# Framework for Abstraction and Control of Transport Networks

draft-ceccarelli-teas-actn-framework-00

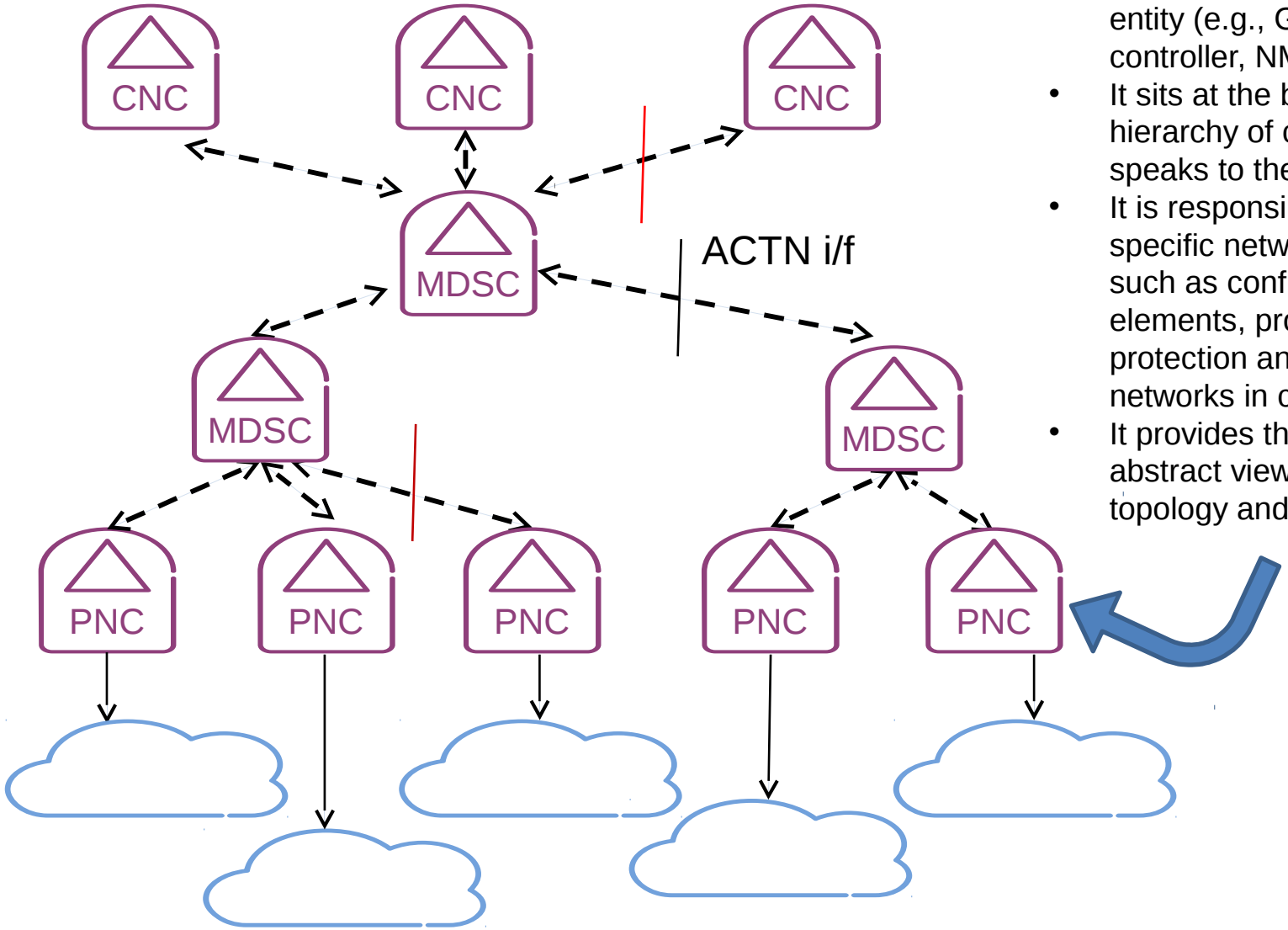
IETF 93 – Prague

Daniele Ceccarelli (Ericsson)
Young Lee (Huawei)
Daniel King (Lancaster-University)
Sergio Belotti (Alcatel-Lucent)
Luyuan Fang (Microsoft)
Dhruv Dhody (Huawei)
Diego Lopez (Telefonica)

# Draft-status

- Respin of draft-ceccarelli-actn-framework-07
  - v00 published on Jan 2014
- Requirements moved
  - To: draft-lee-teas-actn-requirements-00
- Use cases moved
  - To: draft-lee-teas-actn-requirements-00

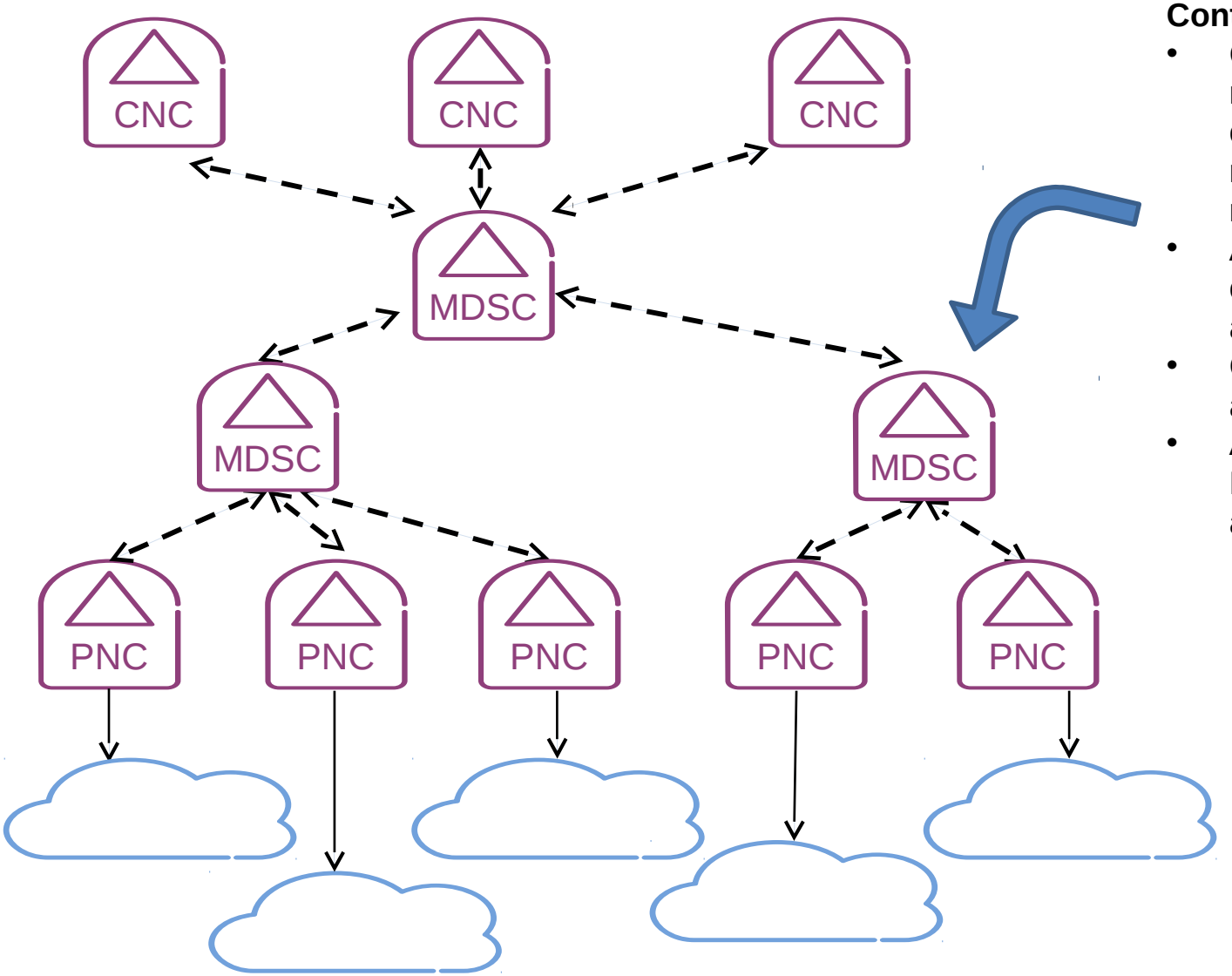
# Architecture




**PNC (Physical Network Controller)**

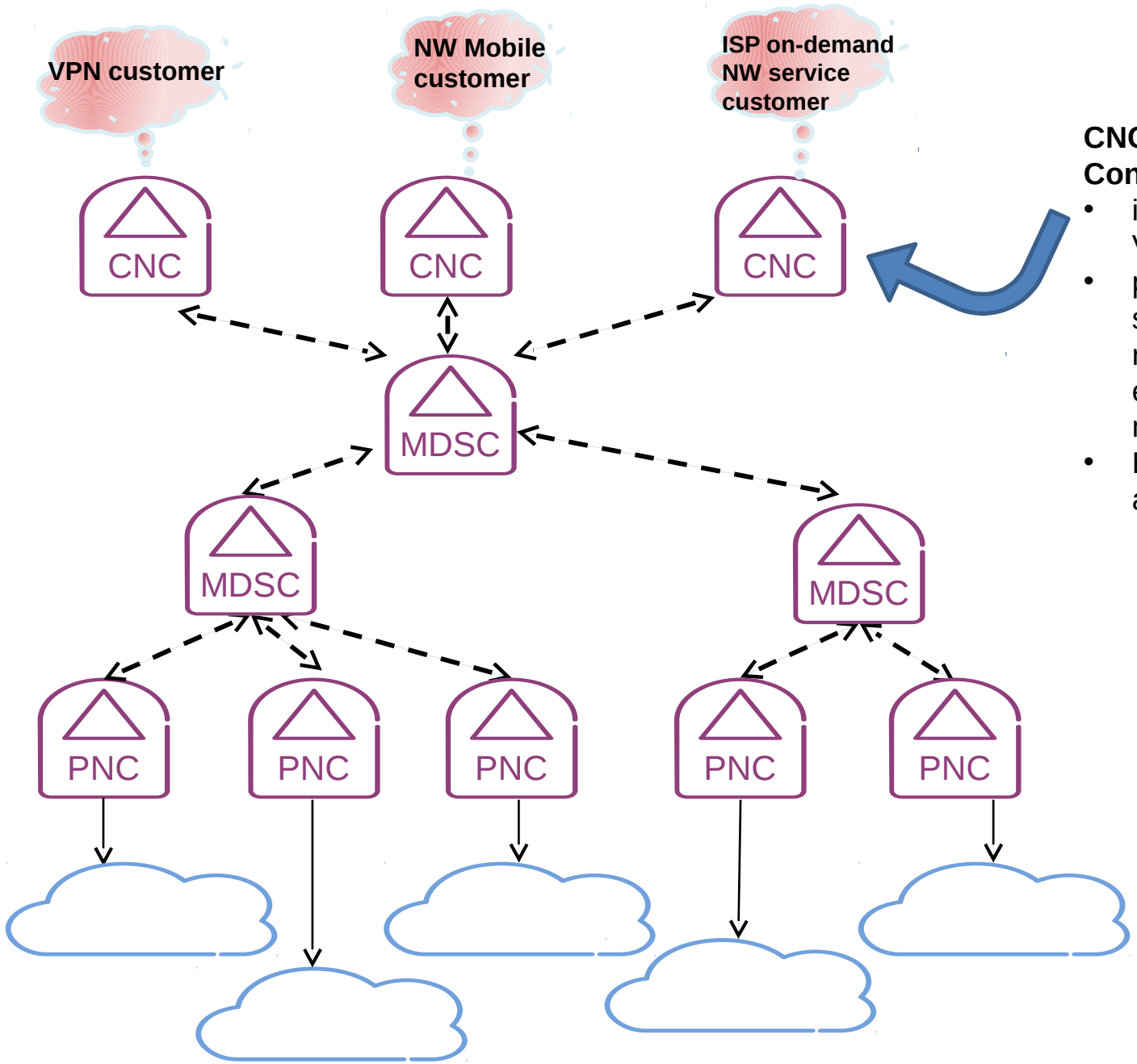
- Is a domain control/management entity (e.g., GMPLS CP, PCE, OF controller, NMS/EMS)
- It sits at the bottom of the hierarchy of controllers and directly speaks to the nodes.
- It is responsible for domain-specific network control operations such as configuring network elements, provisioning, monitoring, protection and recovery of the networks in charge.
- It provides the MDSC with an abstract view of its domain topology and services

# Architecture




**MDSC (Multi Domain Service Controller)**

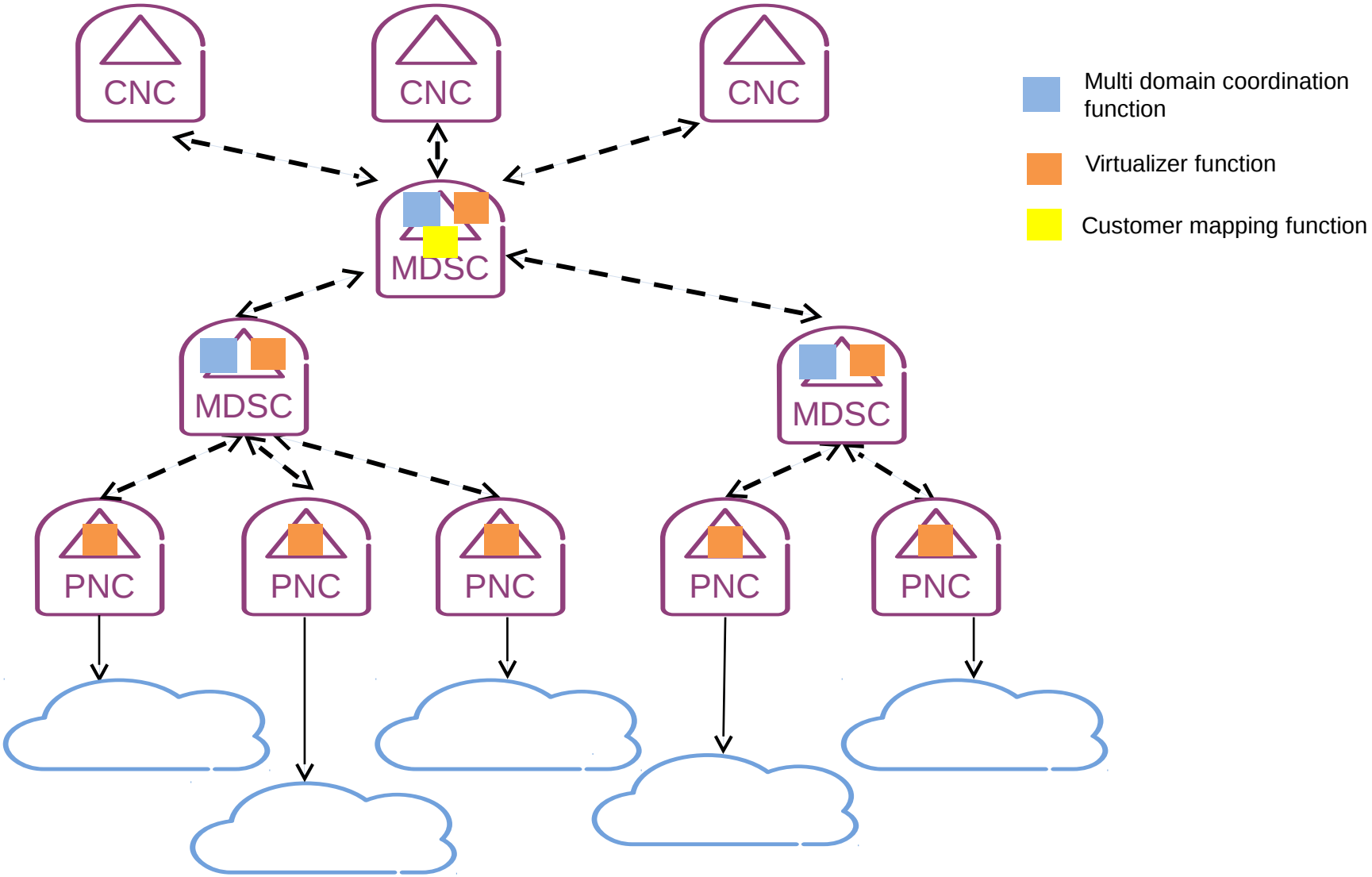
- Coordinator/orchestrator responsible for supporting customers' virtual networks creation, modification and deletion
- Allows for Multi-domain coordination/orchestration among PNCs
- Creates end-to-end paths and services
- Allows for a hierarchy of MDSCs for administrative and scalability issues.



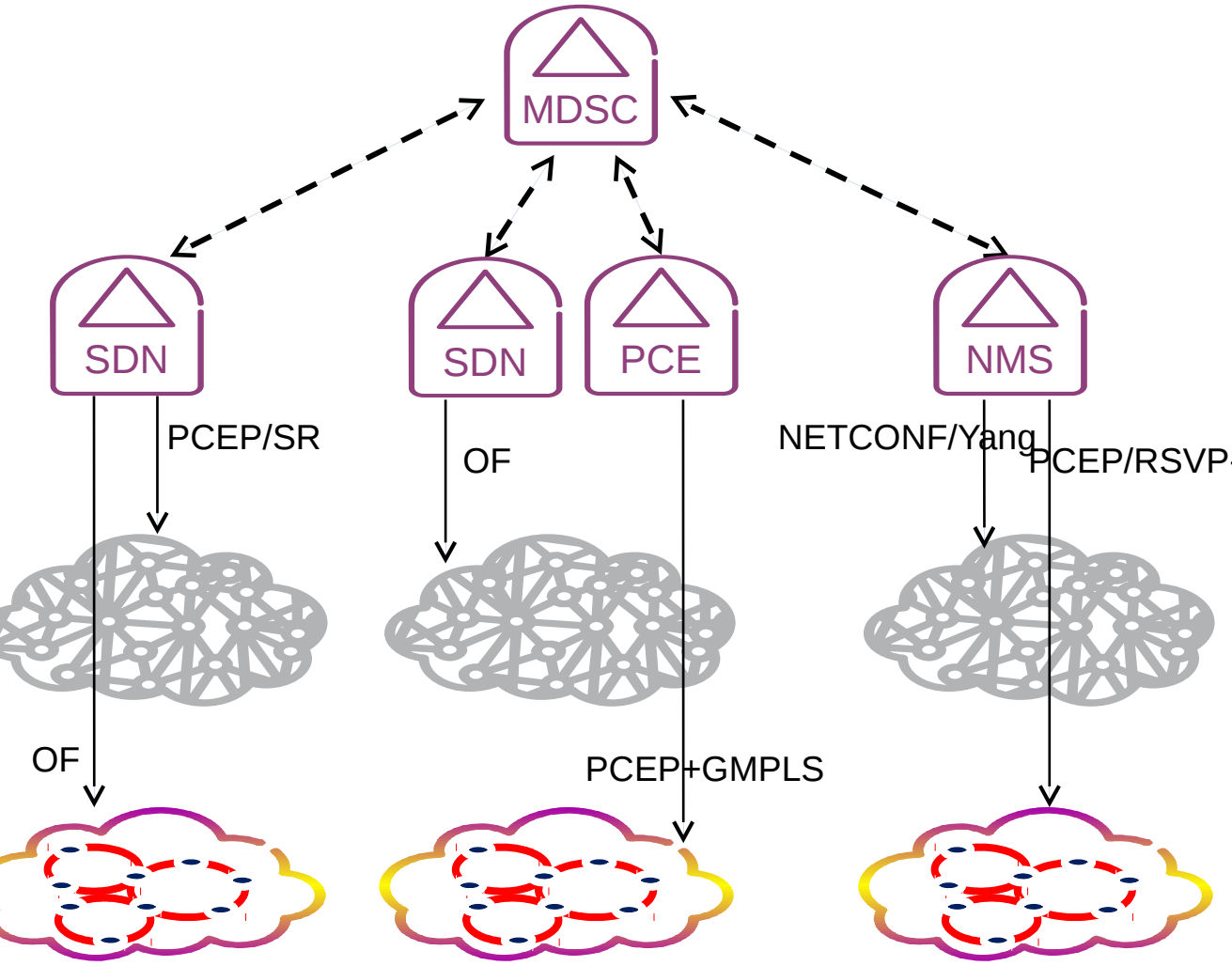

**CNC (Customer Network Controller)**

- is responsible for creating VN service instantiation
- providing service/application requirement including endpoint information to network operators.
- Examples of Customers are VPNs, MVNO, ISP, etc.

# Controllers Functionalities



# Not just SDN




- The ACTN hierarchy is suitable for non homogeneous networks
  - Different SDN control methods for packet and optical domains (e.g. SR or OF)
  - Different control methods for packet and optical SDN and non-SDN (e.g. SR, GMPLS, RSVP-TE, NMS)

# Next Steps

- IETF 92 output: TEAS is the home for ACTN FWK work
- Draft ready for WG adoption
- Keep alignment with requirements and use cases draft(s)
- ACTN work next steps:
  - Info model (TEAS?)
  - Protocols extensions (!TEAS)