Loc-RIB and Adj-RIB-Out Extensions to BMP

draft-ietf-grow-bmp-loc-rib
draft-ietf-grow-bmp-adj-rib-out

Serpil Bayraktar and Tim Evens, Cisco
Paolo Lucente, NTT

Nov 5, 2018
IETF, GROW Working Group
Drafting status (1/2)

• Drafts first presented in Chicago (March 2017)
• Key drafts to expand BMP protocol functionality beyond the existing RFC
• Plenty of interest, feedback received and processed
• -02 of both drafts only refreshed dates
Drafting status (2/2)

• -03 is in the cards and, in line with drafts evolution to this point, there are no structural issues addressed. Only:
  ▪ A few text clarifications: ie. local-rib being only best path/selected NLRIs, sender implementations to default local-rib to only send the address families configured for BMP monitoring
  ▪ A single minor change: filter flag will move to an INFO TLV in PEER UP message from current per-peer header flag

• Still thinking we should wrap-up this effort soon and move on
Loc-RIB and Adj-RIB-Out
Extensions to BMP

exit(0)
Loc-RIB and Adj-RIB-Out Extensions to BMP

Backup Slides
Current BMP status

RFC 7854 defines access to Adj-RIB-In only

We can see this

BGP Peer-A
Adj-Rib-In (Pre)

Filters/Policy

Adj-Rib-In (Post)

And this

BGP Peer-B
Adj-Rib-In (Pre)

Filters/Policy

Adj-Rib-In (Post)
Proposal: extend access to Adj-RIB-Out, Loc-RIB

- BGP Peer-A
  - Adj-Rib-In (Pre)
  - Filters/Policy
  - Adj-Rib-In (Post)
  - Accepted

- BGP Peer-B
  - Adj-Rib-In (Pre)
  - Filters/Policy
  - Adj-Rib-In (Post)
  - Accepted

- Static
  - Adj-Rib-In (Post)

- ISIS
  - Adj-Rib-In (Post)

- We also want to see this
  - Loc-Rib

- Adj-Rib-Out (Pre)
  - Filters/Policy
  - Adj-Rib-Out (Post)
  - And this

And this
Use Cases

Local-RIB
- Monitor routes selected and used by the router
  - ECMP
  - Correlation with netflow/ipfix
  - Next hop preservation
- Monitor locally originated and BGP routes without requiring peering
- Policy verification

Adj-RIB-Out
- Monitor routes advertised to peers
- Policy verification
Extensions to RFC 7854

**Local-RIB**
- New Peer Type 3
  - Supports backwards capability
- Flags are specific to Peer Type
- New F Flag: indicates filtered
- Using existing Stats
- Replaces “Locally Originated Routes” specified in Section 8.2
- Peer Up Info TLV Type 3: vrf name

**Adj-RIB-Out**
- New per peer header O flag to indicate Adj-RIB-In or Adj-RIB-Out
- Added statistics Types 14-17
  - 14 = Adj-RIB-Out pre-policy
  - 15 = Adj-RIB-Out post-policy
  - 16 = Adj-RIB-Out pre-policy per AFI/SAFI
  - 17 = Adj-RIB-Out post-policy per AFI/SAFI