

# **RPL-Observations**

**- Rahul (IETF 107)**

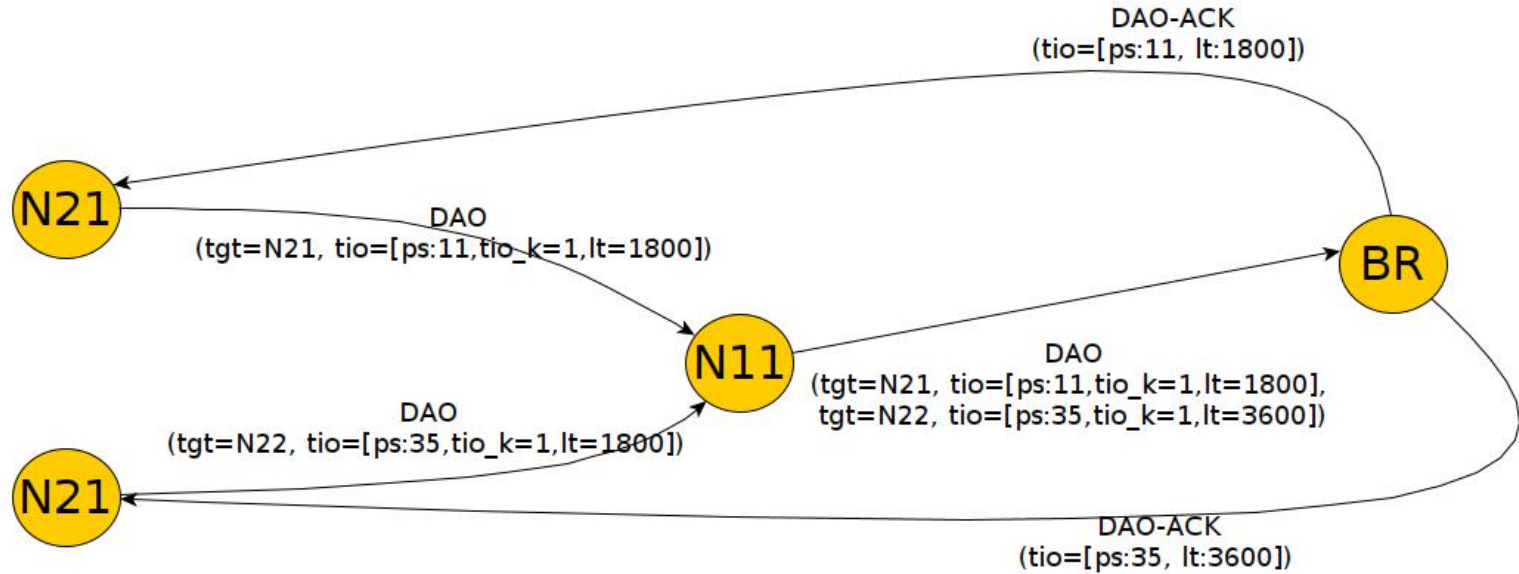
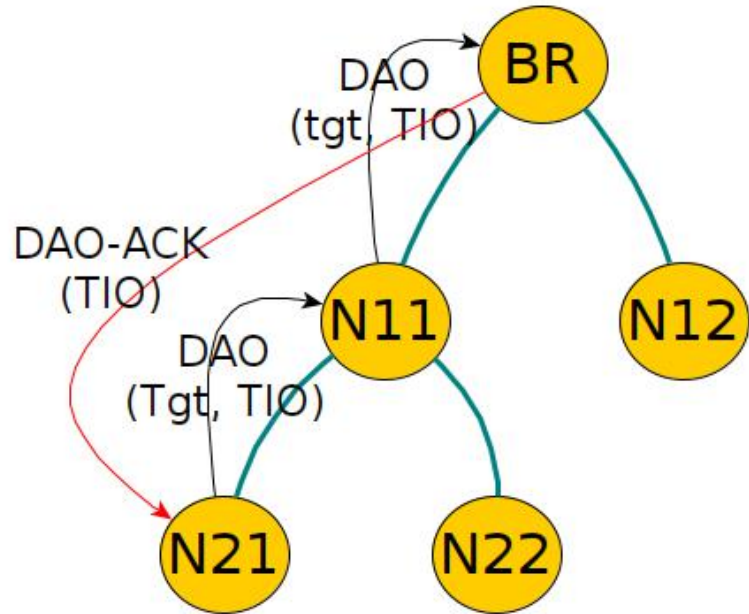
# Updates

- Added clarification with respect to “Trickle timer reset”
- Backward Compatibility issues with new RPL Control Options

# DAO-ACK handling

- Briefly the problem
  - DAO-ACK is local in case of storing MOP
  - Target not aware of E2E path establishment
  - If a intermediate-6LR returns -ve DAO-ACK status, target is not informed of it.

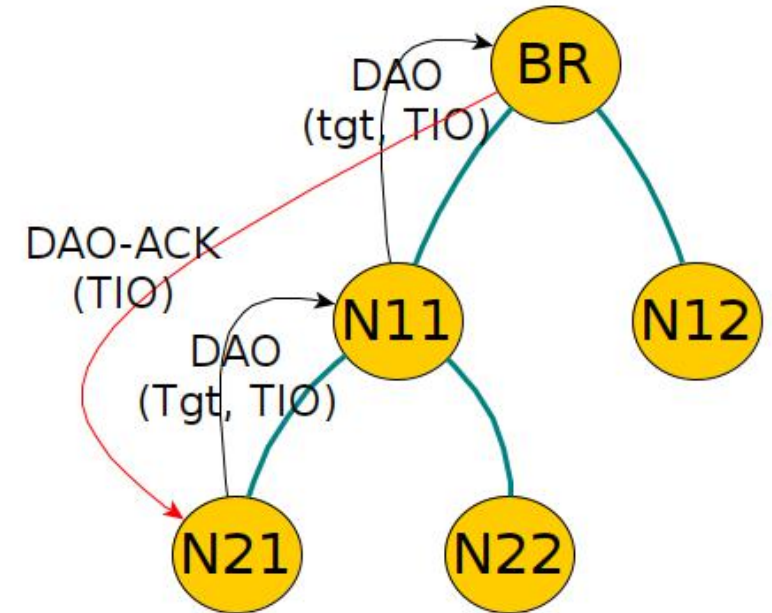
# Proposition (draft-jadhav-roll-storing-rootack)



TIO = Transit Information Option

# Proposition (draft-jadhav-roll-storing-rootack)

- Root sends the DAO-ACK back “directly” to target
  - *Target sets a flag in TIO to indicate Root to do this.*
- Address of target in Target Option
- Root sends TIO option in DAO-ACK
  - TIO needed for PathSequence
  - Overall, just 1-bit change in TIO



```

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 = 0x06 | Option Length |E|K|  Flags      | Path Control  |
+-+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
| Path Sequence | Path Lifetime |                               |
+-+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
    
```

TIO = Transit Information Option

## **Following points are considered**

- Handling Target aggregation in DAO
- Handling multiple DAOs in progress with different PathSequence
- Handling prefixes in Target Option
  - How would a root know the Target address when the Target Option contains prefix?
- What happens if a intermediate-6LR sends a -ve status in DAO-ACK?
- Handling multiple preferred parents
- Runtime memory efficiency
- Incremental update possible: Root and subset of nodes can be upgraded.

# Next Steps

- What's the plan?
  - DAO-ACK ... New draft in progress
- Not sure how to organize
  - DTSN handling ... best practices draft?
  - Path control bits, lollipop counters (seq-window size recommendations, restart handling, worst case scenarios)
  - Should we extend the current observations draft itself?
  - Or a new draft with all combined?