



BIER-Ethernet

[draft-wang-bier-lite-ospf-extension](#)

Linda Wang (Presenting)
Sandy. Zhang

Background

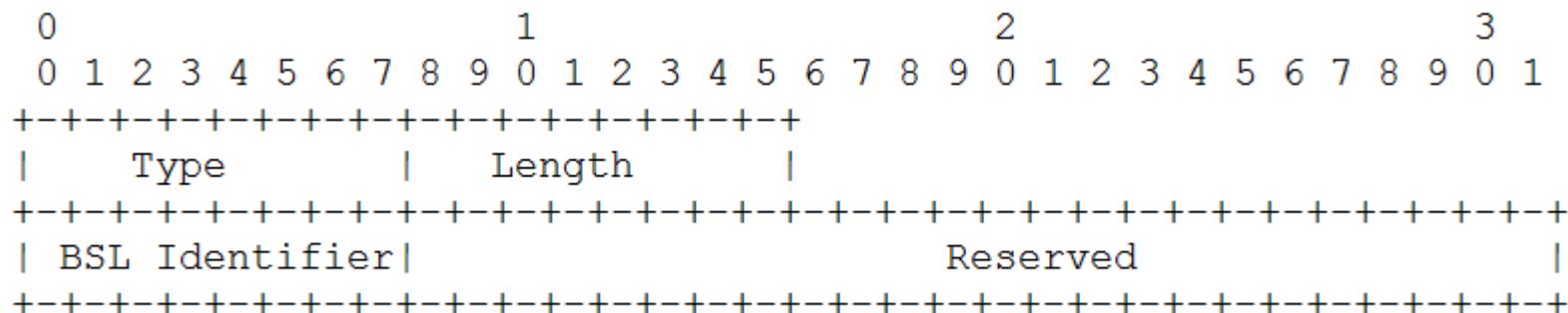
- **BIER-Ethernet: implements BIER forwarding in Ethernet network.**

The Problem in BIER-Ethernet

- **Control Plane: How to advertise BIER-Ethernet information ?**
- **Data Plane: How to forward in BIER-Ethernet network ?**

Control Plane Solution

- The Main Idea:
 - Define a new BIER-Ethernet sub-sub-TLV,
 - Then advertise BIER-Ethernet sub-sub-TLV together with BIER Info sub-TLV in IGP extension/BGP extension.



- BSL Identifier: identifies the BSL information the sending BFR supports. It may include one or several BSLs; For example:
 - 00000001 identifies BSL is 64;
 - 00000100 identifies BSL is 256;
 - 00101001 identifies BSLs are 2048, 512 and 64;

DATA Plane Solution

- Because there requires directions to identify the BIFT table, there should allocate the BSL, sub-domain and SI fields in the updated BIER header, as well as TTL and TOS field. As follow:

0	1	2	3
0 1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0 1
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
0 1 0 1 Ver Len			Entropy
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
Subdomain-ID	Set ID	BSL	TTL TOS
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
BitString (first 32 bits)			~
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
~			~
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
~	BitString (last 32 bits)		
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+
OAM Reserved Proto		BFIR-id	
+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+	+-----+-----+-----+-----+

- Additionally, mostly, this updated BIER header is immediately after Ethernet header, so there may need a new Ether Type to encode this kind of updated BIER header.

Next Steps

- Updating the draft-00 and using the name BIER-Ethernet;
- Call for adoption? ☺
- Any comments ☺