IETF 113 MANET WG

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HUAWEI

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MANET WG

- Chairs:
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Session Agenda

1. Chairs' Introduction (10 min)
- Note Well, etc.
- Document status
- Errata status

2. Discussion on TSV Area Early Review feedback on credit-based flow control DLEP extension I-Ds (20 min) (Lou Berger + chairs)
- Suggested merging of draft-ietf-manet-dlep-da-credit-extension and draft-ietf-manet-dlep-traffic-classification
- Impact on draft-ietf-manet-dlep-ether-credit-extension

3. WG adoption of draft-rogge-manet-dlep-radio-band (10 min)
- discussion on other PHY-related drafts as needed

4. Future work (10 min)

5. Implementation: Using S-MPR in *nrlsmf* in conjunction with *olsrd2* (10 min) (Ronald in 't Velt)

Document status

In TSV ART early review, considering David Black's comments (next on this session's agenda)
- draft-ietf-manet-dlep-credit-flow-control
- draft-ietf-manet-dlep-da-credit-extension
- draft-ietf-manet-dlep-traffic-classification

Post WGLC, next step contingent on outcome of TSV ART review discussion
- draft-ietf-manet-dlep-ether-credit-extension

In WG Adoption Call (until March 25!), PLEASE comment!
- draft-rogge-manet-dlep-radio-band

Needing more ML discussion
- draft-rogge-manet-dlep-channel-utilization
- draft-rogge-manet-dlep-radio-quality

2. Credit-based flow control – discussion on TSV ART early review feedback

- -dlep-credit-flow-control, -dlep-da-credit-extension, -dlep-traffic-classification submitted to TSV ART for early review; -dlep-ether-credit-extension was still in the WG at the time
- Feedback from reviewer David Black received end of November 2021
- Most comments addressed by Lou Berger, reflected in new versions of these I-Ds
- However, David Black "strongly suggests" to merge –dlep-da-credit-extension and –dlep-traffic-classification, arguing: 1) the former is a very short document, 2) this would make things clearer for implementers
- Lou Berger defers to the WG on this
- WG needs to decide on a way forward
- If David Black's suggestion is followed, then what do we do with –dlep-ether-credit-extension? It has an identical dependency on –dlep-traffic-classification as –dlep-da-credit-extension. Should we therefore split –dlep-traffic-classification into a DiffServe part and a 802.1Q part?

DLEP Extensions Update

Lou Berger lberger@labn.net

Summary

- Very old documents, first presented at IETF 97 (Nov 13, 2016!)
    1. draft-ietf-manet-dlep-credit-flow-control
    2. draft-ietf-manet-dlep-traffic-classification
    3. draft-ietf-manet-dlep-da-credit-extension

    1st last call started March 2019
    Marked in datatracker
    as WG consensus

    4. draft-ietf-manet-dlep-ether-credit-extension

    Last call started November 2021

- From the list
    o Why so many documents:
        - Current document structure was set based on discussions IETF 101 and 102
    o Other detailed comments, addressed on list, document updated
        - Manly editorial, one technical change
            If a packet matches both a DSCP Field value and a Priority Field value, the DSCP associated TID MUST take precedence.
- Other questions?

From IETF 102: Based on Last Meeting

Some History

- 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

Presented at IETF103

- Now in separate documents
  - Credit Window Control — draft-ietf-manet-dlep-credit-flow-control-03
    - Messages: Credit Control, Credit Control Response
    - Credit Window Data Items: Initialization, Associate, Grant, Status, Request
    - Stan (re) added as co-author
  - Traffic Classification Data Item — draft-ietf-manet-dlep-traffic-classification-00
    - DiffServ Traffic Classification Sub Data Item
    - Ethernet Traffic Classification Sub Data Item
  - No technical changes
- Other documents updated to reflect split
  - *No technical changes*
  - Use common credit window control and traffic classification data item
  - DiffServ Aware Credit Window Extension — draft-ietf-manet-dlep-da-credit-extension-06
  - IEEE 802.1Q Aware Credit Window Extension — draft-berger-manet-dlep-ether-credit-extension-01

3. WG adoption of draft-rogge-manet-dlep-radio-band

- Under WG Adoption call since March 11, until March 25
- Seemed to be the "least contentious" of three PHY-related DLEP extension drafts by Henning Rogge
- Some discussion on ML ongoing on when 'Frequency' is meaningfulc
- Please chime in! Make your opinion and comments heard.
- Discussion on the other two I-Ds to be restarted soon.

4. Future Work

- Near future (?)
  - ✓ OLSRv2 router restart recommendations
  - ✓ DLEP clarifications & Lessons Learned I-D ➔ Proponents don't have the cycles currently; looking for volunteers!

- Non-DLEP charter items
  - ✓ Multicast ➔No point in trying to beat proprietary (sub-IP layer) solutions?
  - ✓ Management ➔ DTN Network Management presentation at IETF-112, no follow-up as yet

- Non-charter items
  - ✓ Federation of heterogeneous MANETs ➔ Routing overlay; unicast and multicast
 - ✓ Routing over inter-satellite links??????

- A simple program, called DAF (Deutsch-Amerikanische Freundschaft) enables this
- Looking to open-source it
- On the other hand, it is so simple that it can easily be reconstructed

How it works, in a nutshell

- Unicast routing protocol OLSRv2 needs an efficient way to dissiminate Topology Control messages throughout the MANET
- Each node running OLSRv2 selects among its 1-hop neighbours a set of Flooding Multi-Point Relays (MPRs), such that through these, all 2-hop neighbours can be reached
- Nodes signal to their 1-hop neighbours whether or not they have selected them as one of their Flooding MPRs
- SMF, a multicast forwarding mechanism, can leverage the MPR structure to effectuate Relay Set Reduction, when running alongside OLSRv2 on a node
- The Relay Set Reduction algorithm, known as S-MPR, is described in Appendix B of RFC 6621 (Simplified Multicast Forwarding) ➔only forward a multicast packet if the source of the previous hop is an MPR selector of this node
- DAF is the 'glue' that makes the Flooding MPR selector information from OLSRV2 implementation *olsrd2* available to SMF implementation *nrlsmf*

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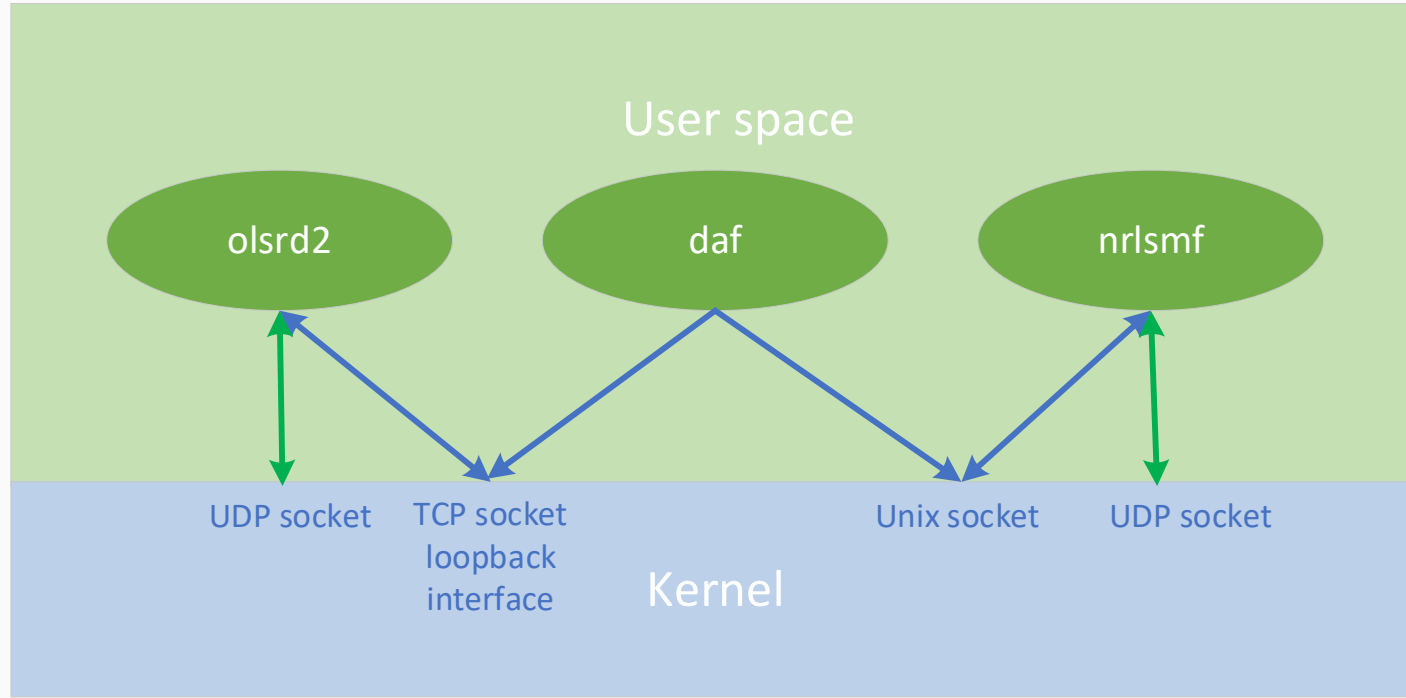
Logging information from olsrd2

```
# response set 164
00:0c:29:dd:02:13 true symmetric
00:0c:29:93:02:0a true symmetric
00:0c:29:c0:02:01 true symmetric
00:0c:29:60:02:14 true symmetric
00:0c:29:23:02:0b true symmetric
00:0c:29:77:02:0c true symmetric
00:0c:29:a3:02:15 true symmetric
00:0c:29:fe:02:03 true symmetric
00:0c:29:ad:02:16 true symmetric
00:0c:29:7e:02:0d true symmetric
00:0c:29:02:02:04 true symmetric
00:0c:29:77:02:0e true symmetric
00:0c:29:ef:02:17 true symmetric
00:0c:29:64:02:05 true symmetric
00:0c:29:ea:02:0f true symmetric
00:0c:29:56:02:18 false symmetric
00:0c:29:f4:02:10 true symmetric
00:0c:29:6a:02:06 true symmetric
00:0c:29:c8:02:07 true symmetric
00:0c:29:a7:02:11 true symmetric
00:0c:29:e2:02:08 true symmetric
00:0c:29:ab:02:12 true symmetric
00:0c:29:8a:02:09 true symmetric
00:0c:29:94:05:08 true symmetric
00:0c:29:c0:05:03 false symmetric
00:0c:29:48:05:01 true symmetric
00:0c:29:74:05:05 true symmetric
00:0c:29:da:05:02 true symmetric
00:0c:29:88:05:07 true symmetric
00:0c:29:c2:05:06 true symmetric
# summary: 30 neighbors, of which 30 symmetric, of which 28 MPR selector
```

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