

BIER Encapsulation

draft-xu-bier-encapsulation

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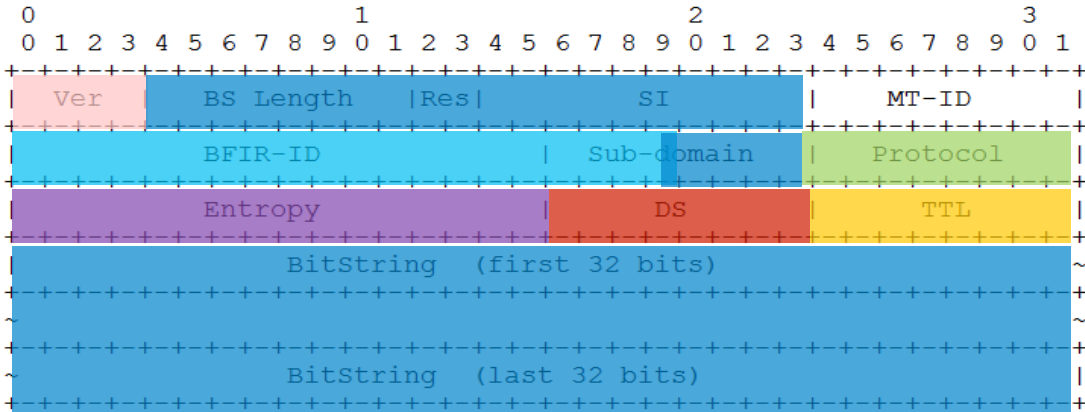
BIER Header Format (1)

- **Ver(sion)**: a 4-bit field identifying the version of the BIER header. This document specifies version 0 of the BIER header.
- **BS Length**: a one-octet field indicating the length of the BitString in 4-byte. Note that legal BS Length values are specified in [[I-D.wijnands-bier-architecture](#)].
- **SI**: a 10-bit field encoding the Set-Identifier (SI) for this packet.
- **MT-ID**: a one-octet field indicating which routing topology [[RFC4915](#)] [[RFC5120](#)] should be applied for BIER forwarding.
- **BFIR-ID**: a 2-octet field encoding the BFR-ID of the BFIR, in the sub-domain to which the packet has been assigned.
- **Sub-domain**: a one-octet field encoding the sub-domain to which the packet has been assigned.

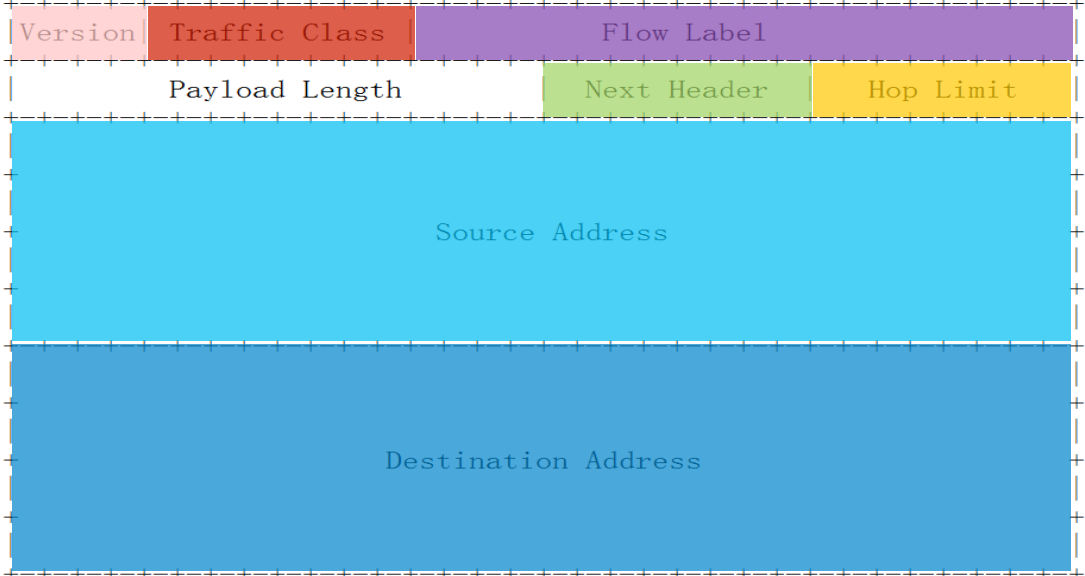
BIER Header Format (2)

- **Protocol**: a one-octet field indicating the protocol type of the BIER payload as per IP protocol numbers used in the Protocol of the IPv4 header and the Next Header field of IPv6 header. The valid BIER payload types include but not limited to IPv4, IPv6, MPLS, VXLAN [[RFC7348](#)], VXLAN-GPE [[I-D.quinn-vxlan-gpe](#)] , and etc.
- **Entropy**: a 2-octet field containing an "entropy" value that can be used for load balancing purposes.
- **BitString**: a variable-length BitString field that, together with the SI field, identifies all the destination BFERs for this packet.
- **DS**: The usage of this field is no different from that of the Differentiated Services (DS) field in the IPv4 or IPv6 headers [[RFC2474](#)].
- **TTL**: The usage of this field is no different from that of the Time to Live (TTL) field in the IPv4 header.

Comparison



BIER Header



IPv6 header

Transport Encapsulation for BIER Header

- Since the BIER encapsulation format is transport-independent, it can be encapsulated with any type of transport encapsulation headers, such as Ethernet header, PPP header, IP header, MPLS header, GRE header, UDP header etc.
- It requires for each possible transport encapsulation header to be able to indicate the payload is a BIER header.
 - For instance, in the BIER-in-MAC encapsulation case, a new EtherType code needs to be allocated for BIER.

Next Steps

- **Comments?**