RAW multidomain extensions

draft-bernardos-raw-multidomain-00

IETF 115 – RAW WG

Carlos J. Bernardos
Alain Mourad

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Aim and scope

- Current scope of the WG is mostly focused on single-domain.
- There are scenarios requiring multidomain RAW:
  - Where hosts are connected to different RAW domains and they need to communicate to each other with certain reliability and/or availability guarantees.
  - E.g., in large factories where networks might be organized in domains (per production lines or building/sites).
- Goal is to explore current RAW multi-domain gaps (arch, OAM, etc) and propose solutions.
Exemplary scenario

- Two domains, each one with its own PCE
- Domains might be interconnected via multiple paths
- Multiple gaps:
  - Domains need to set up the inter-domain connectivity (this might need discovery)
  - Multi-domain paths need to be discovered
    - There is inter-PCE work
    - Inter-domain PSE coordination
Proposed extensions

1. Path compute req
   (src=node1-2, dst=node2-3, SLA)

2. Path compute req
   (src={node2-1,node2-2}, dst=node2-3)

3. Path compute resp
   (tracks2, links_quality)

4. Path compute resp
   (tracks1, tracks2, PSE={node2-1,node2-2}, {SLA1,SLA2})

5. RAW inter-domain path
   (tracks1, tracks2, {SLA1,SLA2})

6. RAW inter-domain path ACK

7. RAW OAM(flow/track, SLA)

8. RAW OAM(flow/track, metrics)
Summary and next steps

● Is there interest in this problem in the WG?
  ○ Many gaps to identify and address (e.g., OAM)
  ○ Potential new protocol work needed
  ○ Relation to DETNET
    ■ Discussion also started at DETNET WG (triggered in an interim meeting)
      ● https://datatracker.ietf.org/doc/draft-bernardos-detnet-multidomain/

● Please share your comments on the ML