD1 (4): Global Instance **Interface** Peer
- Peer Type = TBD2 (5): RD Instance **Interface** Peer

✓ When using the new peer types, the BMP message **MUST** include peer **interface information**.

✓ **Therefore:** 

Extended Per-Peer Header Format :



- In BMP per-peer header, the **Peer Interface Index** is added to indicate the interface used to establish BGP peers.
- When using the new BMP peer types defined in this document, BMP message **MUST** use the extended per-peer header.

Next Steps

- Request more review.
- Other option: Add interface index in information TLV ?
- Any comments welcomed.

Thanks!