

DLEP Extensions Update

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Post LC Drafts

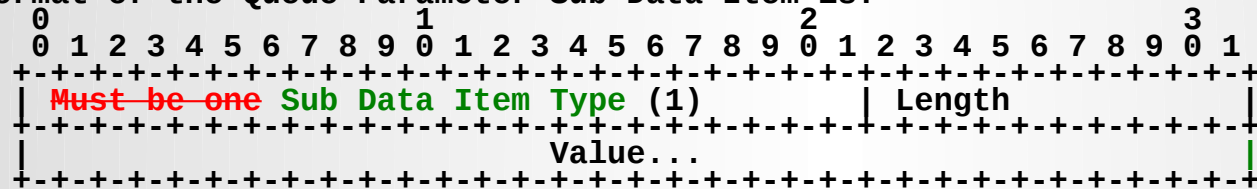
- DLEP Latency Range Extension
 - draft-ietf-manet-dlep-latency-extension-03
- DLEP Link Identifier Extension
 - draft-ietf-manet-dlep-lid-extension-02
- DLEP Multi-Hop Forwarding Extension
 - draft-ietf-manet-dlep-multi-hop-extension-05
- DLEP Control Plane Based Pause Extension
 - draft-ietf-manet-dlep-pause-extension-04

← LC technical change

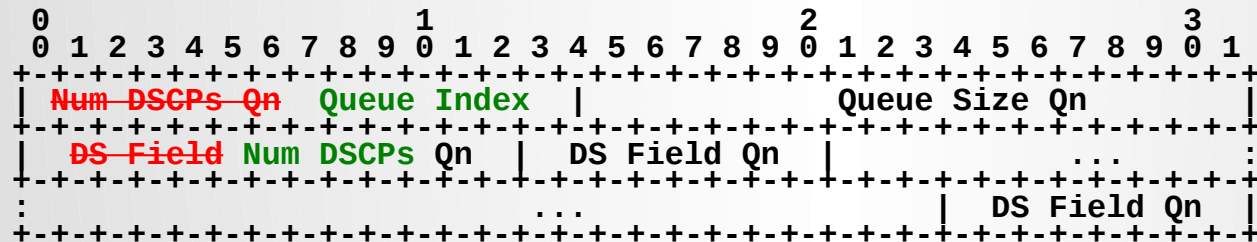
LC Change: Pause

- Sub Data Items are now **unordered**
 - Parallels Data Items
 - Change based on implementation experience

The format of the Queue Parameter Sub Data Item is:



and Value has the format:



- Also clarified that sub data item types are scoped per data item
 - This is just a clarification, not a technical change

Credit Based Flow Control DLEP Extensions Update

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Based on Last Meeting

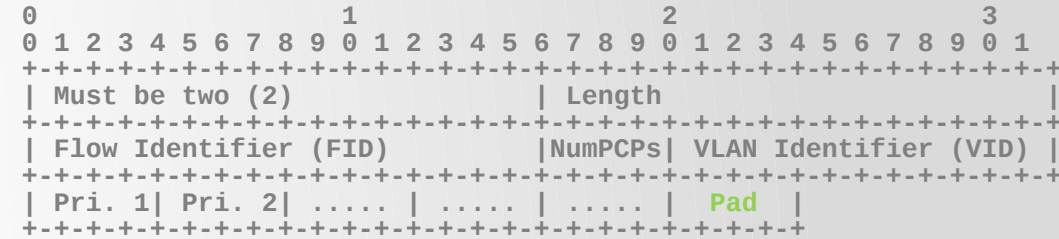
- DLEP DiffServ Aware Credit Window Extension refactored
 - *Non technical changes*
 - IETF 101 version – [draft-ietf-manet-dlep-da-credit-extension-04](#)
- Moved to common document – [draft-ietf-manet-dlep-credit-flow-control-02](#)
 - Traffic Classification Data Item
 - DiffServ Traffic Classification Sub Data Item
 - Ethernet Traffic Classification Sub Data Item
 - Credit Window Control
 - Messages: Credit Control, Credit Control Response
 - Credit Window Data Items: Initialization, Associate, Grant, Status, Request
- In separate documents
 - Using common credit window control and traffic classification data item
 - DiffServ Aware Credit Window Extension – [draft-ietf-manet-dlep-da-credit-extension-05](#)
 - IEEE 802.1Q Aware Credit Window Extension – [draft-berger-manet-dlep-ether-credit-extension-00](#)

Technical Changes

- Ethernet Traffic Classification Sub Data Item

- Fixed typos and variable length definition

- Including 4 bit pad



- Clarified sub data item value scope the data item

- Impacted IANA section

- DLEP **Traffic Classification** Sub Data Item Registry

- Requested IANA Extension Types

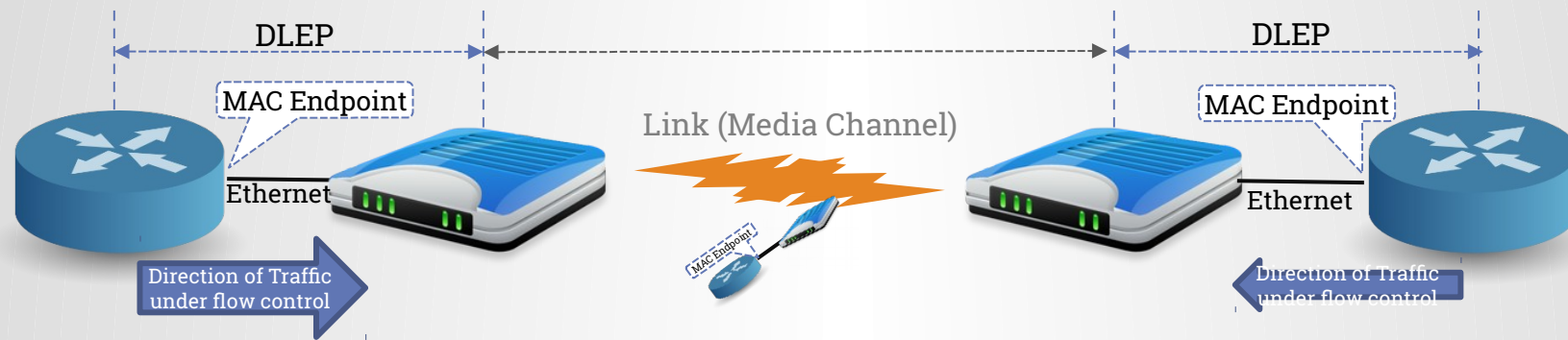
- TBA: DiffServ Aware Credit Window

- TBA: IEEE 802.1Q Aware Credit Window

Next Steps

- Confirm current split
 - Any comments?
 - Adopt IEEE 802.1Q Aware Credit Window Extension draft
 - [draft-berger-manet-dlep-ether-credit-extension-00](#)
 - Which working group?
 - Any support/objections?
 - More feedback
 - Based on review / implementation
 - Timing of LC?
-
- If interested in RFC8175 ...
 - MIT-LL DLEP code published on github
 - DLEP stack code: <https://github.com/mit-ll/LL-DLEP>
 - Wireshark Dissector Plugin:
<https://github.com/mit-ll/dlep-wireshark-dissector>

Control Plane Based Flow Control



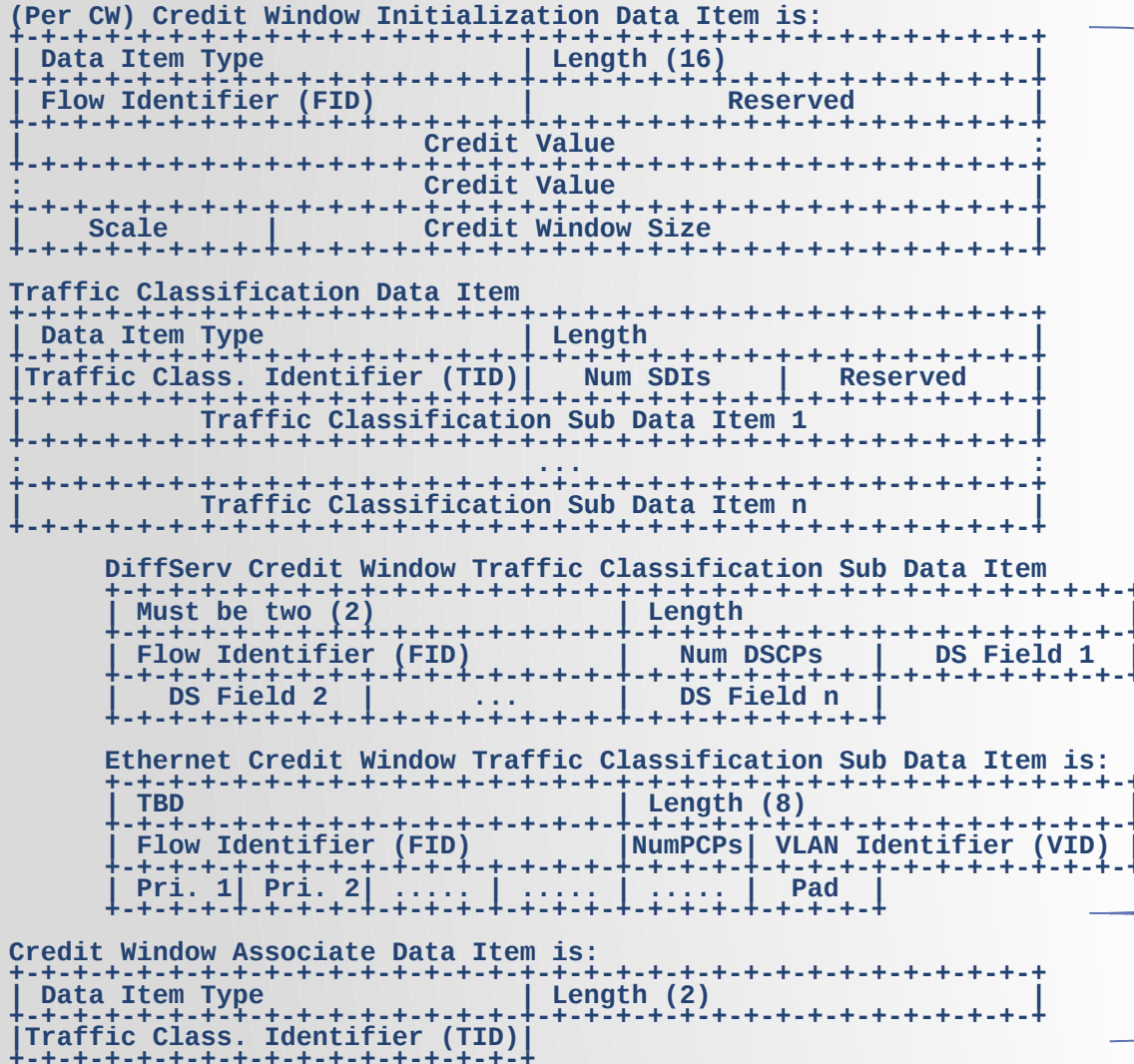
[draft-ietf-manet-dlep-pause-extension](#)

- A simple flow control mechanism
 - Useful when a simple control plane “xon/xoff” capability is good enough
- Modem can send DLEP messages to pause and restart traffic
- May be device wide or per destination
 - To match different link technologies
 - May be DSCP specific
 - For modems with multiple queues
 - Somewhat equivalent to Ethernet PFC, but without C-Tags (VLANs) and flow control is per destination

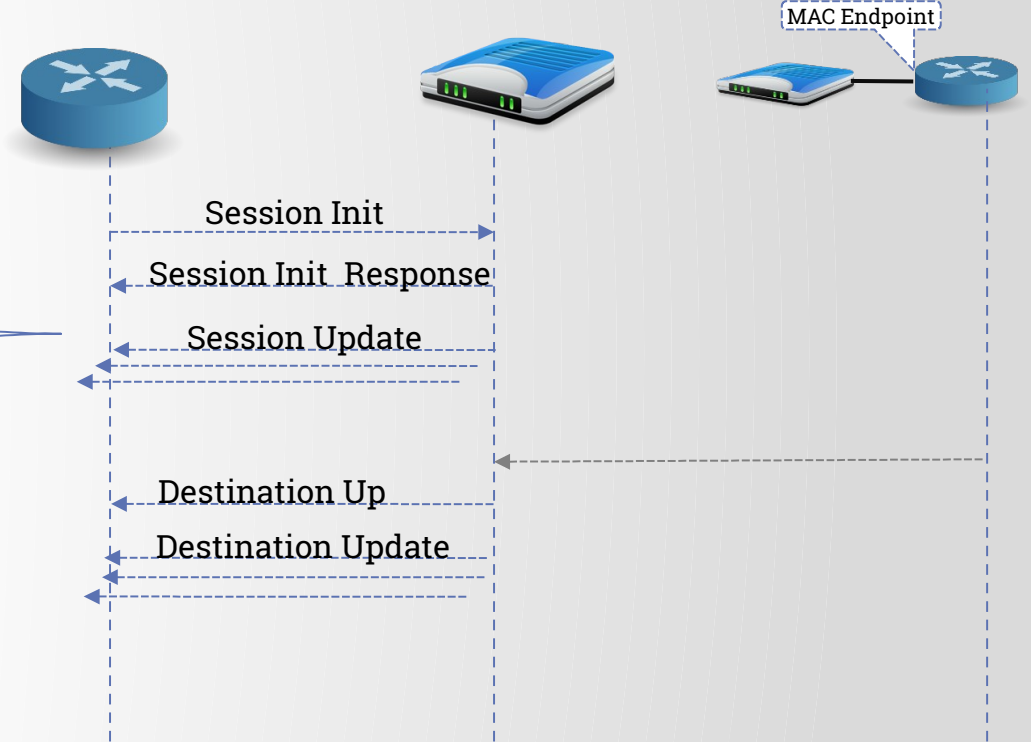
[draft-ietf-manet-dlep-da-credit-extension](#)

- Credit-window flow control
 - More sophisticated flow control, for a wide range of applications
- Modem send initial size and credit grants, routers only send traffic when have credits
- Credit Windows are device wide
 - May be shared across destinations or per destination to match different link technologies
 - Each window maps to a modem logical transmit queue
 - May be DSCP specific

Background: Current Operation



Simplified DLEP messaging



Destination messages