ROLL Interim Meeting - 14 Oct 2019
Hosted by ROLL WG

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Webex Details:

Monday, Oct 14, 2019 8:45 am | 2 hours 15 minutes | (UTC-05:00) Eastern Time (US & Canada)
Meeting number: 319 527 168
Password: pxT5tCu6
https://ietf.webex.com/ietf/j.php?MTID=mbf22e8e09dfa7a79eccc8646e17153ec

Join by phone
1-650-479-3208 Call-in toll number (US/Canada)
Access code: 319 527 168

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Etherpad: https://etherpad.ietf.org/p/roll-interim-virtual-meeting-20191014

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Agenda:

0) Agenda Bashing
1) Note Well https://www.ietf.org/about/note-well/
2) Discuss about: draft-ietf-roll-mopex-cap-00 Mode of Operation extension and Capabilities
- Configuration Option Structure
- Cap unaware 6LR
- Capabilities Option structure and semantics
4) AOB

ROLL Interim - 14th Oct 2019

Discussion Points:

1. Configuration Option Structure

2. Cap unaware 6LR

3. Capabilities Option structure and semantics

Configuration Option freshness

- How to elide?
  - Use counter in Reserved low-4b
  - Lollipop counter
    - Using just 4b might be an issue?
  - Which doc should this go in?

- What should this counter be called?
  - SET (Static info Eliding counTer)
  - Wanted to call it SEAL but could not think of an appropriate full-form

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| RPLInstanceID |Version Number |             Rank              |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|G|0| MOP | Prf |     DTSN      |    Flags      |   Reserved    |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                                                               |
+                                                               +
|                                                               |
+                            DODAGID                            +
|                                                               |
+                                                               +
|                                                               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|   Option(s)...
+-+-+-+-+-+-+-+-+
```
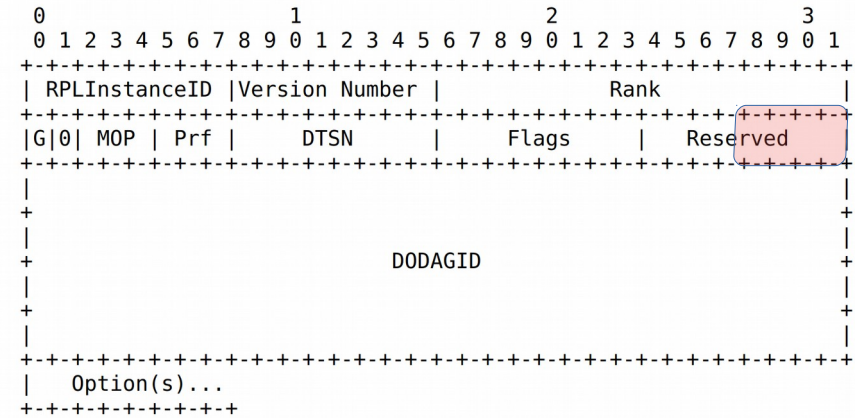
Figure 14: The DIO Base Object

SET counter applicability

- Elide what?
  - Configuration Option
  - Future { Cap Option, MOPex }
  - What else?
    - Prefix Information Option and other options which rarely change
- It is not a problem if different nodes elide different options
  - Since a query will still reveal the complete set of info regardless of what is elided
- Only the root is allowed to change the counter

Capability Option syntax

- Current draft considers CAPs as sequence of bits, but we are moving towards TLV format

- CAP bits
  - Join as router/leaf if cap not understood
  - Copy to children
    - Why do we need such flag? Individual cap spec should define whether the node should copy or not.
  - CAP Info (optional), provides ext info for the CAP

Capability option syntax

```
0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|    Type = TODO | CAP TLVs..
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+


0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|    CAPType      |J|C|I|. . . . .| CAPInfo(Opt)
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
J = Join only as leaf if CAP not understood
C = Copy cap to children
I = Cap Info present


0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|    CAPLen      | Cap Info(format decided by individual cap spec)
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
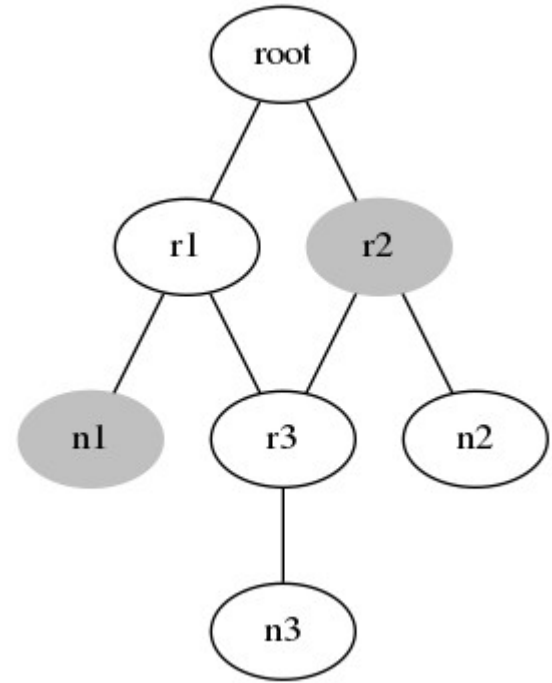
**Optional, present
only if I-bit set**

CAP unaware nodes

- CAP unaware node would strip-off the CAP option

- Thus a mandatory CAP may be ignored

- How to handle it?

  – Should we let CAP be used with only newer MOPs?

Other Points

- Where to carry capabilities?
  - Last time we discussed using new messages!
  - Shall we allow the node to proactively update the capability set?
  - If caps are used for parent selection, then it will result in additional messaging post parent selection.