RAW multidomain extensions

draft-bernardos-detnet-raw-multidomain-00

IETF 118 – DetNet WG

Carlos J. Bernardos
Alain Mourad

November 2023
Aim and scope

- Scope of the RAW WG was mostly focused on single-domain.
- There are scenarios requiring multidomain RAW/DetNet:
  - Where hosts are connected to different RAW domains and they need to communicate to each other.
  - E.g., in large factories where networks might be organized in domains (per production lines or building/sites).
- Goal is to explore 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
Some proposed extensions (example/initial work)

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,SLA1)

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

- Work presented in the RAW WG
  - Good feedback, but it was early to look on extensions

- Is there interest in working on this in the WG?
  - Potential new protocol work might be needed

- Please share your comments on the ML!
Acknowledgements

- Partially funded by 6G-DATADRIVEN project