Background

• IETF and IRTF specify algorithms for networked node data plane
• Examples are liveliness detection, congestion control, network measurements and flowlets
• Algorithms are specified using English or flow charts
• However, research papers use P4 to describe data plane algorithms, e.g., HULA, MARPLE, Domino, TurboEPC
Details

• Draft proposes using P4, where possible, to specific algorithms
• Several P4 programs available online, e.g., flowlet, vxlan, crypto, bfp filtering, mirror packets, telemetry, DNS, SRv6, etc.
• Next revision of draft includes few more repos for P4 programs
• If algorithm uses state, use P4 register
• Timer and events are on tap to include in P4
Example

• Flowlet algorithm
  - I-D.chen-nvo3-load-balancing (LB) proposed using flowlets for LB
  - I-D includes description (section 4.1) and state machine (section 5) for LB and flowlet
  - does not discuss other tables used and sequence of table invocation

• Sections 4.1 and 5 for LB and order of table invocation is included in flowlet_switching-bmv2.p4 in open-source P4 compiler (p4c)

• The P4 program is brief is more precise than sections 4.1 and 4 of I-D.chen-nvo3-load-balancing
• Questions/Comments?

• Adopt doc as WG doc?