

Backward Compatible

New Options

- ROLL Interim (25th May 2020)

What is the problem currently?

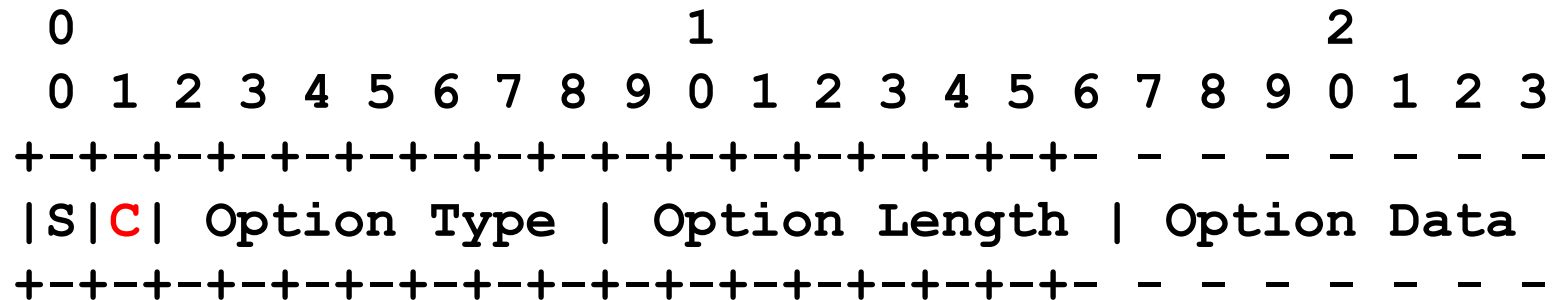
- (Almost every) New RPL extension requires sending new RPL Control Option
- Node which does not understand this new option may strip it off
 - Node may or may not strip, RFC 6550 does not explicitly state the handling
- Example
 - Enrollment Priority
 - Min priority field needs to be copied downstream even if not understood by node
 - Eliding-RPL-Info, AOO Option
 - Does not depend on copying the option downstream
 - However needs to explicitly strip off the option if not understood

Expectation

- There should be a way for the node to
 - Copy the option forward even though it doesn't understand
 - Or Explicitly Drop the option (not message) if it doesn't understand
 - This is what "may" happen currently
- There are more possibilities (just like cap flags)
 - Drop/Discard the message if option not understood
 - Join as 6LN if option not understood:w

Proposition-1

- Use second higher order bit of Option Type to indicate ‘C’ copy-if-not-understood flag
 - First high order bit is already used as ‘Secure’ flag
- Easy to handle, no change in control overhead
 - However cannot handle anymore flags (such as Join/Discard)



Next Step

- WG to decide
- Add this to mopex draft (not cap draft)
 - Make the unknown-option-handling explicit
 - Make it mandatory for RPLv2 nodes to understand the new flag(s)