BFD over MC-LAG interfaces
draft-tanmir-rtgwg-bfd-mc-lag-ip-00
draft-tanmir-rtgwg-bfd-mc-lag-mpls-00

Jeff Tantsura jefftant.ietf@gmail.com

Greg Mirsky gregory.mirsky@ericsson.com

Mach Chen mach.chen@Huawei.com

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Where is the problem

- RFC 7130 defines BFD on LAG interfaces as set of independent BFD sessions that, as implied, have the same Source and Destination IP addresses
- In case of MC-LAG that is problematic, as nodes B and C has to use the same IP address on LAG.

LAG

A

B

C

MC-LAG
Redundancy
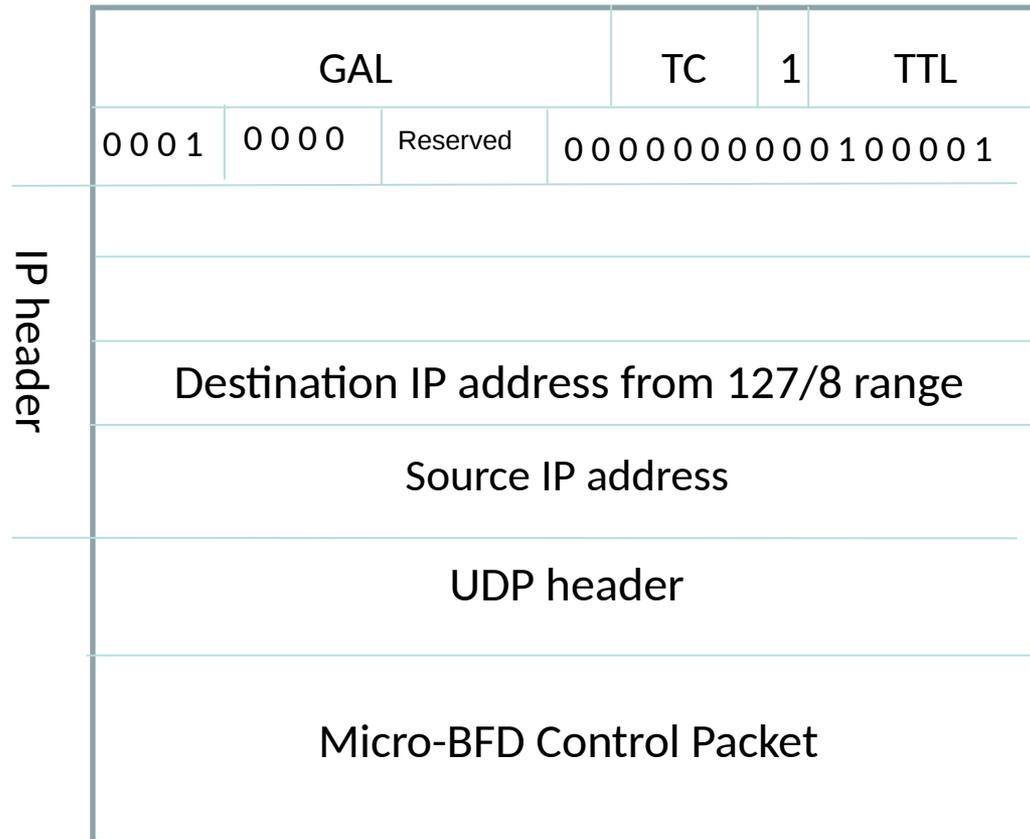Group
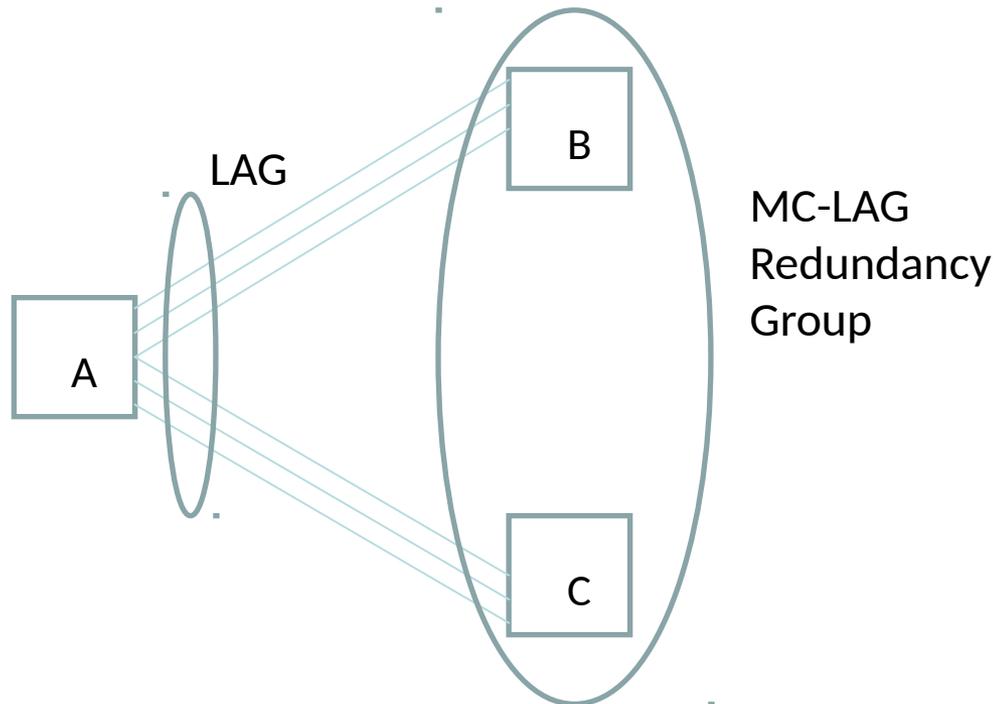
What we can do in IP network

- if IPv4 address family being used for micro-BFD session, then the link-local multicast address 224.0.0.0/24 SHOULD be used as the destination IP address. Subnet broadcast address MAY be used as the destination IP address as well;
- if the address family used is IPv6, then the IPv6 link-local multicast address FF02:0:0:0:0:0:0:2 MUST be used as the destination IP address.

IP header

Destination IP address – network broadcast

Source IP address

UDP header

Micro-BFD Control Packet
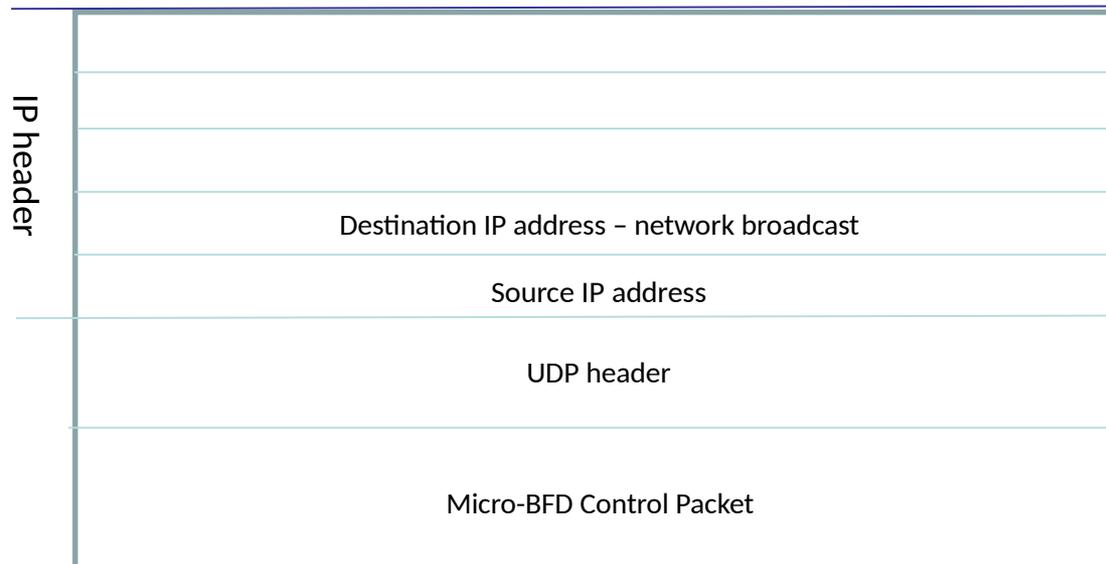
What we can do in IP/MPLS network

- GAL at the top per RFC 5586

- Associated Channel Header

  - IP/UDP encapsulation of BFD

    - G-ACh 0x0021 and Destination IP address from 127/8 range for IPv4 address family

    - G-ACh 0x0057 and Destination IP address 0:0:0:0:0:FFFF:7F00/104 range for IPv6 address family

  - ACH encapsulation

    - G-ACh 0x0007

UDP/IP encapsulation

GAL			TC	1	TTL
0 0 0 1	0 0 0 0	Reserved	0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1		

IP header

Destination IP address from 127/8 range
Source IP address

UDP header

Micro-BFD Control Packet

ACH encapsulation

GAL				TC	1	TTL
0 0 0 1	0 0 0 1	Reserved	0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1			
Micro-BFD Control Packet						

Next steps

- Comments are always welcome
- Asking WG to adopt this work