Virtual CPE Deployment Considerations
(draft-pularikkal-virtual-cpe-02)
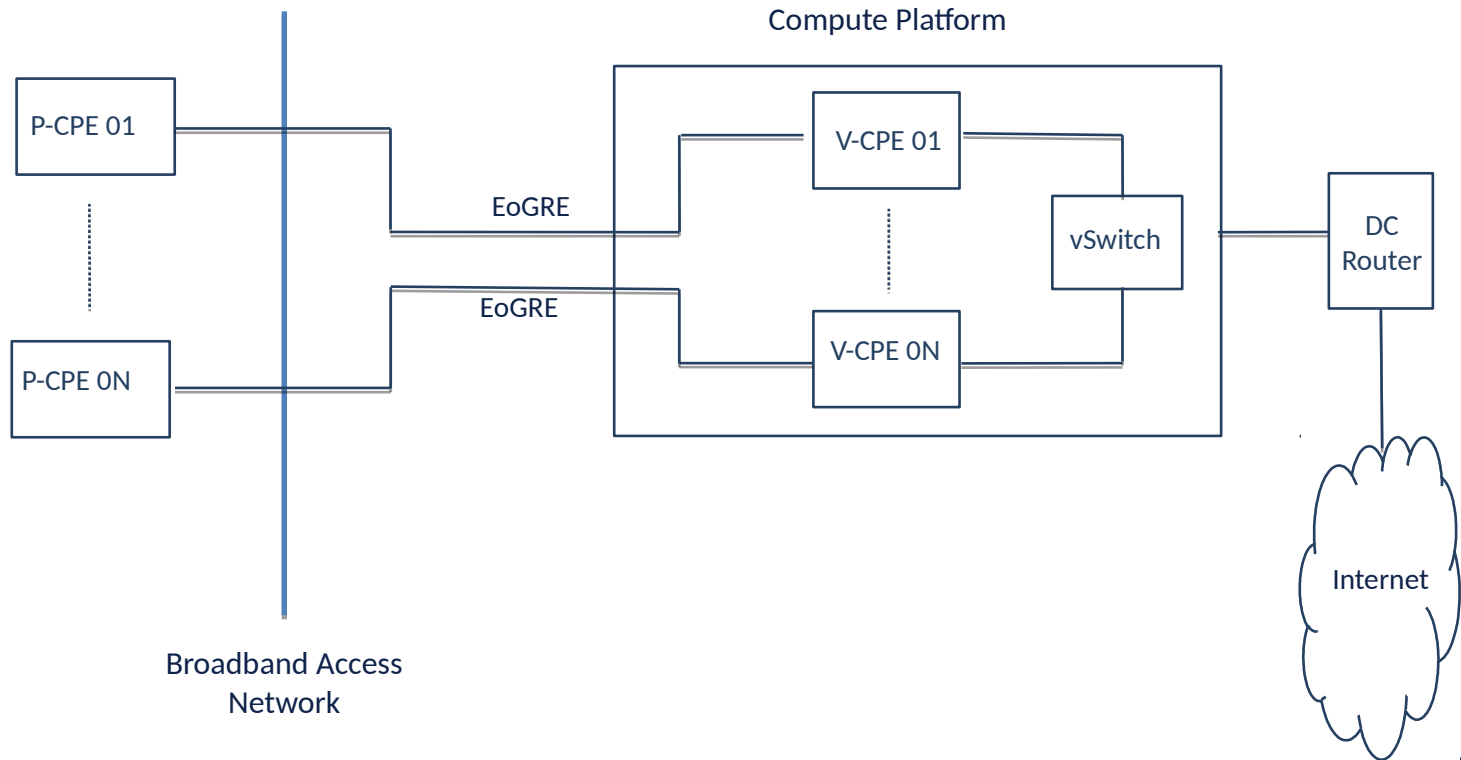
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Draft Objectives & Scope

- Act as a reference material for vCPE based Architectures

- Document generic solution requirements for vCPE

- Cover key deployment considerations for vCPE models

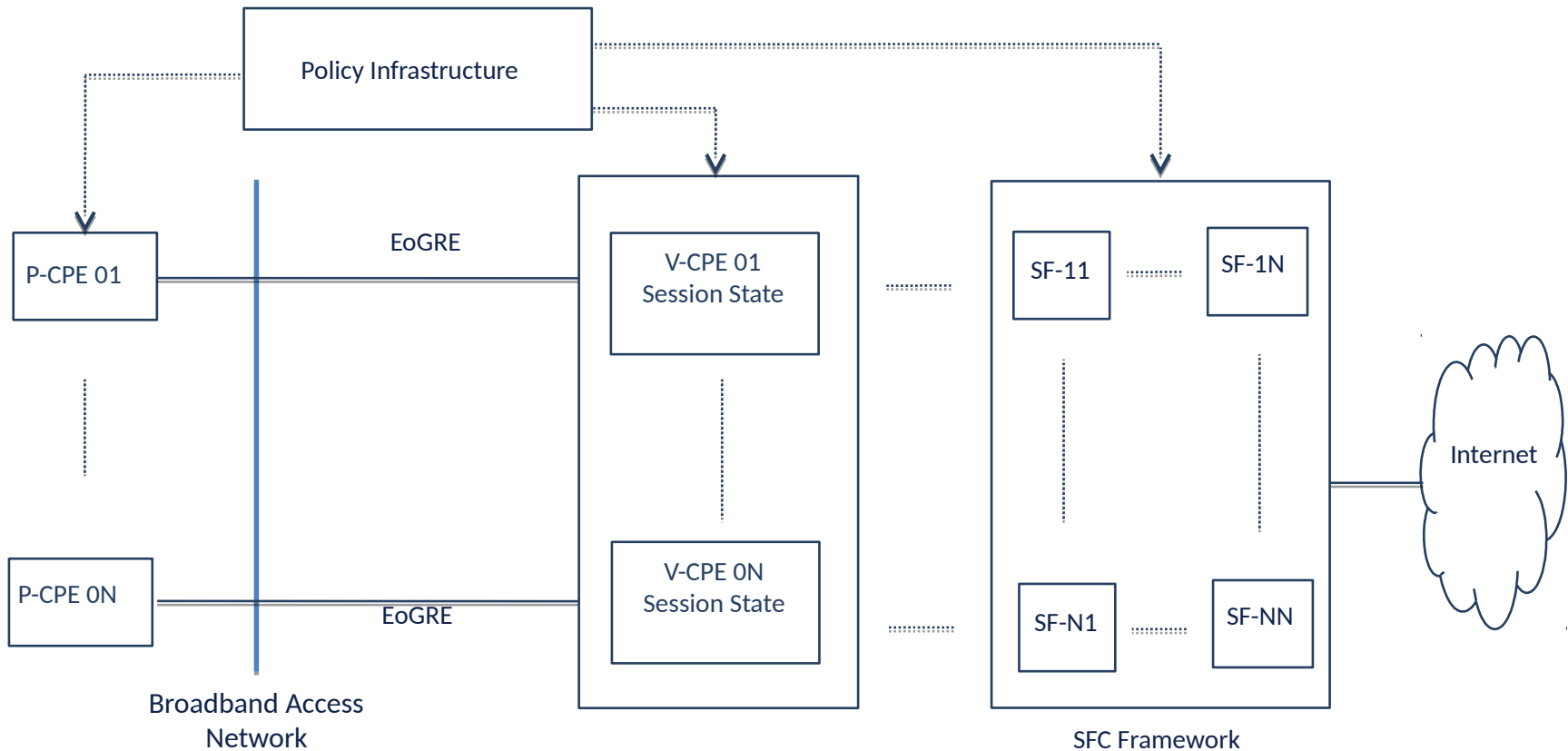- Leverage FPC interface for the Split CP-DP based Model

ARCHITECTURE MODELS

Architecture Model -01

- One to one mapping between P-CPE and Cloud based V-CPE Instance
- Dedicated cloud instance per physical CPE
- V-CPEs run on micro VM instances
- V-CPEs running on Micro VMs responsible for all feature processing

Architecture Model -02

- V-CPEs represented by a representational state tagged to a virtual port on BNG
- A CPE in run state to have at least one tunnel established between P-CPE & BNG
- Basic features performed by the BNG
- SFC framework for implementation of supplementary feature functions

Architecture Model -03
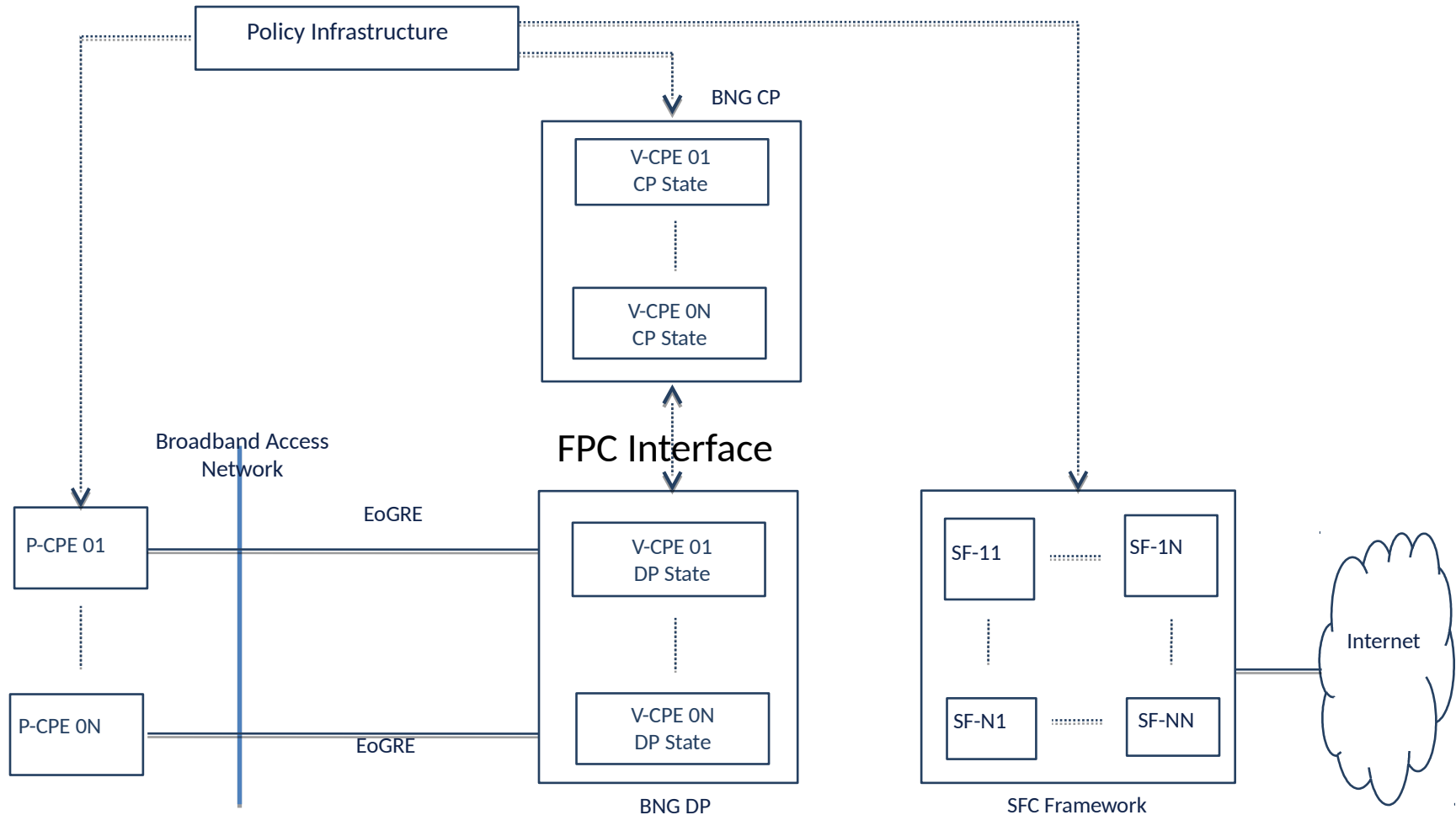
- Introduces Control Plane Data Plane Separation for the V-CPE
- V-CPE CP is representational state on BNG-CP
- V-CPE DP is a representational state on BNG-DP
- FPC interface is used by BNG-CP to program the Forwarding plane features for a V-CPE on BNG-DP

FPC Capabilities required

- Currently defined attributes can be used for PMIPv6 based access for vCPE

- New attributes needed for Layer-2 access tunnels:
  - ◇ Definition of punt path rule (for DHCP, ARP, ND packets)
  - ◇ Layer 2 pass through property for virtual ports

Conclusions & Next steps

- Request for more reviews and feedback from community
- Request for adoption call after the reviews