draft-lucente-grow-bmp-offline

GROW @ IETF 123, July 2025, Madrid, Spain

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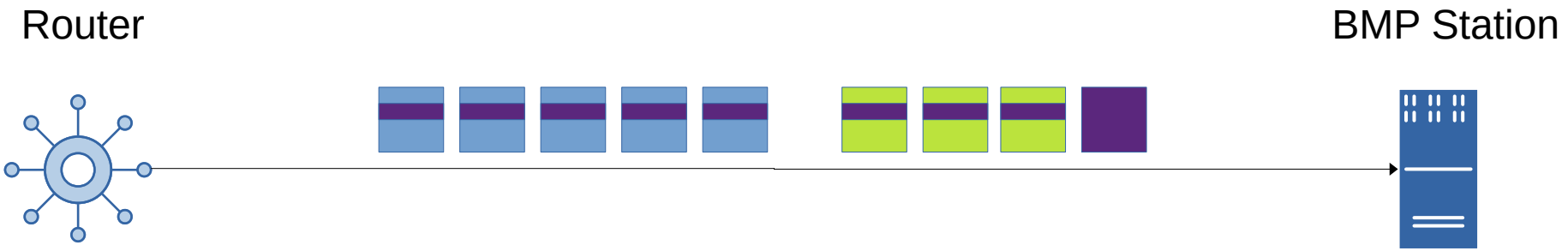
Bangkok ⟶ Madrid

- No updates to document itself
- Looked into if/how Route Refresh concepts could alleviate stress on exporting routers

-00,-01 recap

- **Motivation:**
  - BMP/BGP sessions are long-lived, but the start is crucial to process the stream;
- **-00:**
  - Introduce a new Peer Summary message type
  - Generated only by the Station
- **-01 approach:**
  - Tie together PeerUps/RouteMons with a new SummaryId TLV
  - Generated by the exporter and/or the Station



BMP PeerUpNotification

BMP RouteMonitoring

BMP SummaryMessage (introduced in -01)

BMP Summary Id TLV (introduced in -01)

-00,-01 feedback

- **w.r.t. -00:**
  - It would be nice to also allow the exporter to generate these summaries
- **w.r.t. -01:**
  - It’s quite expensive for the exporter to generate these summaries
- **Main takeaway from 122/Bangkok:**
  - Approach -01 is really close to, but not quite the same as, a ROUTE REFRESH.
  - Getting it closer to an RR *might* give enough breathing room for exporters to actually consider this a viable thing to do

Homework for -02

- **Figure out the feasibility of mimicking a ROUTE REFRESH**
  - Don’t require custom code/state to e.g. attach a Summary Id TLV
  - Don’t require custom code/state to track metrics that would go in the State Summary Message afterwards
  - Perhaps don’t even require the preceding State Summary Message
- **While keeping all the functionality and flexibility we envisioned with -01**

(Enhanced) ROUTE REFRESH in BGP

- **RFC2918 / RFC7313, message type 5**
- **Triggered by remote speaker:**
  1. Peer A: ‘please send all your $AFI/$SAFI again’
  2. Peer B: BoRR, [UPDATES], EoRR

(Enhanced) ROUTE REFRESH in BMP

- The station can not send the RR request;
- Translating BGP to BMP:

  BoRR, [UPDATES] , EoRR

  ⬇

  ?, [RouteMons], ?

- BoRR/EoRR are very useful if not crucial, how to translate those?

ROUTE REFRESH PDUs in BMP

- **In BMPv4, the UPDATE PDU is carried inside a TLV within the RouteMon:**
  - RR in RouteMon requires a new TLV type
- **Alternatively, introduce a new dedicated BMP message type for RR PDUs**

- **Either way slightly different from a ‘normal RouteMon’, introduce new code/state in the exporting process.**

RR in BMP: pros

- **‘Start of summary’ and ‘End of summary’ available via BoRR/EoRR;**
- **Route Refresh in BGP is per AFI+SAFI, that could be leveraged to re-sync only certain RIBs via BMP;**
- **Likely the least involved for exporters**

RR in BMP: cons

- No mechanism to sync session information, only RIB contents;
- Requires a new TLV for RouteMon, or new BMP message type that wil only carry RRs;
- No way to distinguish ‘live’ RouteMons from RouteMons that are part of an RR sync
- No way to distinguish per sync/summary

Comparison of approaches

	State Summaries	Route Refresh	
Feature/quality:			
In-protocol			
Signal begin/end	y	y	
Rib contents	y	y	
Session info	y	n	
Distinguish sync vs live	y	n	
Distinguish between syncs	y	n	
Per address family	y	y	
Additional metadata	Possible *	n	
Extensible	y	n	
Expensive	y	Less so but still	
Protocol requirement:			
New msgtype or tlv?	Both *	either	

At first glance

- **No session info in the RR approach, deal breaker;**
- **Much less flexible in many ways;**
- **Is it cheap enough to actually be considered by exporters, are these downsides actually worth it?**

Thoughts from authors

- RR approach not really worth it;
- Be explicit about everything being optional, shift focus away from exporters;
- Move the narrative to (‘after’) the (first) station
- Focus on challenges such as redistribution on message buses, storing self-contained time-binned snapshots ...

Revival time

- Reviving draft-petrie-grow-mrt-bmp
- Work stalled previously for reasons that are possibly fixed with BMPv4
- Any input (not related to bmp-offline per se) very much welcome

Questions to WG

- Shall we indeed let go of the Route Refresh idea?;
- Keep everything in-protocol but optional;
- And shift the focus away from exporters.

Then, for -02:

- Work on technical details (which TLVs, message formats, examples, End Of Summary?)
- Work out specific scenarios
- Thank you Reshad for already providing input on these

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