Overlay Networks - Path Computation Approaches

draft-bardalai-ccamp-overlay-path-comp-02

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Problem Statement

- Overlay networks don’t have visibility to server network topology to perform E2E TE path computation
- Existing solutions are signaling based
  - RFC 4208 – server/core node selects the path
  - RFC 4874 – additional constraints in signaling
- Existing solutions do not specify how the overlay network node (CE) determines the route/path to the destination
Applicable use cases

• Use Case #1:
  – Layer transition at server network edge

• Use Case #2:
  – Layer transition within server network
UC#1: Layer transition at server network edge (PE)

CEs do not know which PE to select to get across provider network
UC#2: Layer transition within server network (P)

Layer transition in a core node (P)

CEs do not know which PE to select to get across provider network
So, the requirements

1. Need virtual / abstract topology to represent and contain the server network, irrespective of where the layer transition occurs.
   - This allows the CE nodes to select route or path to the destination.

2. Need to be able to establish the virtual /abstract topology that meets the constraints set by the customer network requirements.
What is covered in the draft

Path computation approaches using existing methods:

1. PCE approach (RFC 4655)
2. Virtual topology approach
3. Hybrid approach
   - virtual topology and PCE combined
Comments?

Thank You