

TRILL Header Extension Improvements

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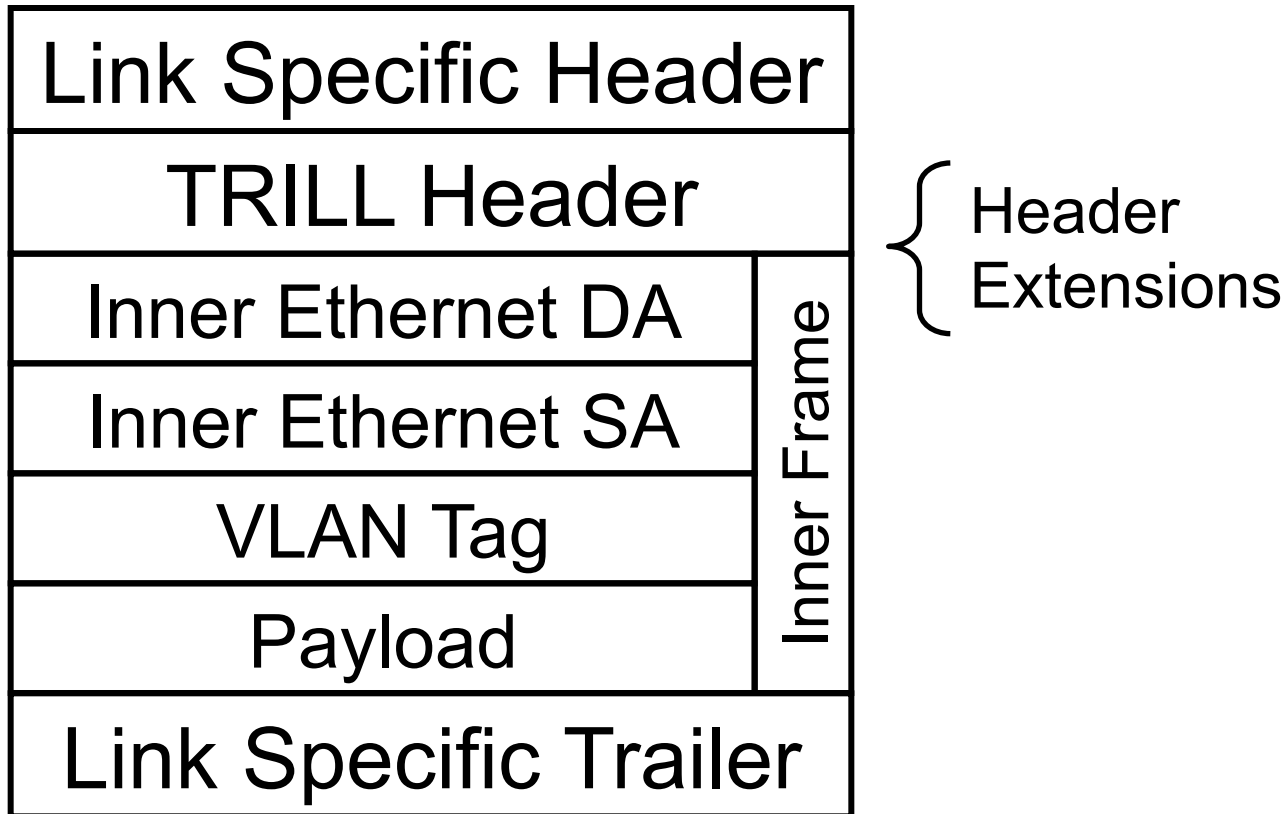
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TRILL Header Extensions

- Updates from Beijing Meeting
 - Replace single (4-byte) first word of “bit encoded options” with two words:
 - First word now has a Flow ID and fewer flag bits
 - Optional second word has more flag bits
 - Tweak TLV encoding to provide more Types
 - Update ECN (Explicit Congestion Notification) option to correspond with RFC 6040
- Update from mailing list
 - “Bit encoded options” -> “Extended Header Flags”

TRILL Data Frame Format



Improvements

- Multiple extension fields at a fixed offset from the start of the TRILL Header have been discussed.
 - Additional priority / QoS information
 - Fine grained data label
 - More extended flags
 - Saved VLAN tag
 - Other...

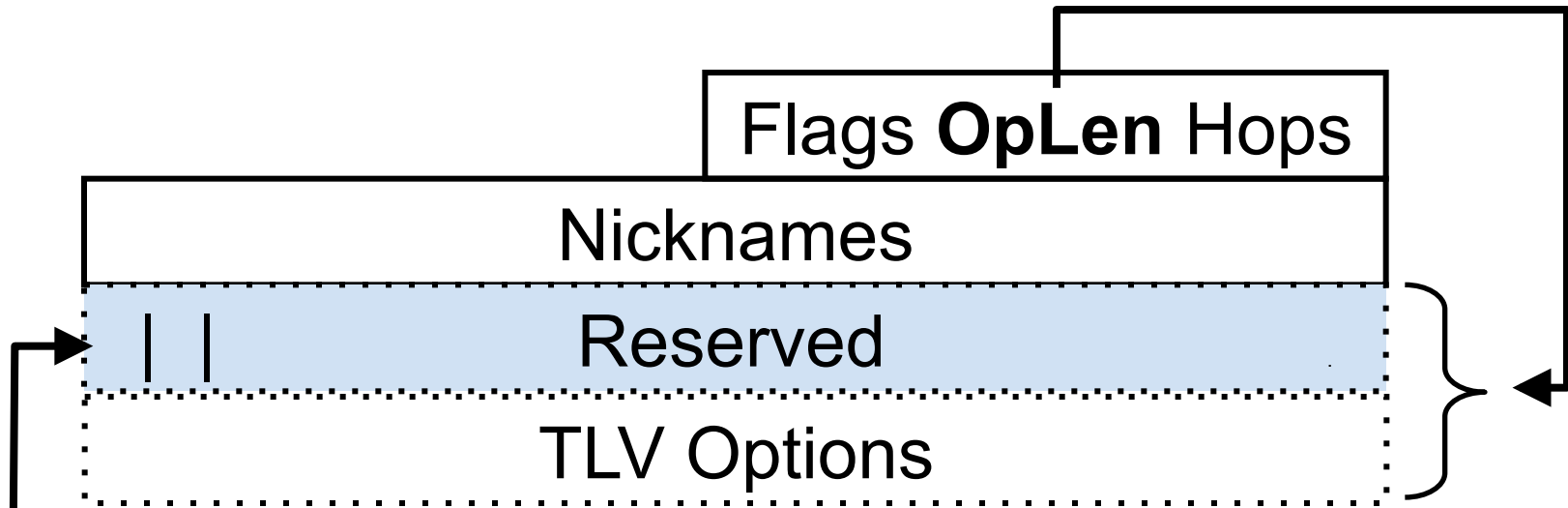
Improvements

- One solution is to provide for additional optional TRILL Header Extension words whose presence is indicated by the value of Op-Length.

Improvements

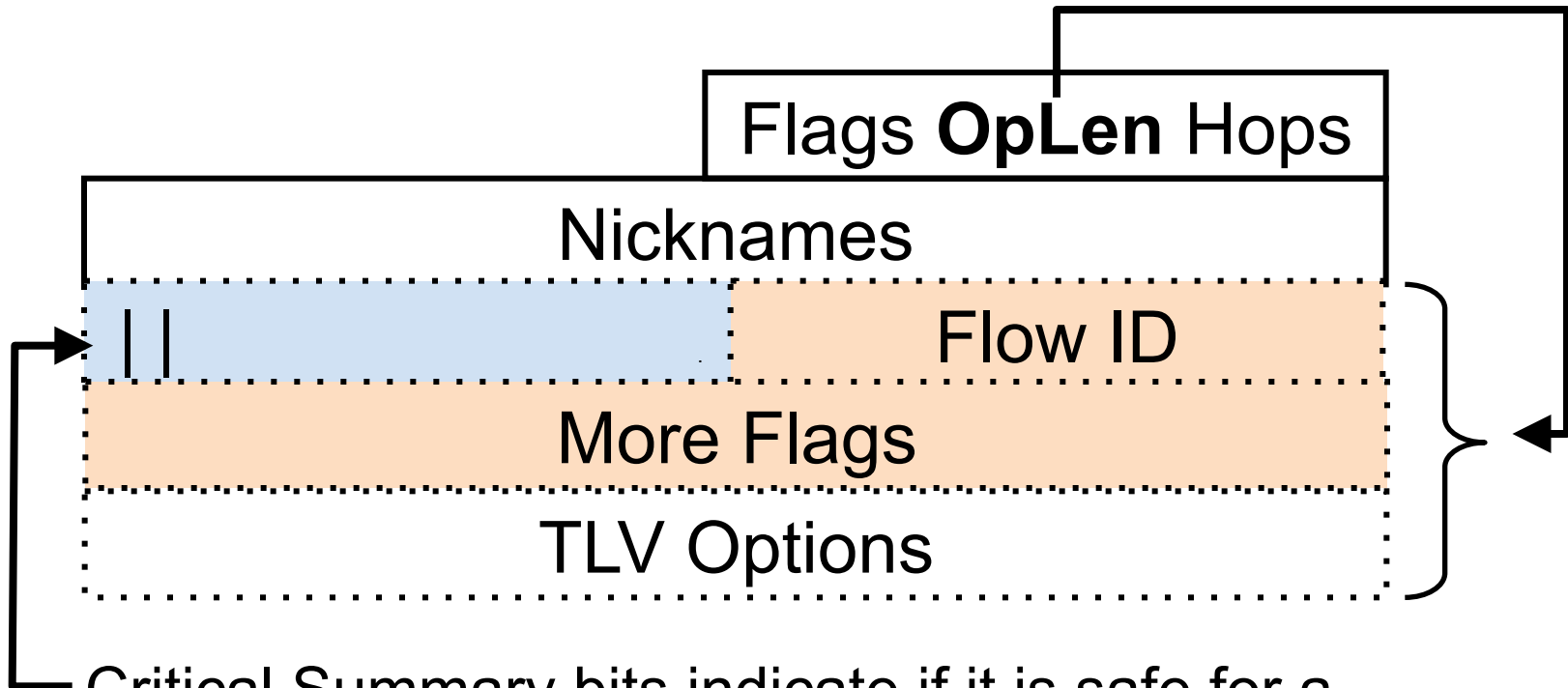
- The closer a field is to being a fixed size at a fixed offset, the easier it is to use it in the fast path.
 - These factors are more important for something referenced at each hop than something set at ingress and used only at egress.
- TLV options, while very flexible, are hard for fast path hardware to use.

TRILL Header, Base Protocol Draft



Critical Summary bits indicate if it is safe for a transit or egress RBridge that does not implement any extensions to process the frame.

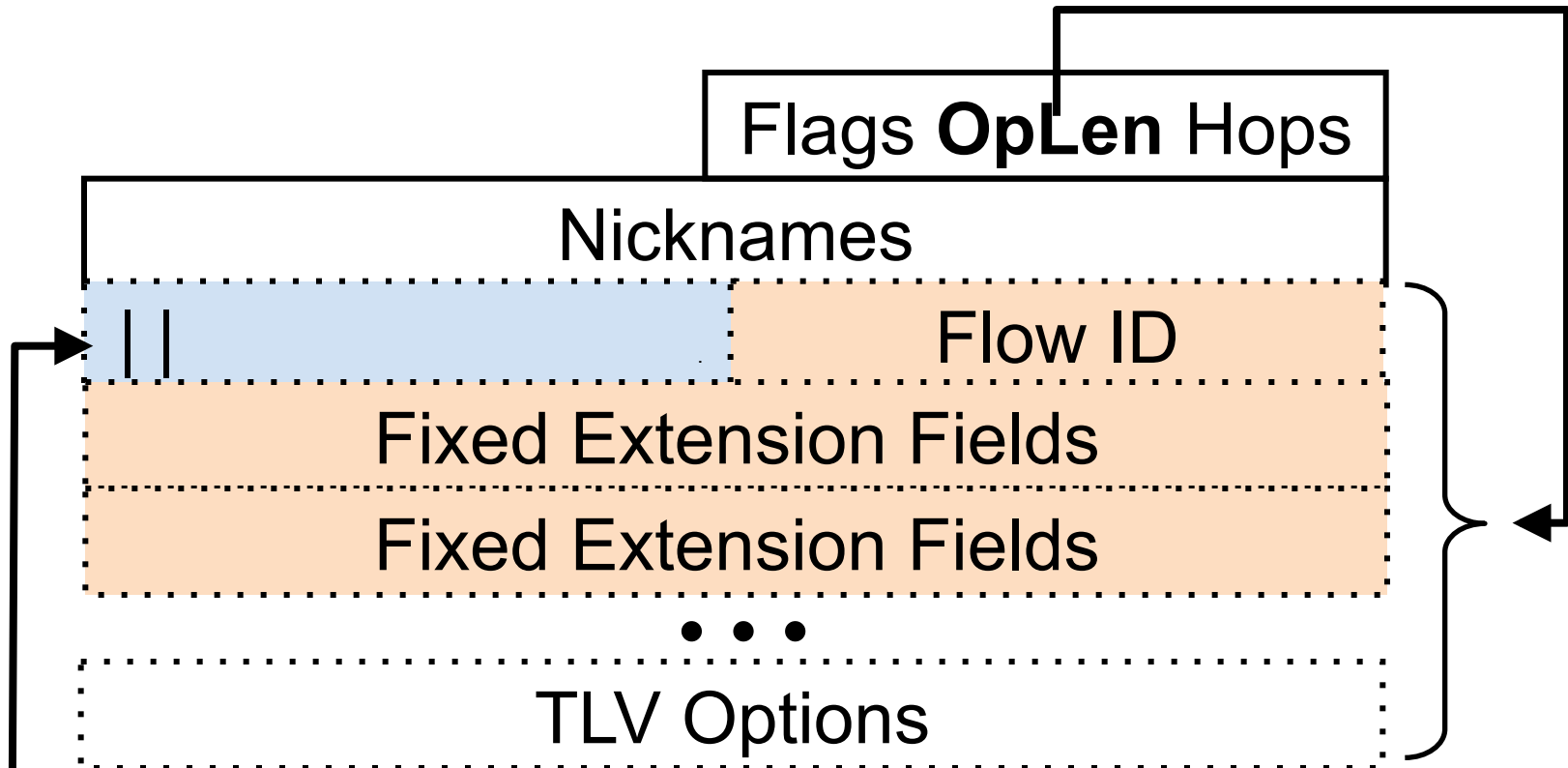
TRILL Header, After Beijing



Critical Summary bits indicate if it is safe for a transit or egress RBridge that does not implement any extensions to process the frame.

Current: draft-ietf-trill-rbridge-options-04.txt

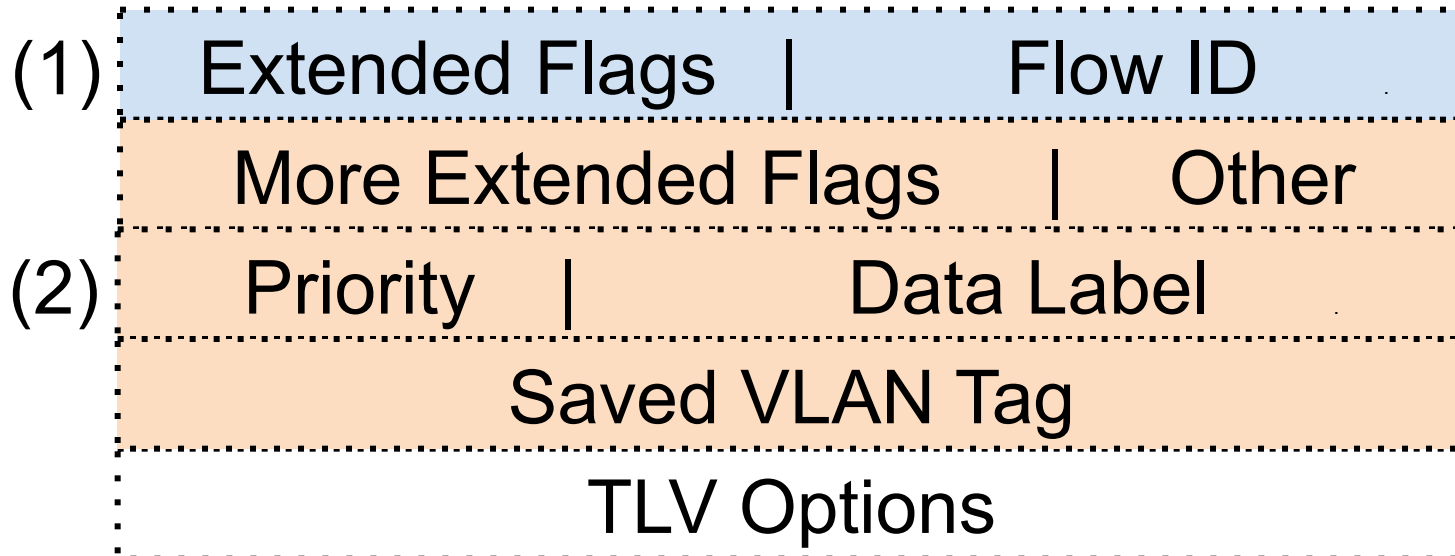
TRILL Header, Improved



Critical Summary bits indicate if it is safe for a transit or egress RBridge that does not implement any extensions to process the frame.

Improved Header Extensions

Example



- (1) First word present if OpLength is non-zero.
- (2) Presence of additional words independently indicated by Extended Flags info in the first word.

Proposed WG Actions

- Rename “options” draft as “extensions” draft.
- Update draft along the lines indicated in this presentation
 - Current draft:
draft-ietf-trill-rbridge-options-04.txt
- Issue Working Group Last Call on revised draft

END

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Back Up Slides

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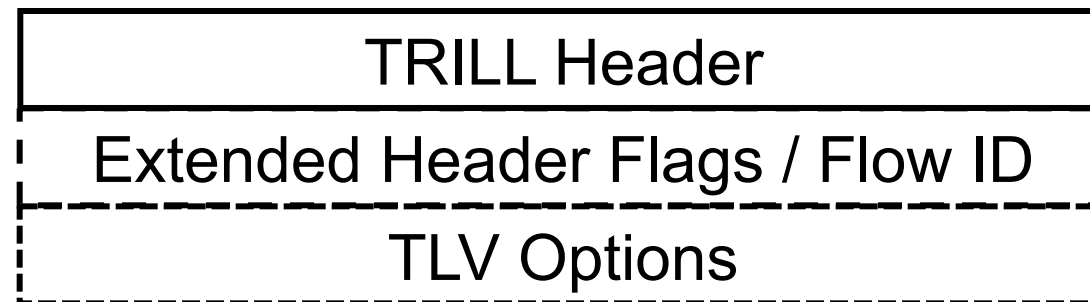
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Nomenclature Change

- Approved on mailing list, from



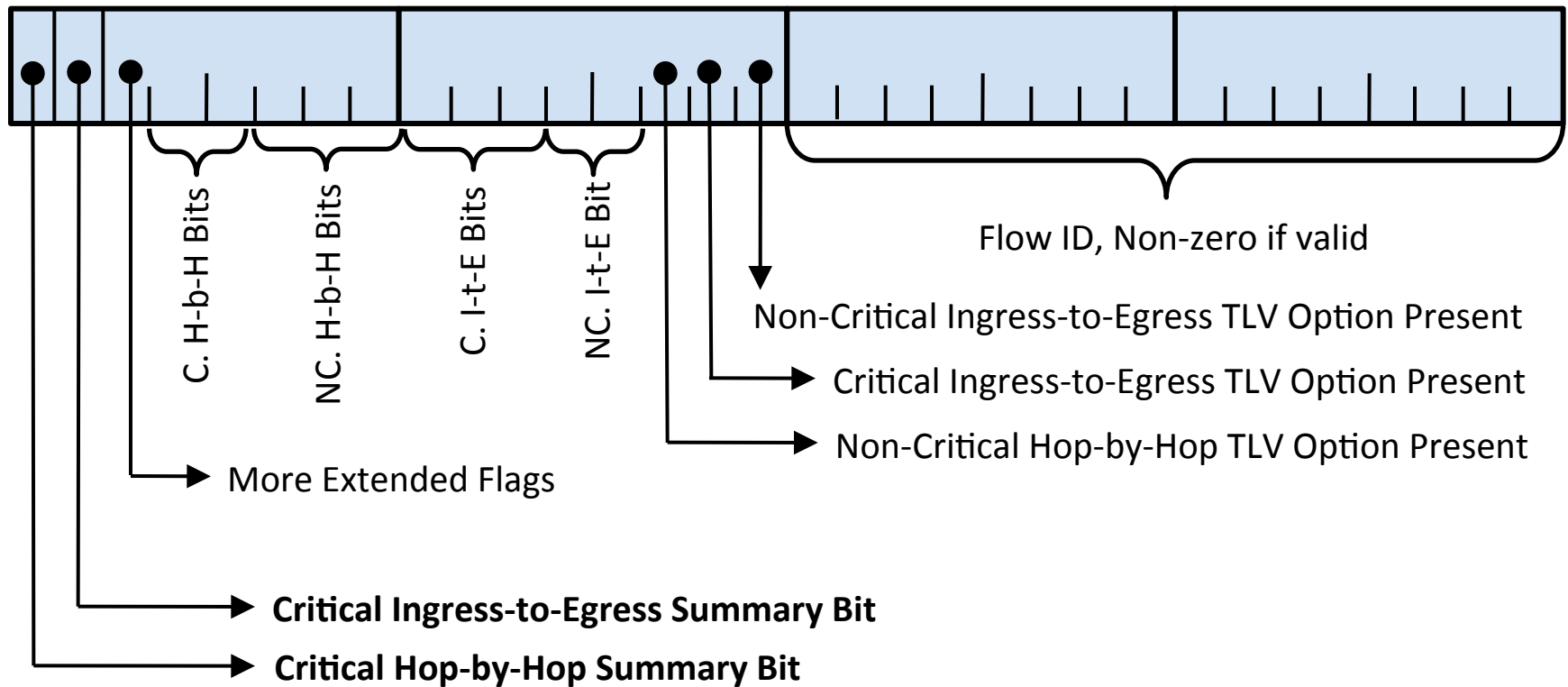
- To



Current Header Extensions

First 32 Bits

- Present if OpLng in TRILL Header > 0



Current Header Extensions

Second 32 Bits

- If “More Extended Flags” bit is a one, there are 4 bytes of additional extended header flags as follows:

