Interconnection Intents

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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)

Present Mode of Operation

Future Mode of Operation
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