

ACTN FRAMEWORK

[HTTPS://TOOLS.IETF.ORG/ID/DRAFT-IETF-TEAS-ACTN-FRAMEWORK-06.TXT](https://tools.ietf.org/id/draft-ietf-teas-actn-framework-06.txt)

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UPDATES FOR THIS VERSION (06): TERMINOLOGY

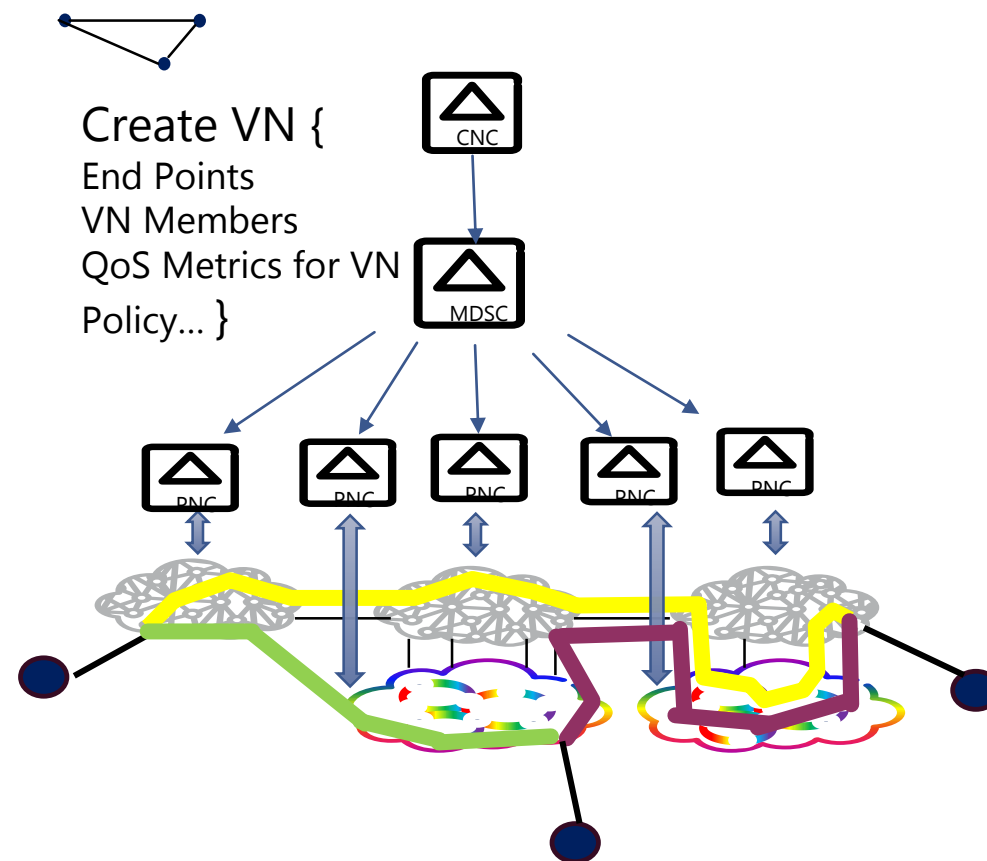
- Network Slicing (from the ACTN perspective)
- CNC
- MDSC
- VN Type

UPDATES FOR THIS VERSION (06): VNS (VIRTUAL NETWORK SERVICE)

- Added a new Section for VNS (Virtual Network Service) Virtual Network Service (VNS) is requested by the customer and negotiated with the provider. There are three types of VNS defined in this document.
 - Type 1 VNS refers to VNS in which customer is allowed to create and operate a Type 1 VN. Type 1 VN is a VN that comprises a set of end-to-end tunnels from a customer point of view, where each tunnel is referred as a VN member. With Type 1 VNS, the network operator does not need to provide additional abstract VN topology associated with the Type 1 VN.
 - Type 2a VNS refer to VNS in which customer is allowed to create and operates a Type 2 VN, but not allowed to change topology once it is configured at service configuration time. Type 2 VN is an abstract VN topology that may comprise of virtual/abstract nodes and links. The nodes in this case may include physical customer end points, border nodes, and internal nodes as well as abstracted nodes. Similarly, the links may include physical access links, inter-domain links, and intra-domain links as well as abstract links.
 - Type 2b VNS refers to VNS in which customer is allowed to create and operate a Type 2 VN and the customer is allowed to dynamically change abstract VN topology from the initially configured abstract VN topology at service configuration time.

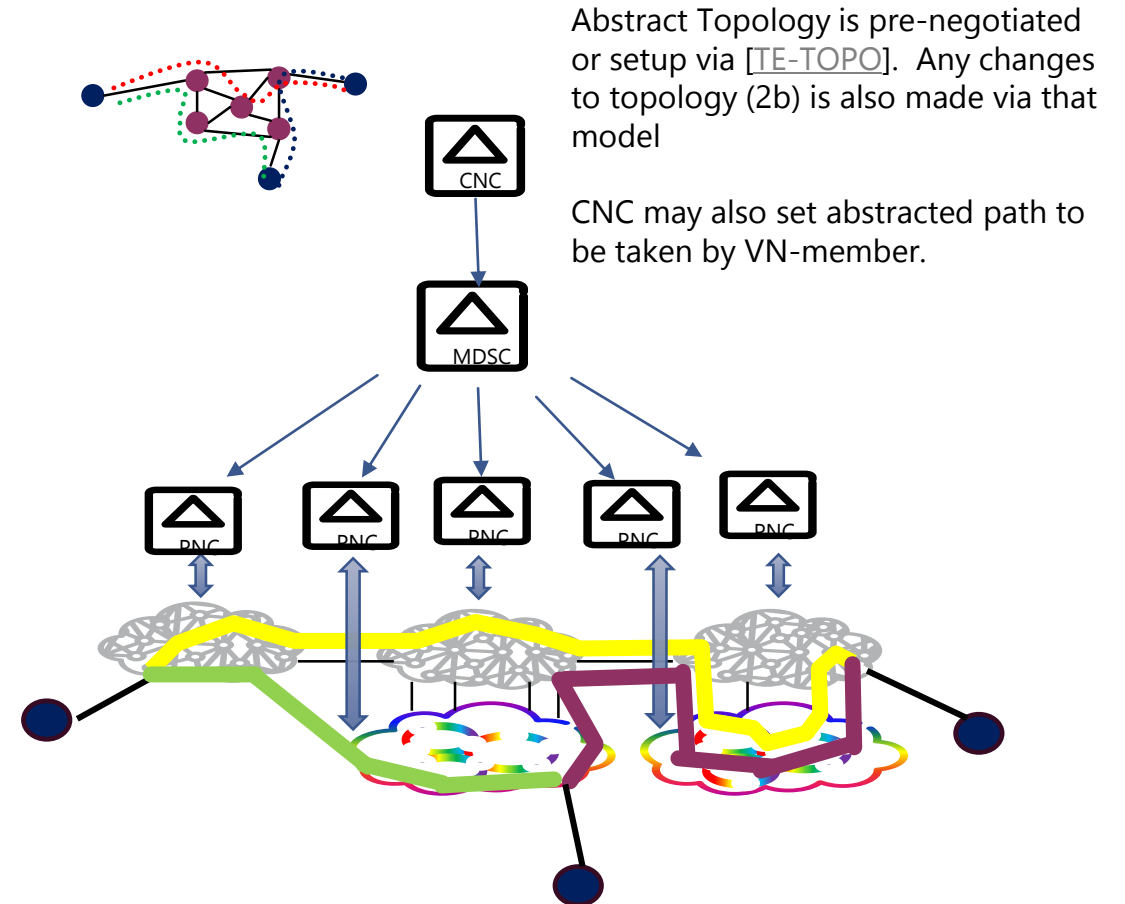
VNS/VN TYPE 1

- Customer defines a VN as a list of VN-members
- Each VN-member identifies Source and Destination AP
 - Identified by VNAP
- All constraints, policies etc. are set for VN as a whole (i.e. on all VN members)
- MDSC is responsible for translating and mapping the VN into specific network centric-models (e.g., TE-tunnels) to coordinate the multi-domain network operations with PNCs.



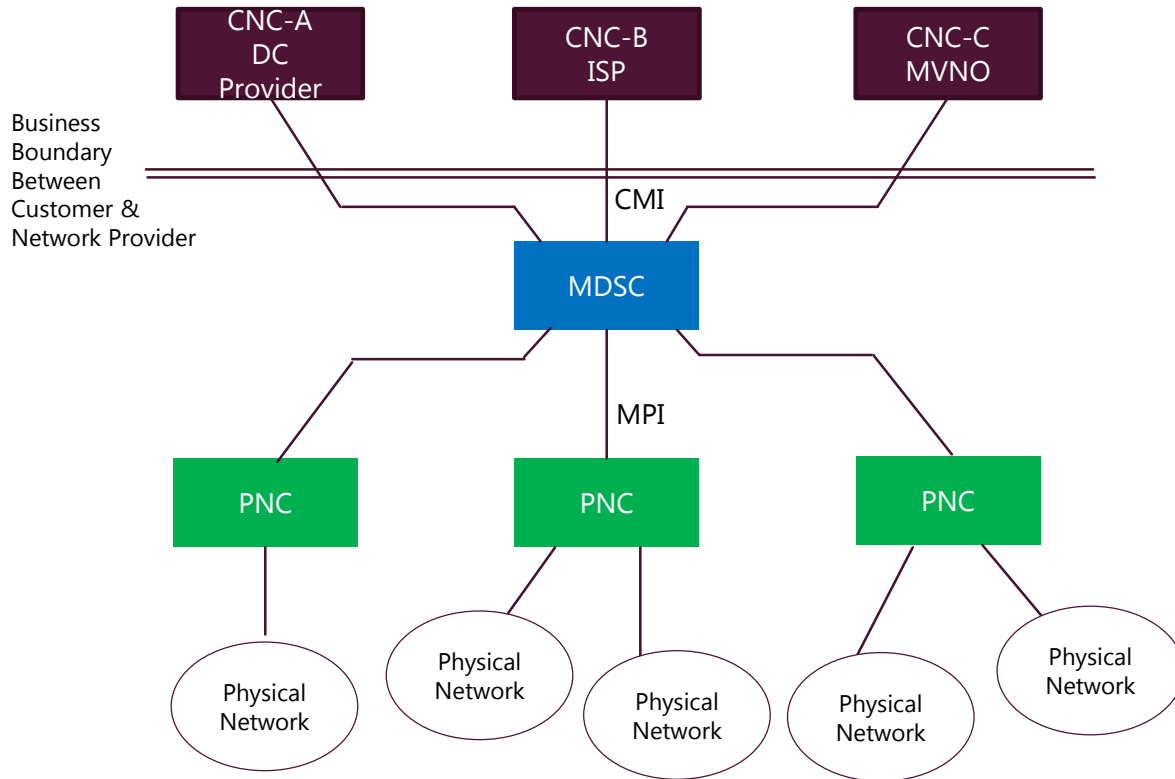
VNS/VN TYPE 2

- Allow the customer to also configure and learn a VN abstract topology via the TE topology yang model [TE-TOPO].
- A reference to the abstract topology is maintain in the VN Yang model.
- Any change in topology (Type 2b VN) would be made via [TE-TOPO].
- Using the path in VN-member in the ACTN VN yang model, CNC can also set a path based on the abstract topology. The MDSC translates the abstracted path to tunnels via [TE-Tunnel] or simpler path setup operation.
- Rest procedures are the same

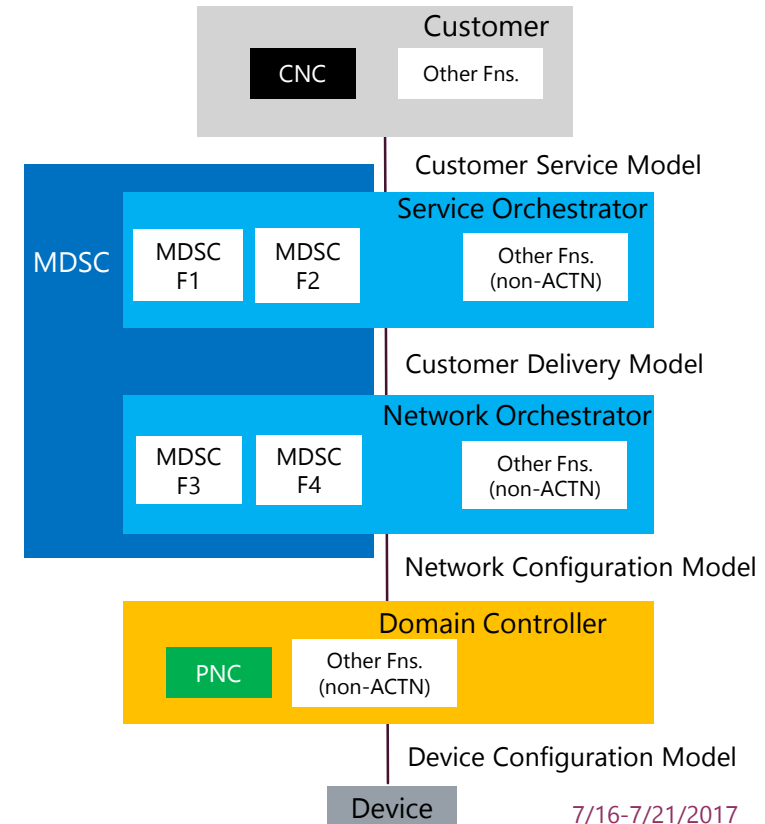


UPDATES FOR THIS VERSION (06): BASE ARCHITECTURE + ADVANCED ARCHITECTURES

Base Architecture



Functional Split of MDSC Functions in Orchestrators



UPDATES FOR THIS VERSION (06): TOPOLOGY ABSTRACTION METHOD (SECTION 6)

- New Section Added on Topology Abstraction Method.
- Imported the base definition of topology types (black, grey and white) from draft-lee-teas-actn-abstraction (per WG comment in Chicago).
- Keep draft-lee-teas-actn-abstraction as a separate document
 - Sufficient information contained in that document:
 - Factors for topology abstraction
 - How to build topology abstraction
 - Requirements and design issues

UPDATES FOR THIS VERSION (06): ADVANCED TOPICS

- Added a new Section to discuss advanced topics
 - APPENDIX A - Example of MDSC and PNC functions integrated in Service/Network Orchestrator
 - APPENDIX B - Example of IP + Optical network with L3VPN service

SUMMARY

- All pending issues/discussions have been resolved and updated.
- All network slicing related work should not depend on this document. This draft is ready to move ahead without being blocked by the discussion in netslices. Once the IETF has a stable definition of network slicing, we can return and see how ACTN is applicable to that definition and whether more work is needed in a separate draft. See <https://tools.ietf.org/html/draft-king-teas-applicability-actn-slicing-01>.
- Ready to move to WG LC!