

# RPL Option for Carrying RPL Information in Data-Plan Datagrams (draft-hui-6man-rpl-option-00)

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# Background

- ROLL (Routing over Low-Power and Lossy nets)
  - RPL (“ripple”) - DV routing protocol for IPv6
- Problem:
  - How to manage control overhead with reactivity to link state changes?
- Solution:
  - Slow proactive process - allow routing inconsistencies
  - Include routing info in data-plane packets to detect inconsistencies
  - React to inconsistencies when routes are used
- ***Operate on data-plane timescales***

# IPv6 Option for RPL

- Utilize IPv6 Ho-by-Hop Option to carry RPL info
  - Data carries TLVs to-be-defined in ROLL WG
  - Data may change en-route
  - Data may be ignored by routers that do not understand
- Only included in datagrams within a RPL domain
  - RPL edge router **MUST** remove option when forwarding to outside
  - RPL edge router **MAY** add option when forwarding to inside