

draft-ietf-bfd-large-packets

Jeff Haas (jhaas@juniper.net)

Albert Fu (afu14@bloomberg.net)

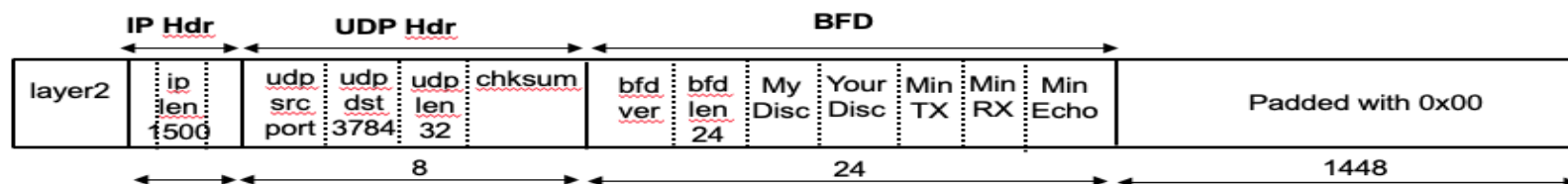
IETF Montreal 105 Update (July 2019)

MTU Issues in Production network

- Still seeing Intermittent MTU issues
 - Telco hardware issue
 - Telco config issue
 - Router issue
- MTU issue may last for brief period of time

BFD Large Packet Implemented on FRR

- Free Range Routing version 7.2 (Ubuntu 16.04.6 LTS)
- Changed bfd_packet.c:
 - BFD/UDP packet structure unchanged
 - Padding at IP layer up to 1500 Bytes, i.e.
 - ❖ IP len 1500
 - ❖ UDP Len 32
 - ❖ BFD Msg Len 24;



- Tested OSPF/BFD with 1500-Byte padding with:
 1. FRR (No Padding)
 2. Juniper VMX 18.1R1.9 (no padding)

Sniffer Capture

No.	Time	Source	Destination	IP-Len	UDP-Len	BFD-Len	BFD Control Message
1	0.000000	192.168.66.12	192.168.66.13	1500	32	24 bytes	✓
2	0.092862	192.168.66.13	192.168.66.12	52	32	24 bytes	✓
3	0.249895	192.168.66.12	192.168.66.13	1500	32	24 bytes	✓
4	0.364256	192.168.66.13	192.168.66.12	52	32	24 bytes	✓

▼ Internet Protocol Version 4, Src: 192.168.66.12, Dst: 192.168.66.13
0100 = Version: 4
... 0101 = Header Length: 20 bytes (5)
▼ Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: Not-ECT)
1100 00.. = Differentiated Services Codepoint: Class Selector 6 (48)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 1500

Identification: 0x0000 (0)

► Flags: 0x4000, Don't fragment

Time to live: 255

Protocol: UDP (17)

Header checksum: 0x6fe6 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.66.12

Destination: 192.168.66.13

▼ User Datagram Protocol, Src Port: 49142, Dst Port: 3784

Source Port: 49142

Destination Port: 3784

Length: 32

[Checksum: [missing]]

[Checksum Status: Not present]

[Stream index: 0]

▼ BFD Control message

001. = Protocol Version: 1

...0 0000 = Diagnostic Code: No Diagnostic (0x00)

11.. = Session State: Up (0x3)

► Message Flags: 0xc0

Detect Time Multiplier: 3 (= 900 ms Detection time)

Message Length: 24 bytes

My Discriminator: 0x4c528f12

Your Discriminator: 0x00000001

Desired Min TX Interval: 300 ms (300000 us)

Questions?