

Validate BMP Extension for Path Status TLV GROW WG



BMP Monitoring Station

- Frrouting
<https://github.com/mxyns/frr/commits/bmp-draft-path-marking/>

BMP Data Collection

- Pmacct
<https://github.com/pmacct/pmacct>

Tools

- Wireshark dissector
<https://www.wireshark.org/download//automated/>
<https://github.com/network-analytics/wireshark/tree/draft-cppy-grow-bmp-path-marking-tlv>

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BMPv4 route-monitoring Path Status TLV

BMPv4 Path Status TLV for route-monitoring

```

{
  "afi": 1,
  "as_path": "4226809912 64496",
  "bgpnexthop": "0.0.0.0",
  "bmp_msg_type": "route_monitor",
  "bmp_rib_type": "Adj-Rib-In Post-Policy",
  "bmp_rm_info_vrf": "67-6C-6F-62-61-6C",
  "bmp_router": "10.212.242.56",
  "bmp_router_port": 54145,
  "event_type": "log",
  "ip_prefix": "0.0.0.0/0",
  "is_filtered": 0,
  "is_in": 1,
  "is_post": 1,
  "label": {
    "nkey": "unknown",
    "pkey": "unknown"
  },
  "log_type": "update",
  "origin": "u",
  "path_status": {
    "Best",
    "Primary"
  },
  "peer_asn": 64496,
  "peer_ip": "198.51.100.88",
  "peer_tcp_port": 0,
  "safi": 1,
  "seq": 9,
  "timestamp": "1730203302.115060",
  "timestamp_arrival": "1730804763.236933",
  "writer_id": "taarole8-rocky8 nfacctd_bmp 20241103-1
(3728c746)"
}
  
```

No.	Time	Source IP	Destination IP	Protocol
123	2024-10-21 17:30:27.042257	10.212.242.56	138.187.58.11	BGP
124	2024-10-21 17:30:27.042310	10.212.242.56	138.187.58.11	BGP
125	2024-10-21 17:30:27.042335	10.212.242.56	138.187.58.11	BGP

```

> Frame 125: 211 bytes on wire (1688 bits), 211 bytes captured (1688 bits)
> Ethernet II, Src: Cisco_11:22:a0 (ac:bc:d9:11:22:a0), Dst: VMware_82:87:06 (00:50:56:82:87:06)
> Internet Protocol Version 4, Src: 10.212.242.56, Dst: 138.187.58.11
> Transmission Control Protocol, Src Port: 50309, Dst Port: 1790, Seq: 18313, Ack: 1, Len: 145
▼ BGP Monitoring Protocol, Type Route Monitoring
  Version: 4
  Length: 145
  Type: Route Monitoring (0)
  > Per Peer Header
  ▼ BMPv4 TLV: BGP Message
    Type: BGP Message (4)
    Length: 69
    Index: 0
    > Value: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 00 45 02 00 00 00 25 40 01 01 00 50 0
      ▼ Border Gateway Protocol - UPDATE Message
        Marker: ffffffffffffffffffffffffffffffffff
        Length: 69
        Type: UPDATE Message (2)
        Withdrawn Routes Length: 0
        Total Path Attribute Length: 37
        > Path attributes
        > Network Layer Reachability Information (NLRI)
      ▼ BMPv4 TLV: VRF/Table Name
        Type: VRF/Table Name (3)
        Length: 6
        Index: 0
        Value: global
      ▼ BMPv4 TLV: BGP Path Status
        Type: BGP Path Status (9)
        Length: 4
        Index: 0
        > Value: .....000 0000 1010 = Status: 0x00a, best, primary
          .....00 = invalid: Not set
          .....01 = best: Set
          .....0.. = non_selected: Not set
          .....1.. = primary: Set
          .....0... = backup: Not set
          .....0... = non_installed: Not set
          .....0.. = best_external: Not set
          .....0... = addpath: Not set
          .....0... = filtered_in: Not set
          .....0... = filtered_out: Not set
          .....0... = invalid_row: Not set
  
```