Interconnection Intents

<draft-contreras-nmrg-interconnection-intents-01>

L.M. Contreras (Telefónica)
Paolo Lucente (NTT)

NMRG meeting, November 2021

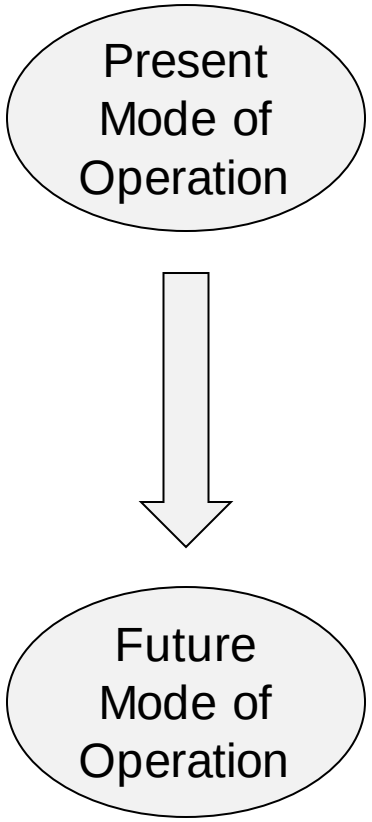
This work has been (partially) funded by the EU H2020 5GROWTH Project (grant no. 856709)

5GROWTH

Draft status

- First version presented at IETF 108 (July 2020)
- This version presents an update on the approach
  - Paolo Lucente added as co-author
- New content already identified to be included as -02 version targeting IETF 113

Motivation and objectives



- Interconnection today is conceived only as pure IP traffic interchange
- These environments are typically static, requiring long interactions for setting up any inter-provider connection
  - Manual operation of current interconnections prevents any flexibility

- Operators start deploying its own computing capabilities
  - Current model limits the capability of taking advantage of new advances like network virtualization and programmability
    - E.g., to realize composite services by combining cross-domain network, computing and storage resources
- New models for interconnecting SDN/NFV/Edge enabled networks are required
  - Automation for both the interconnection sessions and the service deployment on top of that is needed to reach the goal of flexibility
  - E.g., for deploying (or requesting) specific VNFs and service graphs (ie. SFCs)

Summary of the draft

- Target: to leverage on IBN technologies to handle enriched interconnection requests (i.e., traffic interchange and beyond)
- Scenarios of applicability:
  - Interconnection of non-public to public Networks in 5G
  - Multi-domain Network-as-a-Service requests (see e.g. sec.4.4 in RFC8568)
  - Multi-domain Network Virtualization (draft-bernardos-nmrg-multidomain-01)
- Modes of usage for interconnection intents
  - only IP traffic interconnection (i.e., traditional peering / transit)
  - service (e.g., CDNi as defined e.g. by IETF CDNI or Streaming Video Alliance)
  - VNFaaS (e.g., packet core capabilities for MVNOs), for instance leveraging on draft-ietf-teas-sf-aware-topo-model
  - Computing capabilities (for instantiating functions/containers on top), for instance leveraging on draft-llc-teas-dc-aware-topo-model
  - Any combination of the ones before
- Benefits:
  - Establish a common, normalized method among service providers for automated interconnection
  - Simple way of expressing enriched interconnection request further than pure IP traffic interchange

Next steps

- Keep developing IB capabilities for interconnection aspects
- Request comments and inputs for new versions
- Positioning this draft as one potential NMRG intent use case