

Motivations & Use cases of

CPE Architectures

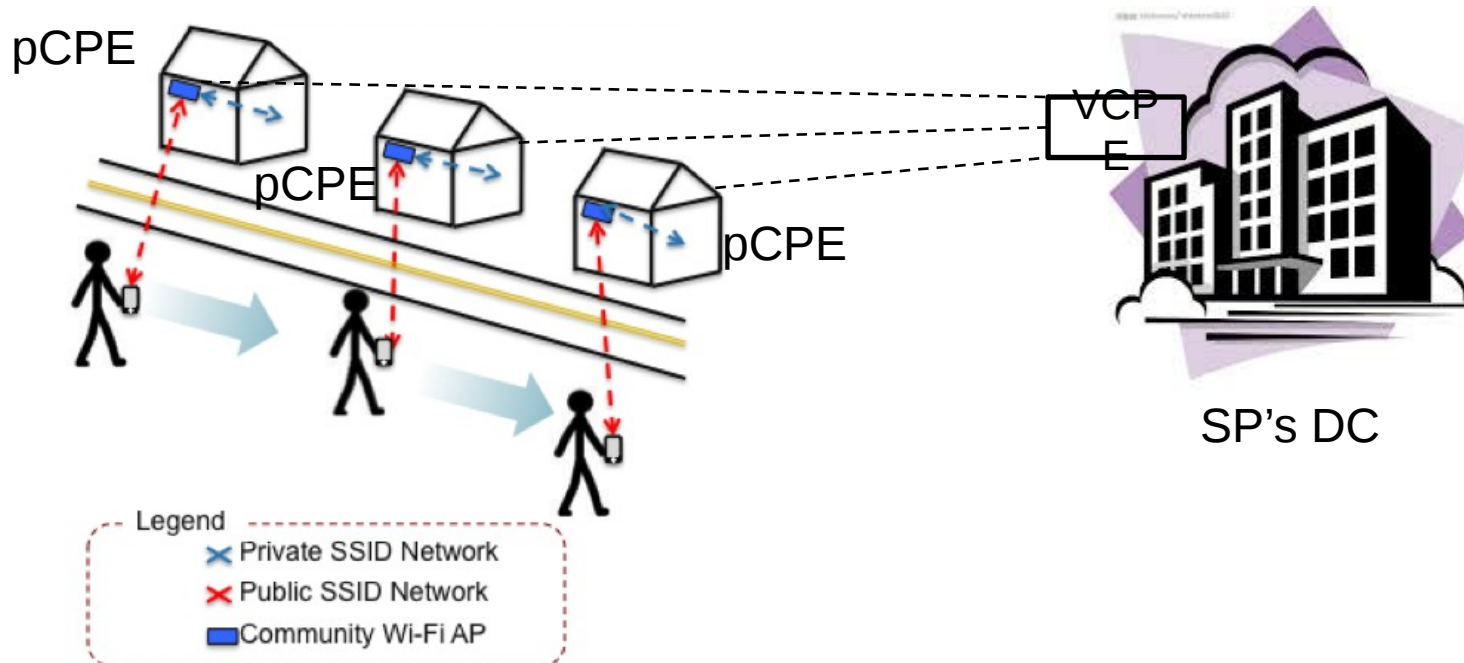
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Under WT#4)

Fu Qiao
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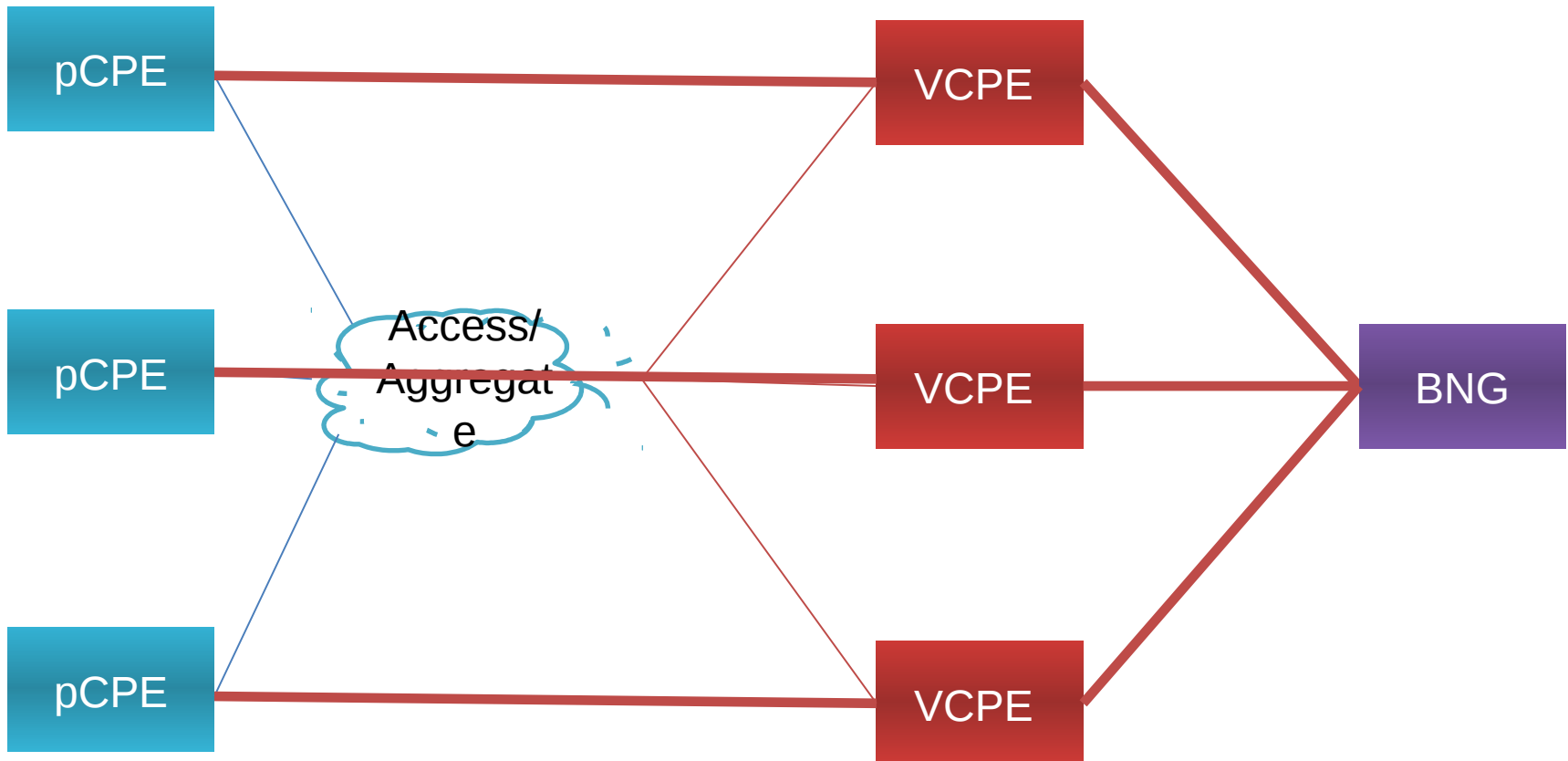
Motivations

- Usecase of Community Wi-Fi
 - Use RG to provide public Wi-Fi network to users passing by.
- VCPE (Virtual Customer Premises Equipment)
 - Shift most of the networking and service functionalities from the customer side to the network side.
- Motivations
 - Faster deployment
 - Lower cost
 - Easier maintenance



Models of VCPE Deployment--1

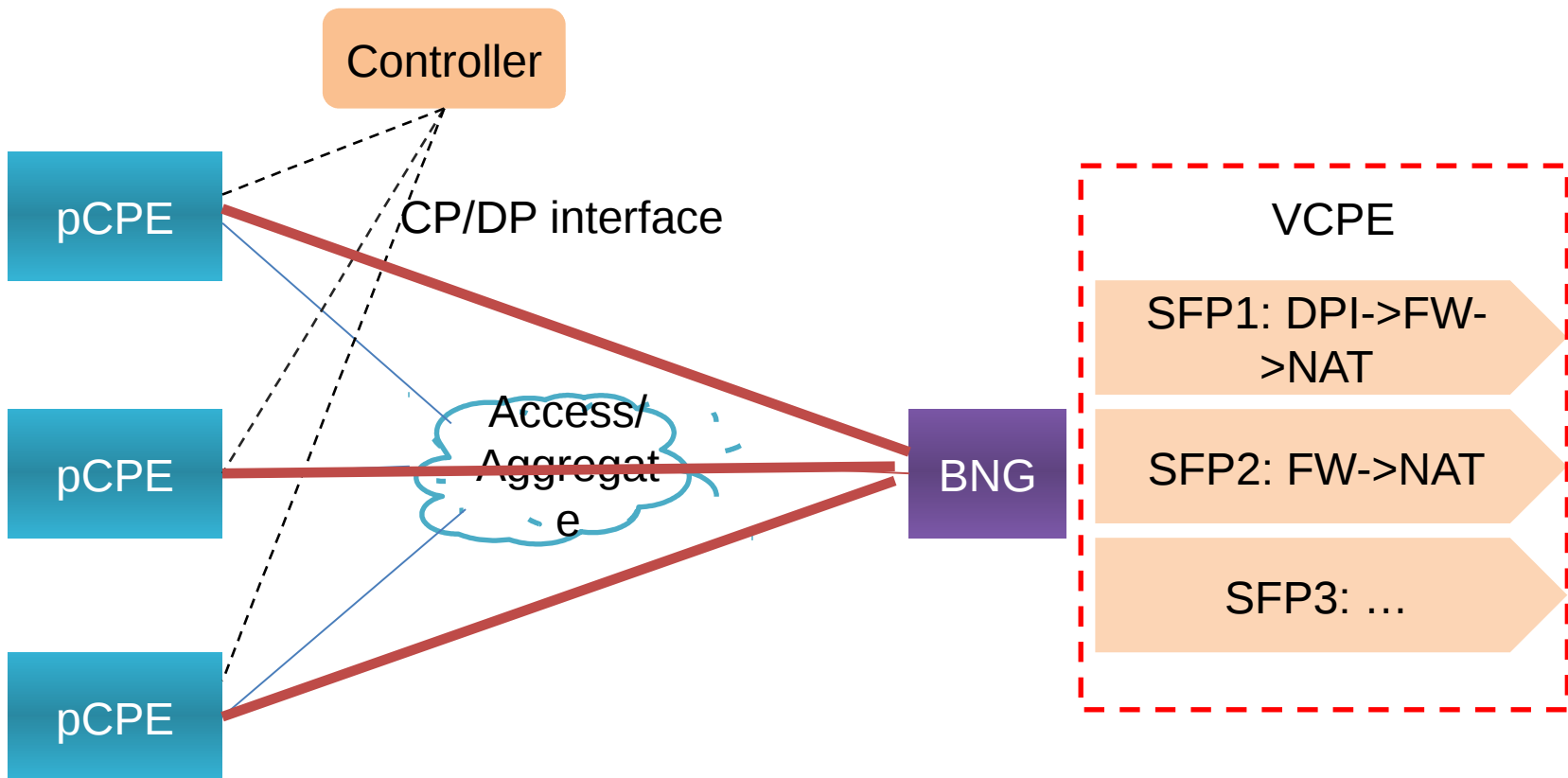
- **Model 1: VCPE as a logical Instance.**
--1:1 deployment of pCPE and VCPE



Models of VCPE Deployment--2

- **Model 2: VCPE as Service Function Chains.**

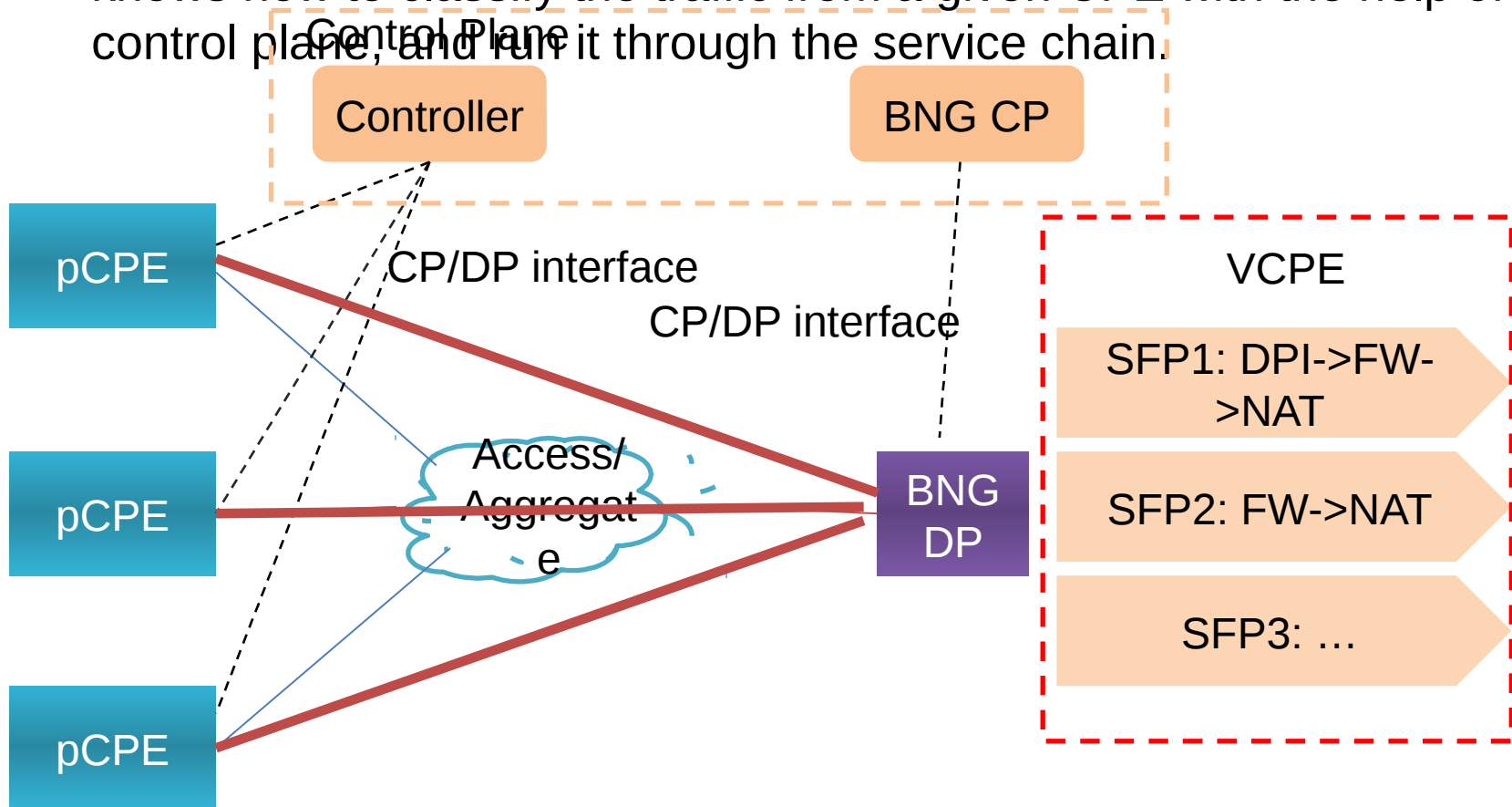
--vCPE is modeled as a service in Gi-LAN/Service Chain; BNG knows how to classify the traffic from a given CPE with the help of the control plane, and run it through the service chain.



Models of VCPE Deployment--3

- **Model 2: VCPE as Service Function Chains, BNG is CP/DP decomposed**

--vCPE is modeled as a service in Gi-LAN/Service Chain; BNG knows how to classify the traffic from a given CPE with the help of the control plane, and run it through the service chain.



Conclusion and Needs for the WG

- Why is it related to DMM
 - This is about mobility
 - Community Wi-Fi is a key use-case of DMM
 - This is about CP/DP Split
 - This is about using CP-DP Interface
 - This is about provisioning and managing DP
 - This is about managing session CP state in controller
 - We need to analyze this use-case more thoroughly so we understand the impact to FPC document
- What do you want from this document
 - There is no IETF document on vCPE; This work is important as all SP's are moving towards this architecture
 - We expect this document to be on Standards Track as there may be protocol extensions
 - We want to publish one architecture document on this topic
 - Ask for Adoption under WT#4