BGP Route Policy and Attribute Trace Using BMP

draft-xu-grow-bmp-route-policy-attr-trace-05

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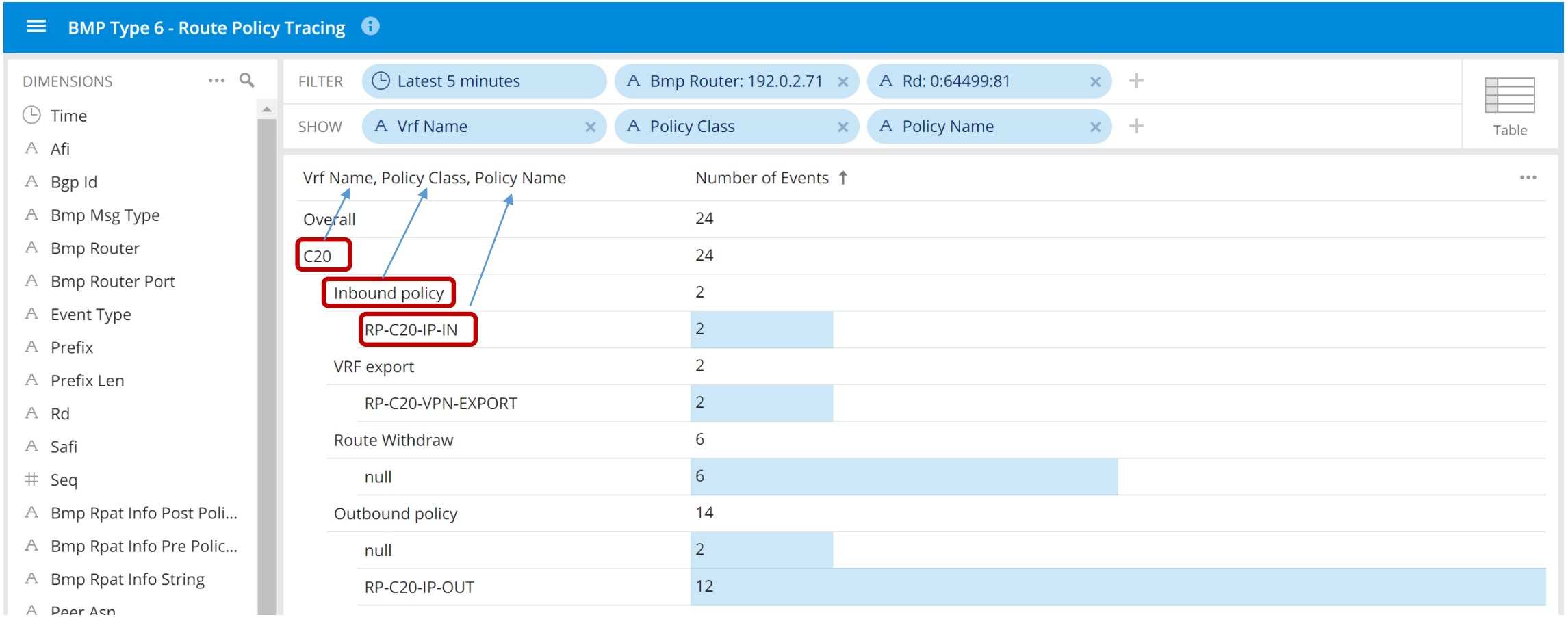
Outline

- Recap with an hackathon example
- Change history
- Next steps

BMP route trace data glance



BMP route trace data zoom in

Time	Afi	Bgp Id	Bmp Msg Type	Bmp Router	Bmp Router Port
2020-11-12 12:26:35	1	192.0.32.151	rpat	192.0.2.71	54948
2020-11-12 12:26:35	1	192.0.32.151	rpat	192.0.2.71	54948

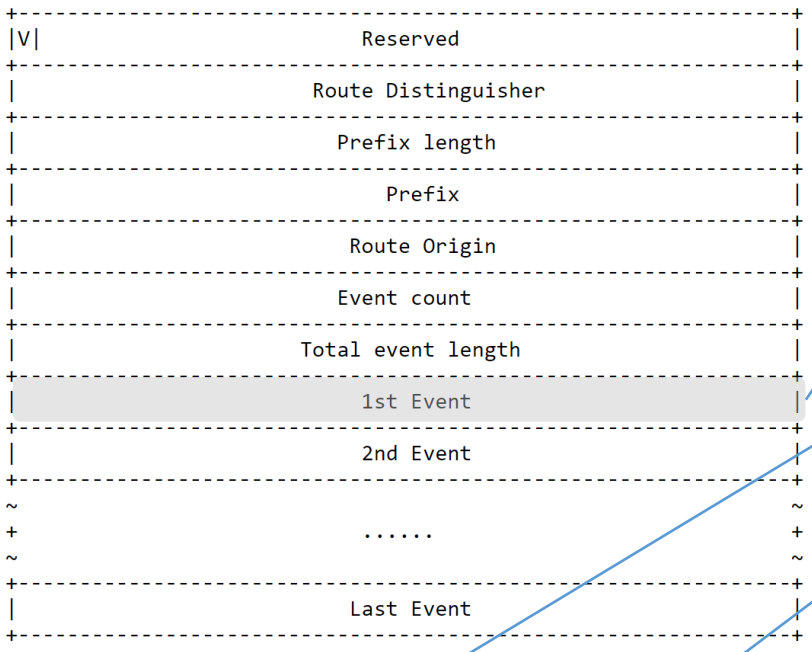
Prefix	Prefix Len	Rd	Safi	Seq
203.0.113.10	32	0:64499:81	1	50206897
203.0.113.252	31	0:64499:81	1	50206904

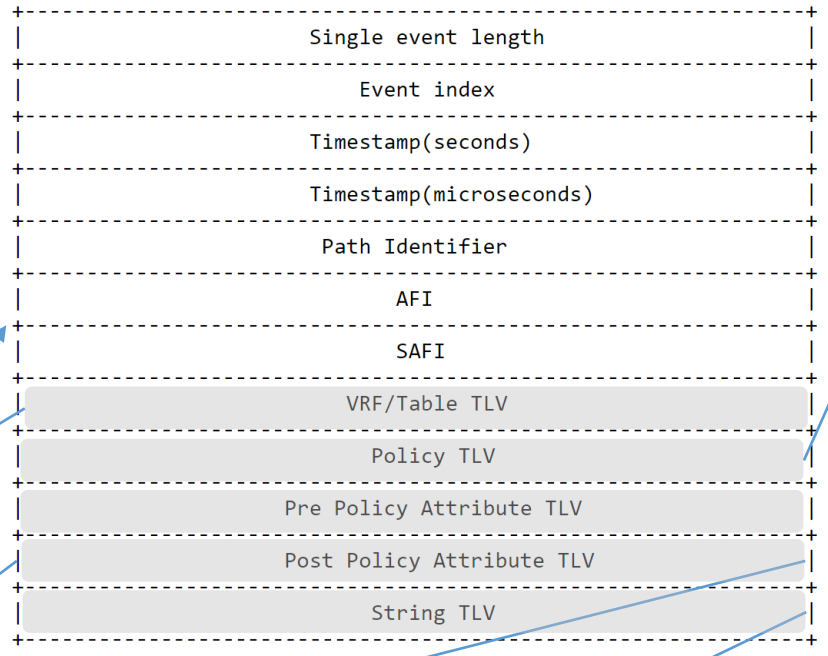
Bmp Rpat Info Post Policy Attr	Bmp Rpat Info Pre Policy Attr	Bmp Rpat Info String	Peer Asn	Peer Bgp Id	Peer Ip
40-01-01-00-40-02-16-02-05-...	40-01-01-00-40-02-16-02-05-...	xmlns:rtp="urn:huawei:yang:...	65000	203.0.113.12	192.0.32.151
40-01-01-00-40-02-16-02-05-...	40-01-01-00-40-02-16-02-05-...	xmlns:rtp="urn:huawei:yang:...	65000	203.0.113.12	192.0.32.151

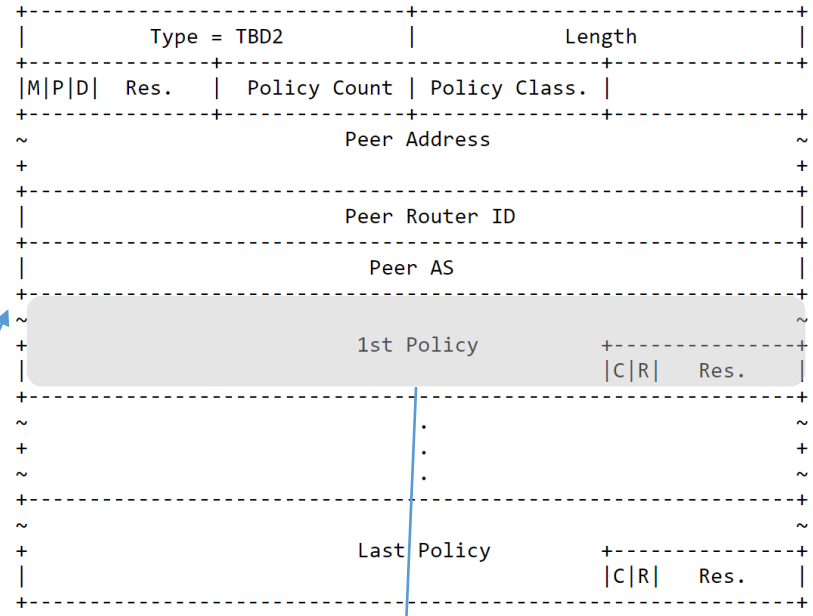
Policy Class	Policy Id	Policy Is Diff	Policy Is Match	Policy Is Permit	Policy Name
Inbound policy	10	1	1	1	RP-C20-IP-IN
Inbound policy	10	1	1	1	RP-C20-IP-IN

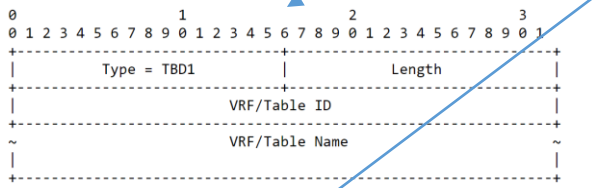
Policy Nf	Timestamp Arrival	Vrf Id	Vrf Name	Writer Id
null	2020-11-12T13:27:14.994480...	3	C20	ietfint_nfacctd-bmp01_c/318...
null	2020-11-12T13:27:14.995083...	3	C20	ietfint_nfacctd-bmp01_c/318...

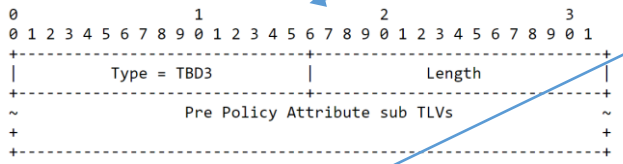
BMP route trace data format

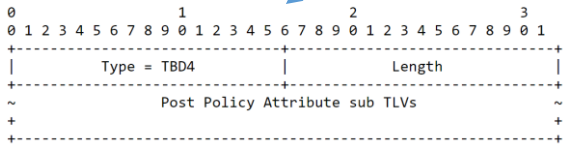


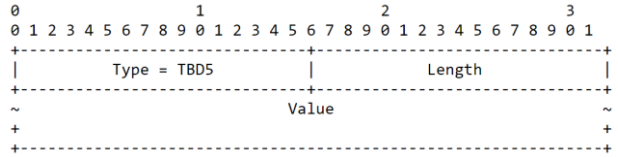


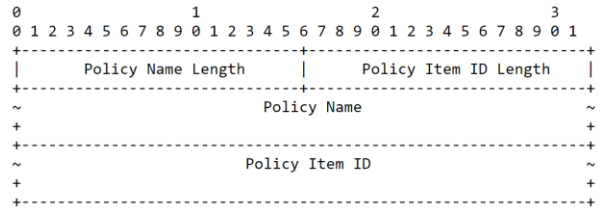












Change history

- Changes from version 05
  - Add “V flag” to distinguish V4 and V6 peer address
  - Make “Prefix” fixed length (16 bytes)
  - Add “Peer Address” in the Policy TLV
  - Make “Policy Item ID” variable (previously 4-byte fixed length)

Next steps

- Implementation status (draft-xu-grow-bmp-route-policy-attr-trace-05)
  - BMP client: Huawei VRP V8.20.1
  - BMP server: PMACCT
  - Parser: Wireshark
- Deployment status and future plans
  - Current: Swisscom test lab
  - Future: Tencent, China IXP in Hangzhou, Huawei Cloud and so on
- Call for WG adoption
- IANA code point early allocation
  - BMP new message type:
    - Type = TBD: Route Policy and Attribute Trace Message.
  - TLV type for BMP Route Policy and Attribute Trace Message
    - Type = TBD1 (2 Byte): VRF/Table ID TLV.
    - Type = TBD2 (2 Byte): Policy TLV.
    - Type = TBD3 (2 Byte): Pre Policy Attribute TLV.
    - Type = TBD4 (2 Byte): Post Policy Attribute TLV.
    - Type = TBD5 (2 Byte): String TLV.

Thank you!