Virtual CPE Deployment Considerations
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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
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
• 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
- 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