

# Update on BIER IPv6 Encapsulation

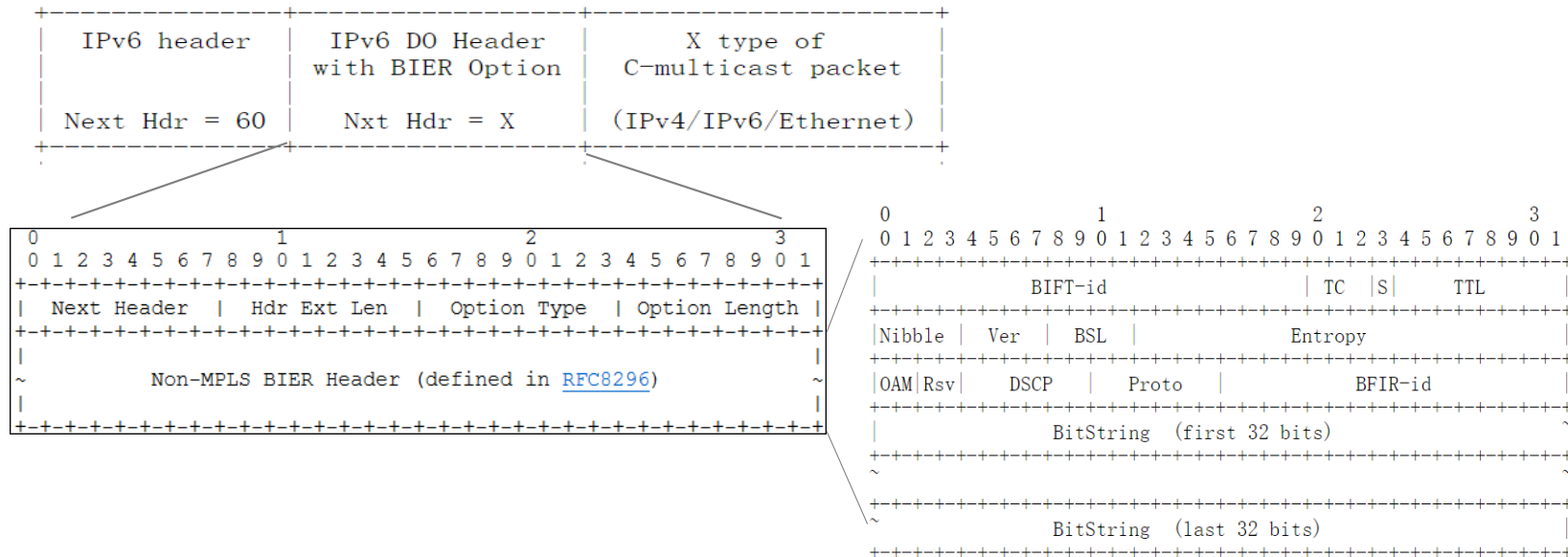
draft-xie-bier-ipv6-encapsulation-08

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BIER WG, IETF 109

# BIERv6 Overview

- BIERv6 encapsulation:
  - IPv6 Header with Destination Address indicating BIERv6 process
  - BIERv6 Destination Options Header



# History

- IETF 102 (v00 -> v01):
  - Initial proposal is a “Native IPv6” approach, using IPv6 extension header carrying BIER Header.
- IETF 103 (v01):
  - WG suggested a requirements draft.
- IETF 104 (v02 -> v00):
  - Split the draft into requirement document and encapsulation document; Requirement document was adopted.
- IETF 105 (v00 ->v02):
  - It was confirmed that BIER IPv6 is covered by BIER WG charter.
- IETF 106 (v02 -> v03):
  - Change multicast address to unicast address after WG discussion.
- Before IETF 107/interim (v03 -> v06):
  - add OAM support; Add a section about security, addressing all the previous comments.
- ➡ • IETF 107/108/109 (v06 -> v08):
  - See following slides.

# BIERv6 Draft Update and BIER WG Feedback(rev-06)

- BIERv6 encapsulation update in rev-06 (2020-3-9):
  - Update the “security consideration” section.
- Comments received and addressed:
  - Detailed Review comments and some high level comments.  
(<https://mailarchive.ietf.org/arch/msg/bier/y96tvDJNrX3AegHqDBIwuSr4850/> )
  - All comments are answered and addressed in the mailing list.
- BIER WG’s feedback during IETF 107:
  - Review by the 6MAN WG about this topic is necessary before any further discussion in BIER WG.

# BIERv6 Draft Update and 6MAN WG Feedback(rev-07)

- BIERv6 encapsulation update in rev-07 (2020-6-29):
  - Terminologies like “BIERv6 domain” are added or updated.
  - The use of “Proto” field in BIER header and “Next Header” field in IPv6 header is revised.
    - Simplified OAM mechanism and main technical improvement in this version.
  - Editorial changes in security considerations.
  - Issues raised by IDnits tool are fixed.
  - Co-authors are added.
- Comments from 6MAN Mailing List :
  - Review request is sent to 6MAN ML (sync to BIER as well).
  - IPv6 Alignment is confirmed by 6MAN people

# BIERv6 Draft Update and BIER WG Feedback(rev-08)

- BIERv6 encapsulation update in rev-08 (2020-7-12), per the suggestions received in 6MAN:
  - A diagram showing BIERv6 per hop packet processing in an IPv6 domain is added in section 4.
  - Clarification of BIERv6 aligning with BIER architecture is added in Appendix A.
  - References for control plane extension are noted in Appendix B.
  - Text for the use of unicast address in section 3.2 is moved to Appendix C.
- Discussions in BIER Mailing list:
  - Request for adoption sent to BIER WG.
  - Positive feedback with lots of support.
  - No further technical concerns yet.
- BIER WG's feedback in IETF 108:
  - WG Agreement in requirement document should come first.

# Efforts on BIER IPv6 Requirement

- Team work with BIER IPv6 requirement document authors, including authors from other BIER IPv6 solution.
- Get feedback from WG and address comments in the mailing list.
- Make sure the BIER IPv6 requirement document get WG consensus and this document align with the requirement document.

# Summary

For BIERv6:

- 2+ Years since first presentation in IETF
- 7 Presentations
- 8 Revisions according to the comments from WG
- 100+ Emails on BIER ML and 6MAN ML
- 5 Operators support as co-authors
- 5 Drafts reference the draft-xie-bier-ipv6-encapsulation



# Next Step

- WG adoption

Thanks