

Interconnection Intents

<draft-contreras-nmrg-interconnection-intents-02>

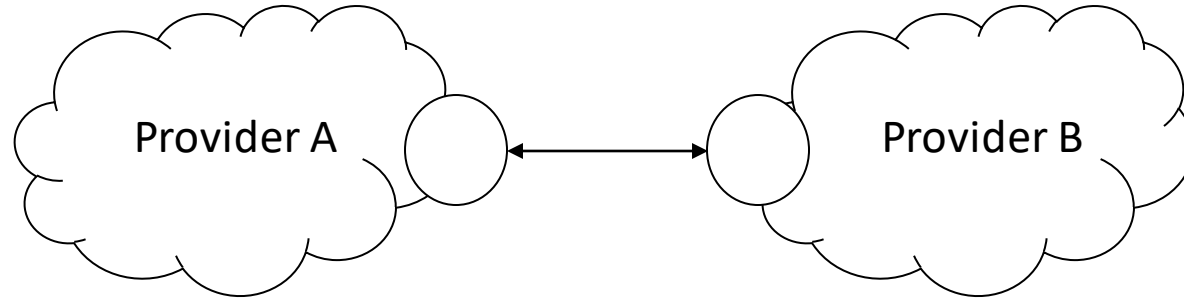
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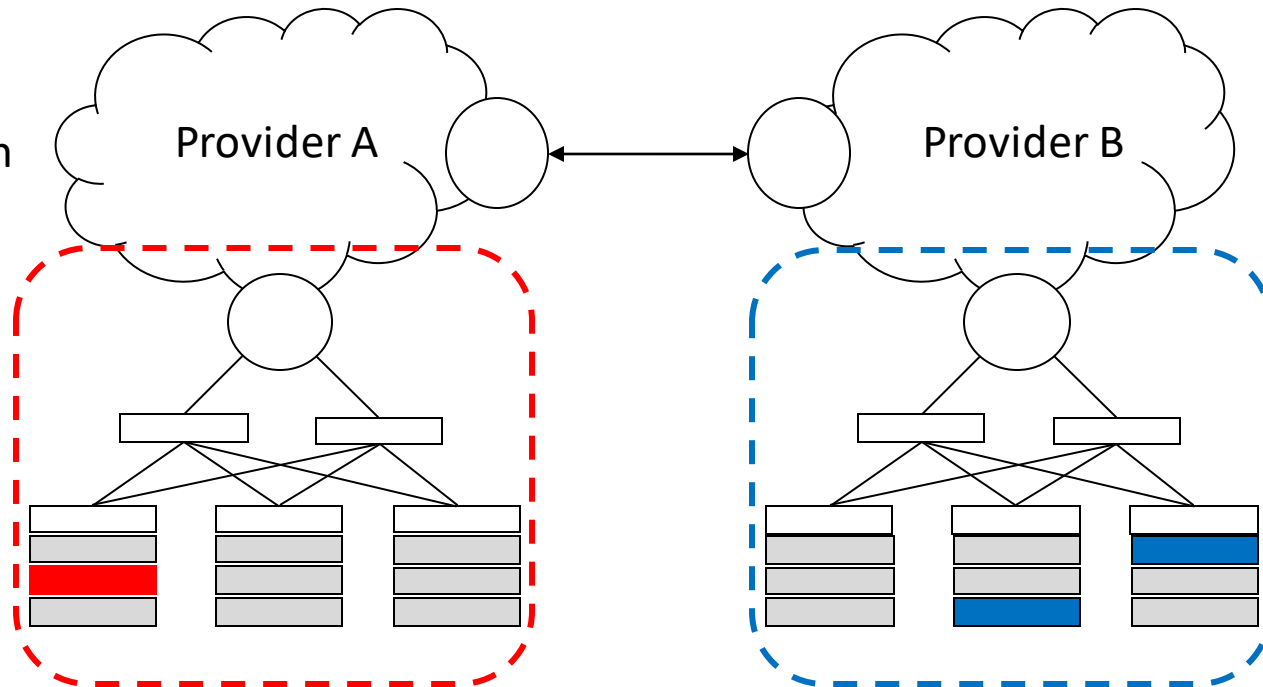
NMRG interim meeting, January 2022

Motivation and objectives

Classical Interconnection



Evolution of Interconnection



- Interconnection today is conceived only as pure IP traffic interchange
- BGP as base protocol for this (seasons advertising reachability of IP prefixes)
- New models for interconnecting SDN/NFV/Edge enabled networks are required (E.g., for deploying or requesting specific VNFs and service graphs, ie. SFCs)
- Apart from IP prefixes can be required advertisement of Service Functions and/or DATA Center capabilities

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

Moving forward the draft ideas

- Define the structure of the intent (template, data model, etc)
- Identify protocols / APIs (or lack of them) for accomplishing the different kind of interconnection types considered
 - This will help to compose the workflow of configuration / provision (i.e., order of actions, dependencies on parameters/data for each set of actions, etc)
- Complete the lifecycle with the assurance part (with similar need of identification of protocols / APIs)
- Feedback is more than welcomed!!