

Multi-domain Network Virtualization

draft-bernardos-nfvrg-multidomain-04

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Rationale

- Network Function Virtualization is now being addressed in scenarios with multiple administrative domains
 - Pure infrastructure scenario: usage of network, computing and storage resources of different administrative domains
 - More complex scenario: operation of network functions instantiated in different administrative domains
- Goal: to permit programmability, flexibility and automation, but also agile contracting of services (including VNFs)
 - Significant reduction of the time for provision when invoking and settling of services exceeding the border of a single administrative domain

Multi-domain Problem Statement

- Availability of different infrastructure environments pertaining to distinct administrative domains
 - In consequence, being operated and managed by distinct providers
- There are no established mechanisms for providing access to multi-domain environments in an standardized way
 - E.g., to facilitate portability among NFVI PoPs independently of the owner of such infrastructure
 - A solution is needed to deal with both multi-operator and (single operator) multi-domain problem

Status

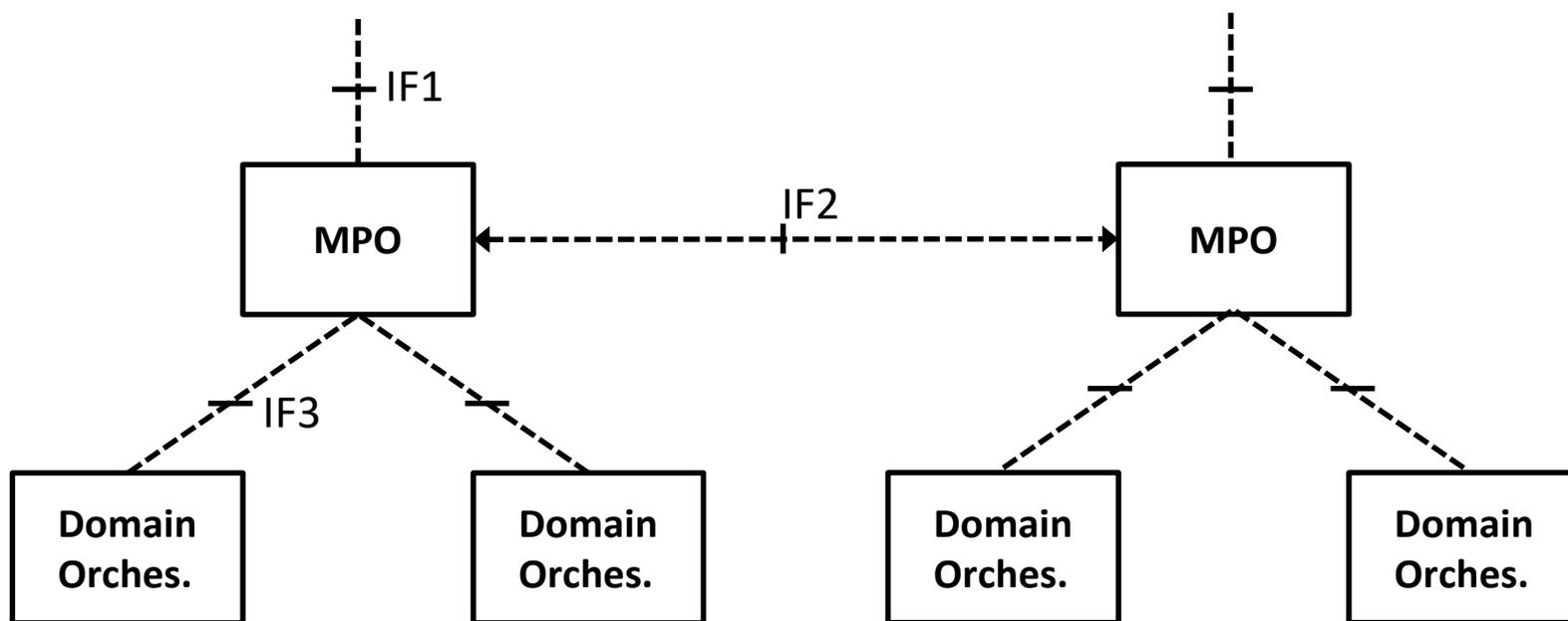
- Collaboration between 5GEx and 5G-TRANSFORMER projects established
 - Significant changes added in -04 (and more to come)

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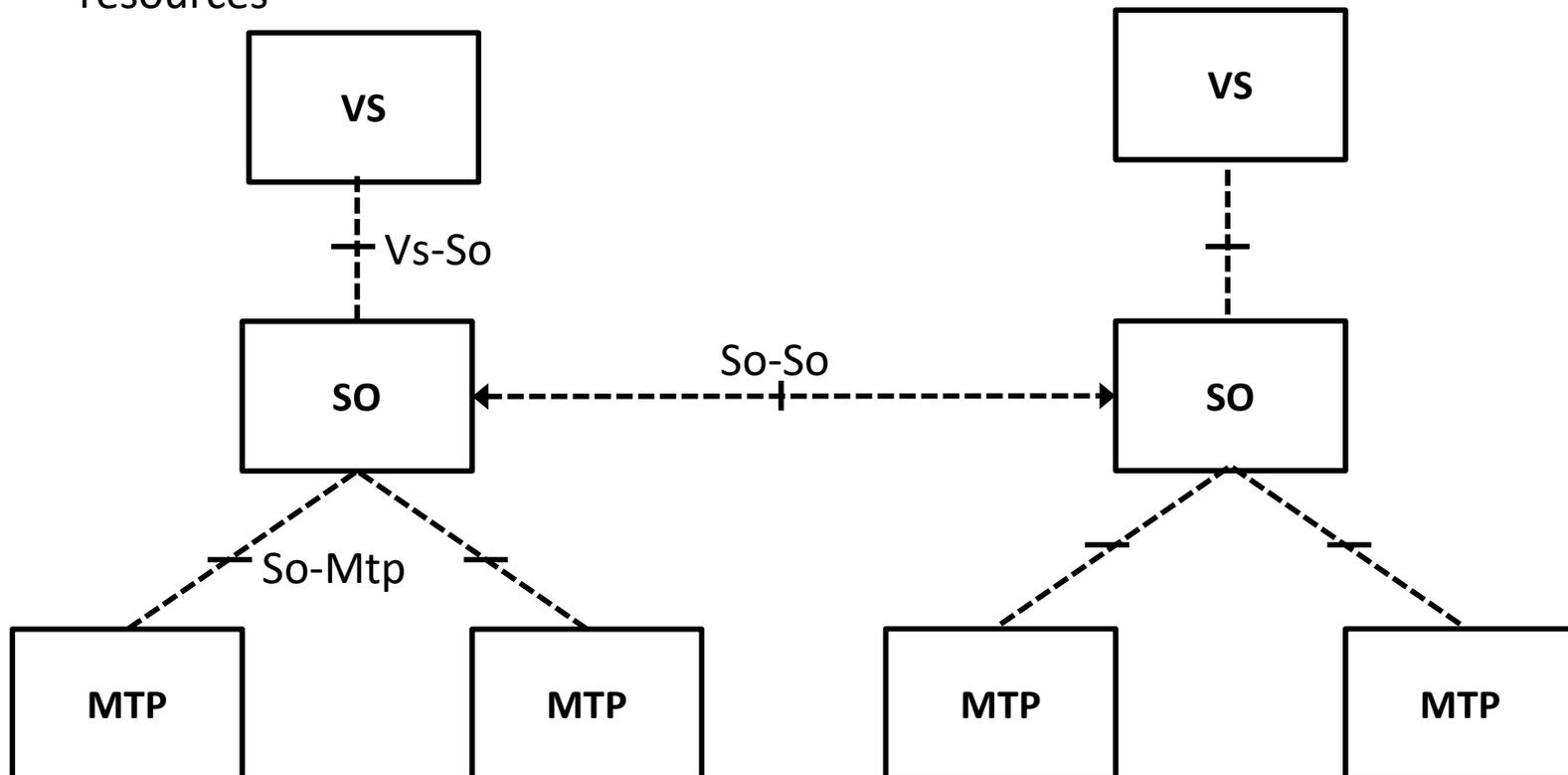
Virtualization and Control for Multi-Provider Multi-Domain (5GEx view)

- Multi-provider orchestrator (MPO) exposes 3 interfaces:
 - IF1 to the tenant
 - IF2 to other multi-provider orchestrators
 - IF3 to individual domain orchestrators



Multi-domain federation (5G-TRANSFORMER view)

- Similar approach, also adding a component facing the “verticals”:
 - Vertical Slicer (VS): common entry point for verticals
 - Service Orchestrator (SO): similar to MPO, does service and resource orchestration and federation
 - Mobile Transport and Computing Platform (MTP): provides control to underlying resources



Next steps

- Report on 5GEx architecture validation results from implementation and experimentation
- Continue evolving the architecture definition
 - Extensions from 5G-TRANSFORMER
- Gather feedback from the group
 - We believe this is an item that could be adopted

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<http://www.5gex.eu>



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