

draft-ietf-bfd-large-packets

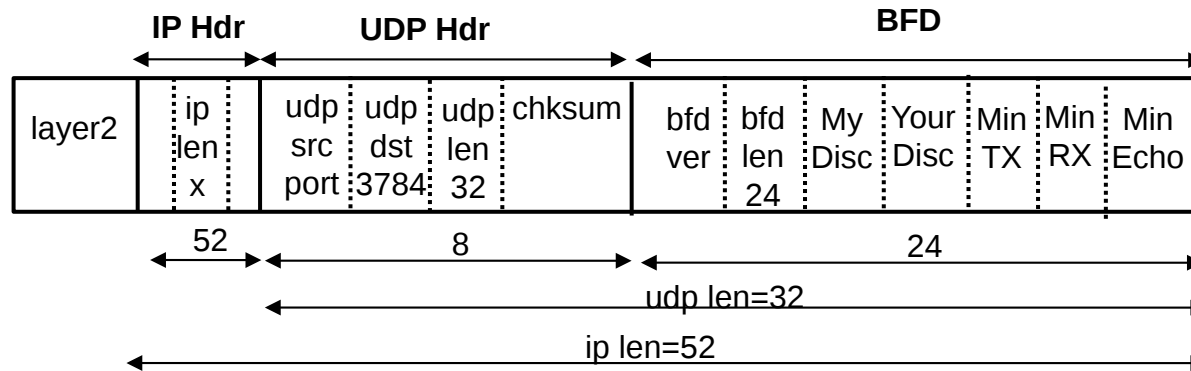
**Jeff Haas (jhaas@juniper.net)
Albert Fu (afu14@bloomberg.net)
IETF Prague March 2019**

Problem Statement

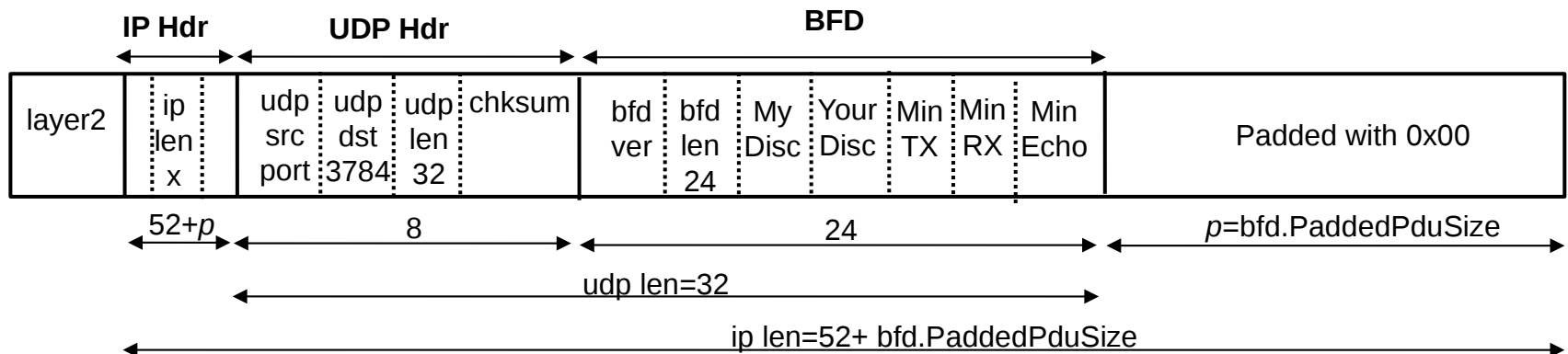
- Large packet unable to be transmitted on WAN circuit due to Telco issue
- Interface and Protocol status remain active as keepalive packets are small
- No network alarms
- Time consuming to troubleshoot due to ECMP

bfd.PaddedPduSize

Current



Proposal



Sample User Cases

Max IP Payload

Bfd.PaddedPduSize (p)

Internet Core

1,500

1,448 (1,500-52)

MPLS VPN Core (up to 3 labels)

1,500

1,460 (1,512-52)

bfd.PaddedPduSize

- Enable on a per-interface basis
- Padding is enabled at IP layer
 - No change in "BFD/UDP" packet format
- Padded size need not match Link MTU
 - E.g. Link mtu may be 9k, but only need to detect link can carry 1,512 bytes payload
- Problem has only been observed on commercial WAN links
 - Need not enable this on intra-site links (e.g. DC)

Protocol Hello Padding?

- ISIS is only protocol that supports Hello Padding
- Disadvantages:
 - Not supported by common protocols such as OSPF, BGP
 - Long detection time
 - ❖ Unacceptable in modern network (e.g. 40s/90s/180s)
 - Protocol Detection via control plane can be unreliable
- BFD implementation on modern network vendors are control plane independent – reliable and deterministic

Questions?