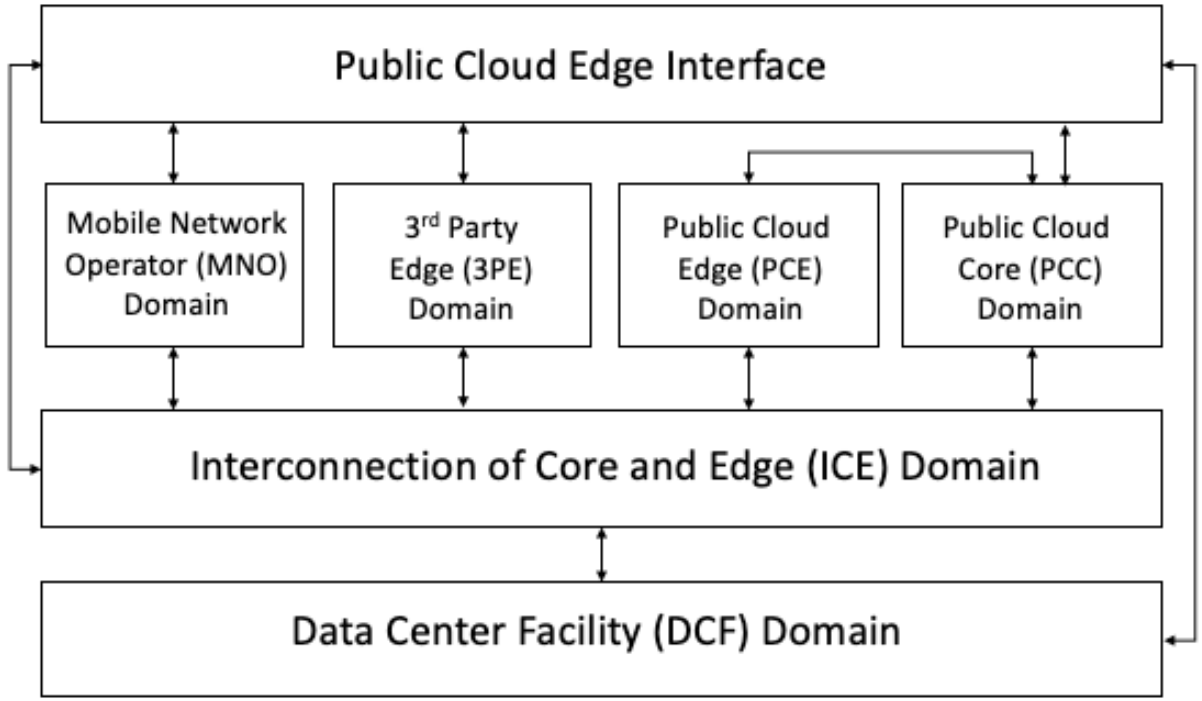
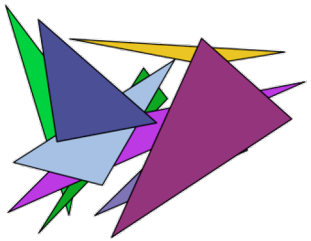
Toward The Public Cloud Edge Interface

Multi-Cloud Edge Demo

PCEI Overview



- The purpose of Public Cloud Edge Interface (PCEI) Blueprint family is to specify a set of open APIs for enabling Multi-Domain Inter-working across functional domains that provide Edge capabilities/applications and require close cooperation between the Mobile Edge, the Public Cloud Core and Edge, the 3rd-Party Edge functions as well as the underlying infrastructure such as Data Centers, Compute hardware and Networks.



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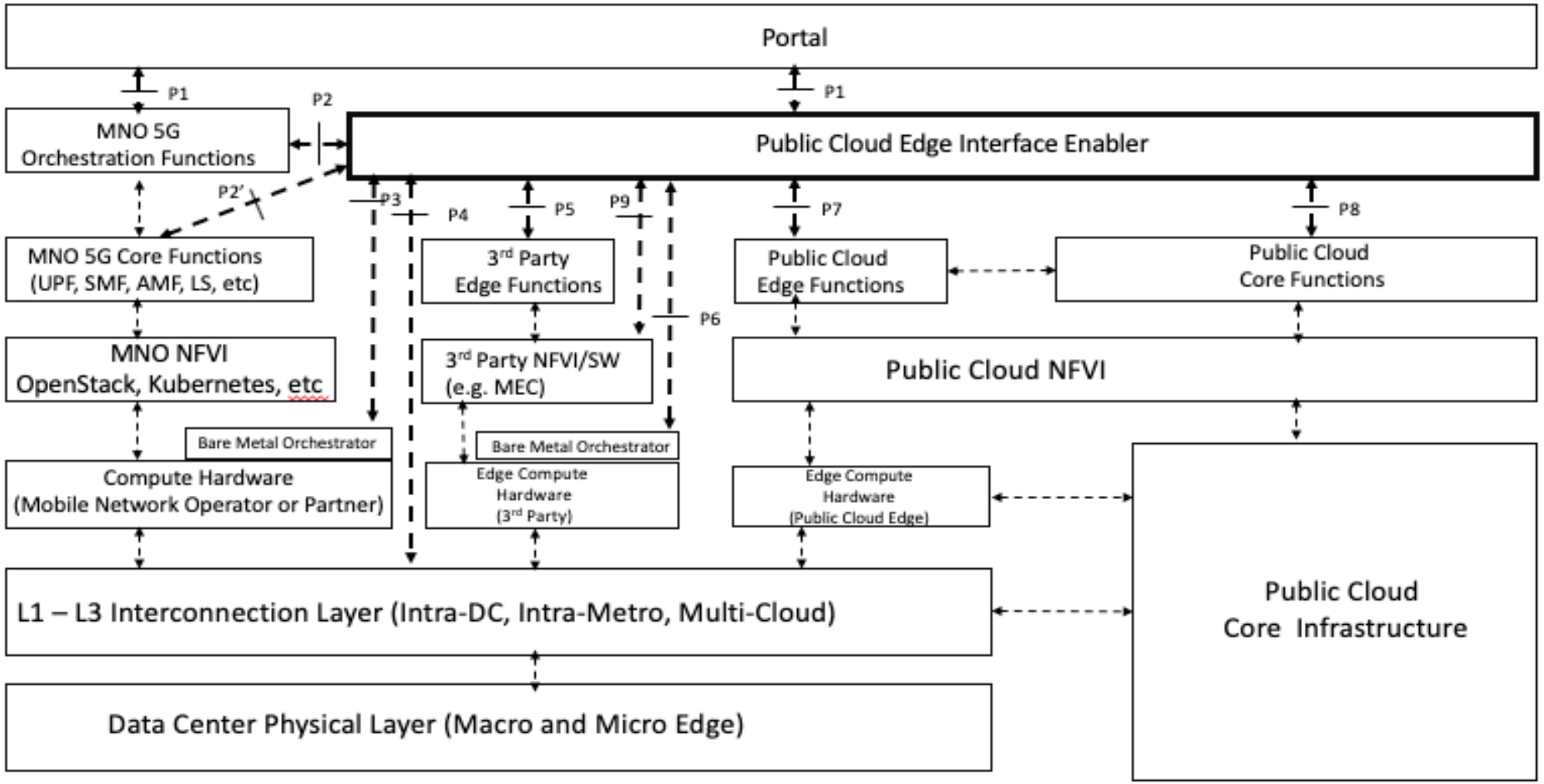
PCEI Reference Architecture



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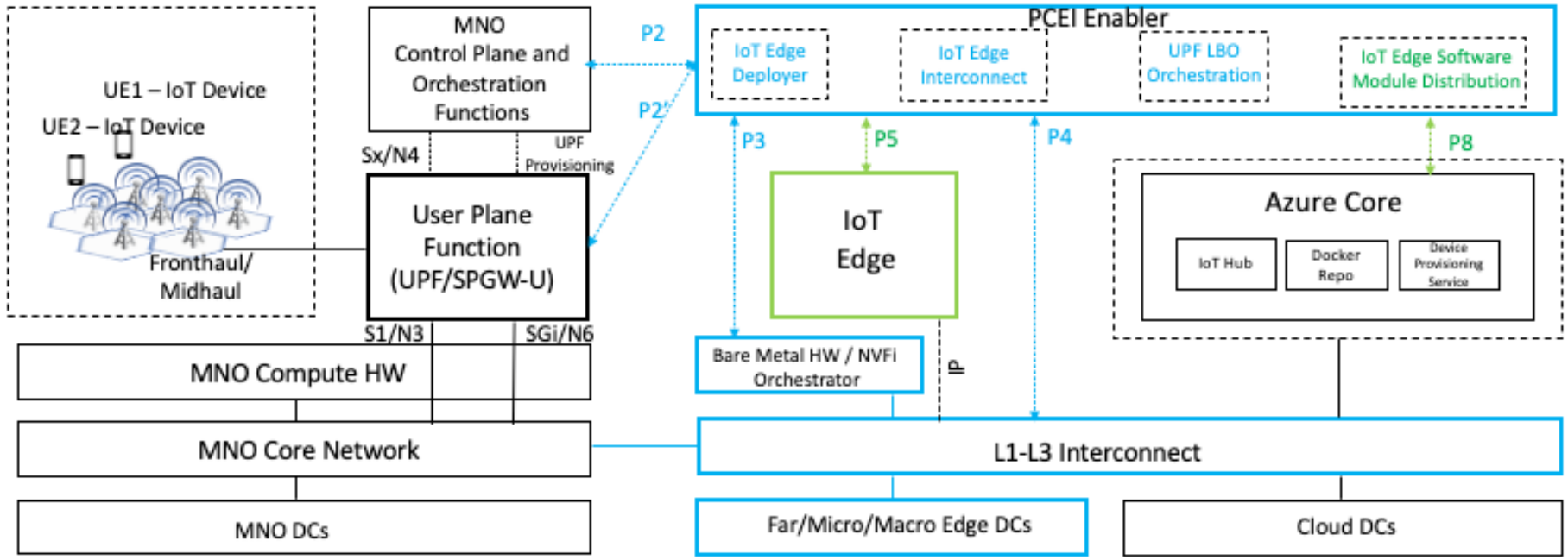
PCEI with Azure IoT Edge (PCE) and Azure (PCC)



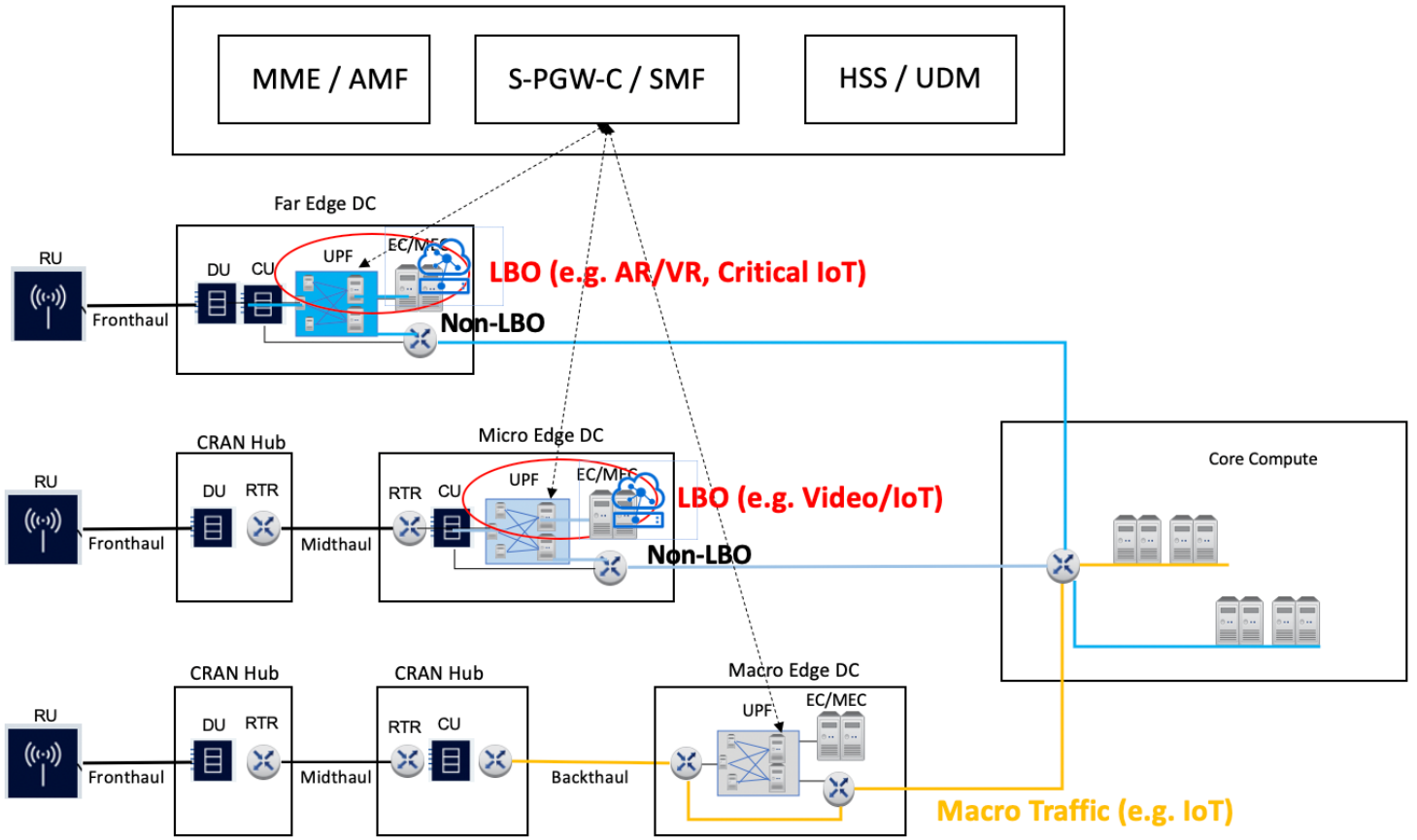
Demo Scenarios

1. LBO for Video with 3rd Party Edge Compute
2. Cellular IoT with Azure IoT Edge Compute
3. Cellular IoT to Public Cloud (AWS)

1

2

3



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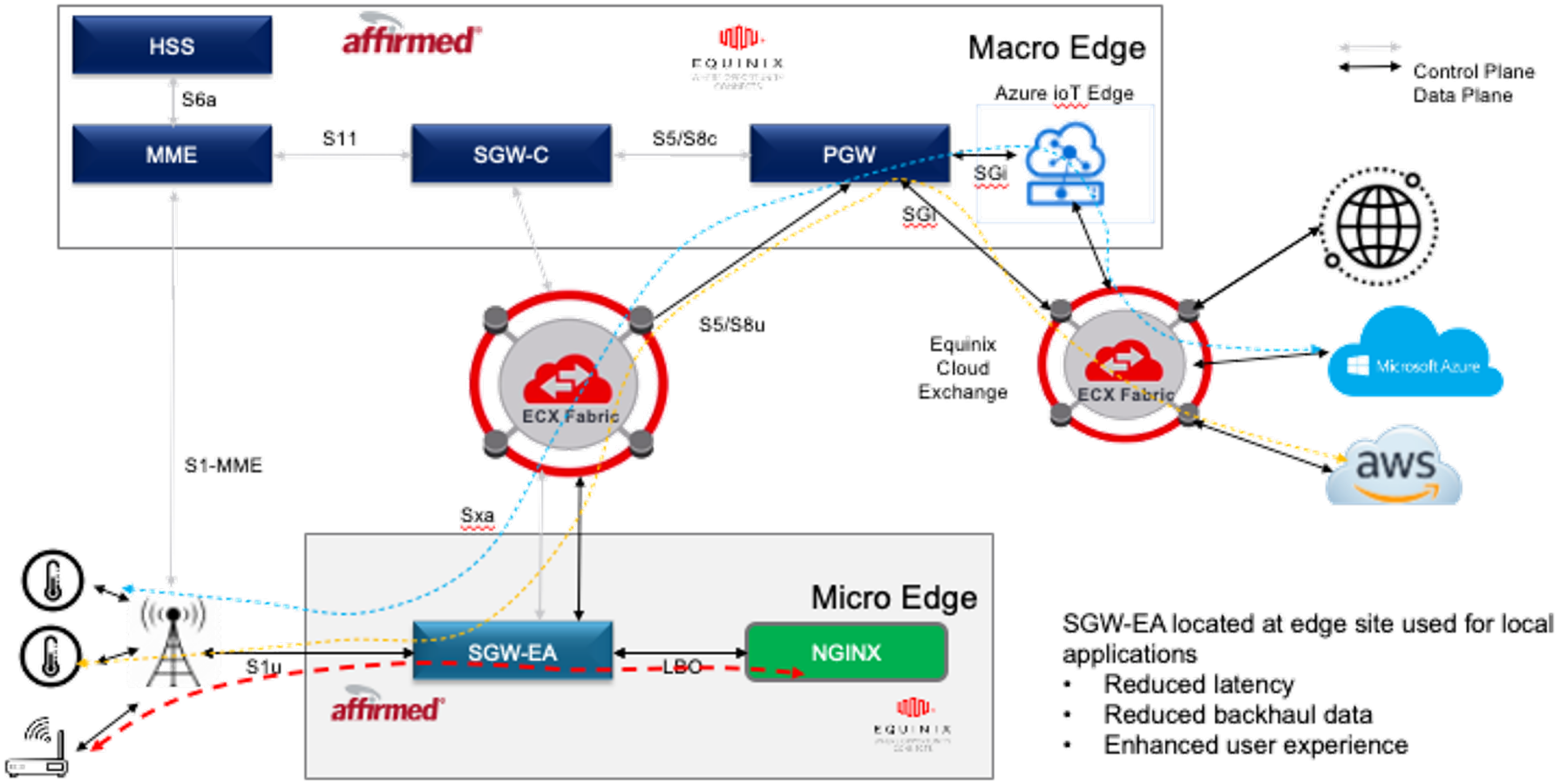
Demo configuration: Distributed Mobile Edge (CUPS) and Multi-Cloud



SGW-EA located at edge site used for local applications

- Reduced latency
- Reduced backhaul data
- Enhanced user experience

Local traffic breakout based on classification

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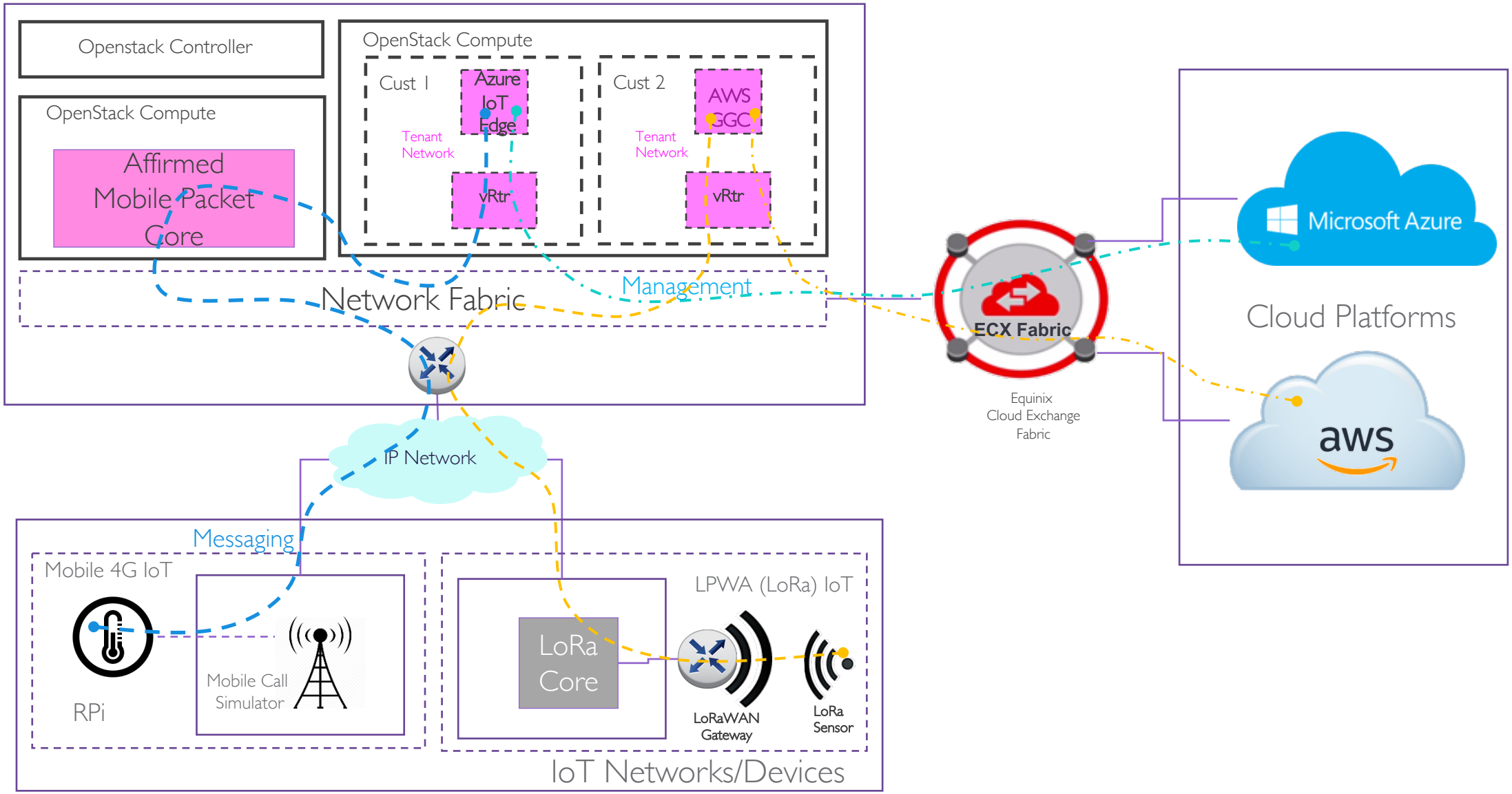
Multi-Network Access with Multi-Cloud Edge



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Azure IoT Edge Demo Setup

- Azure IoT Edge deployed in an Ubuntu VM on Openstack
- Cumulus Virtual Router front-ends IoT Edge and provides routing to Azure core cloud and Mobile Core (PGW)
- Azure ExpressRoute private connection between IoT Edge/VR and Azure IoT Hub
- Affirmed Mobile core (S/PGW) providing access to a mobile device (a combo of a real RPi and a simulated 4G access)
- A simulated IoT sensor on RPi sending random atmospheric pressure, temperature and humidity readings in the low power encoding to the IoT Edge
- A custom module on the IoT Edge reading the IoT data, decoding the readings and publishing messages to IoT Hub in Azure core over MQTT over the ExpressRoute connection

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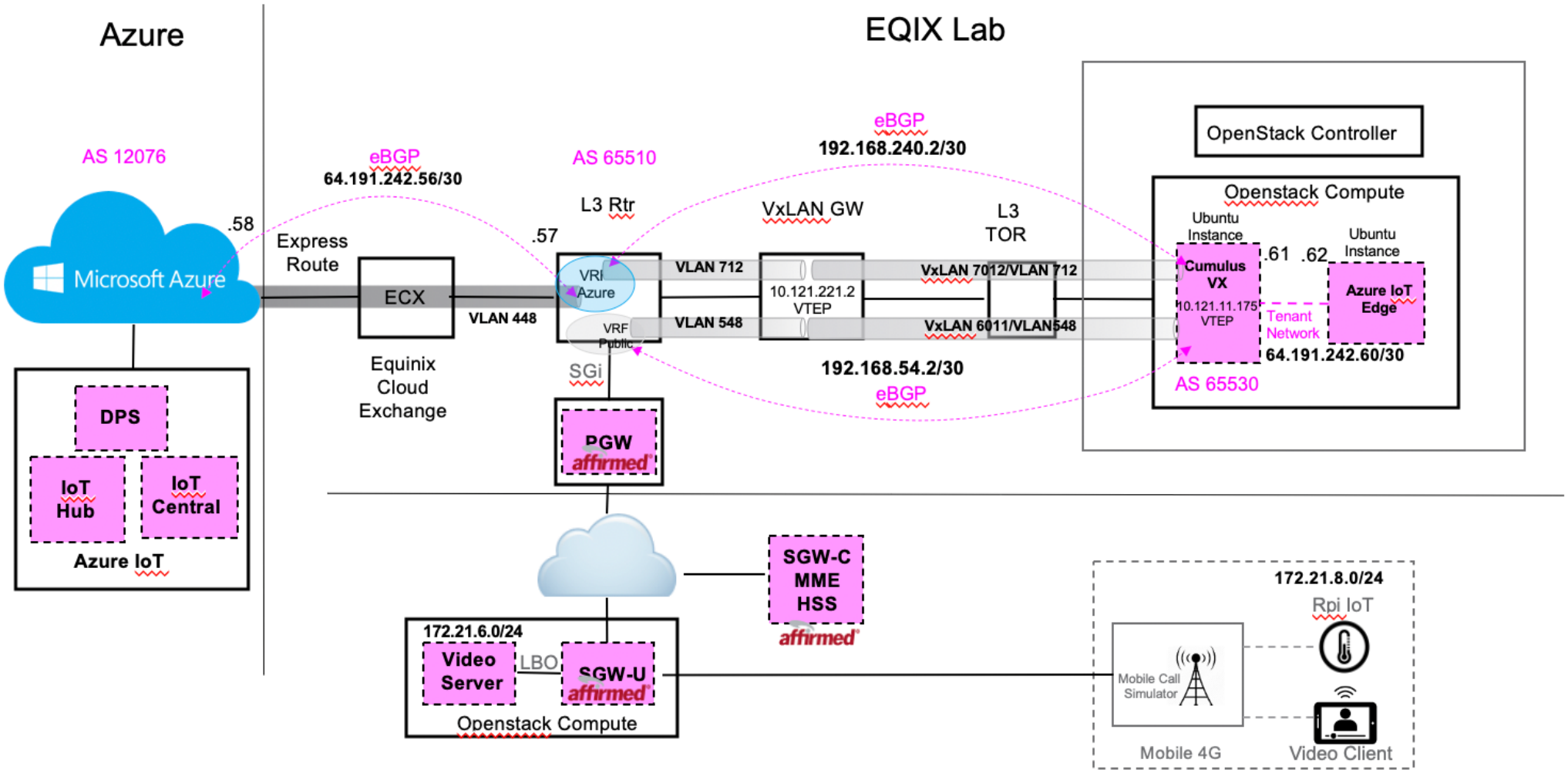
PCEI Azure IoT Edge Demo Lab Details



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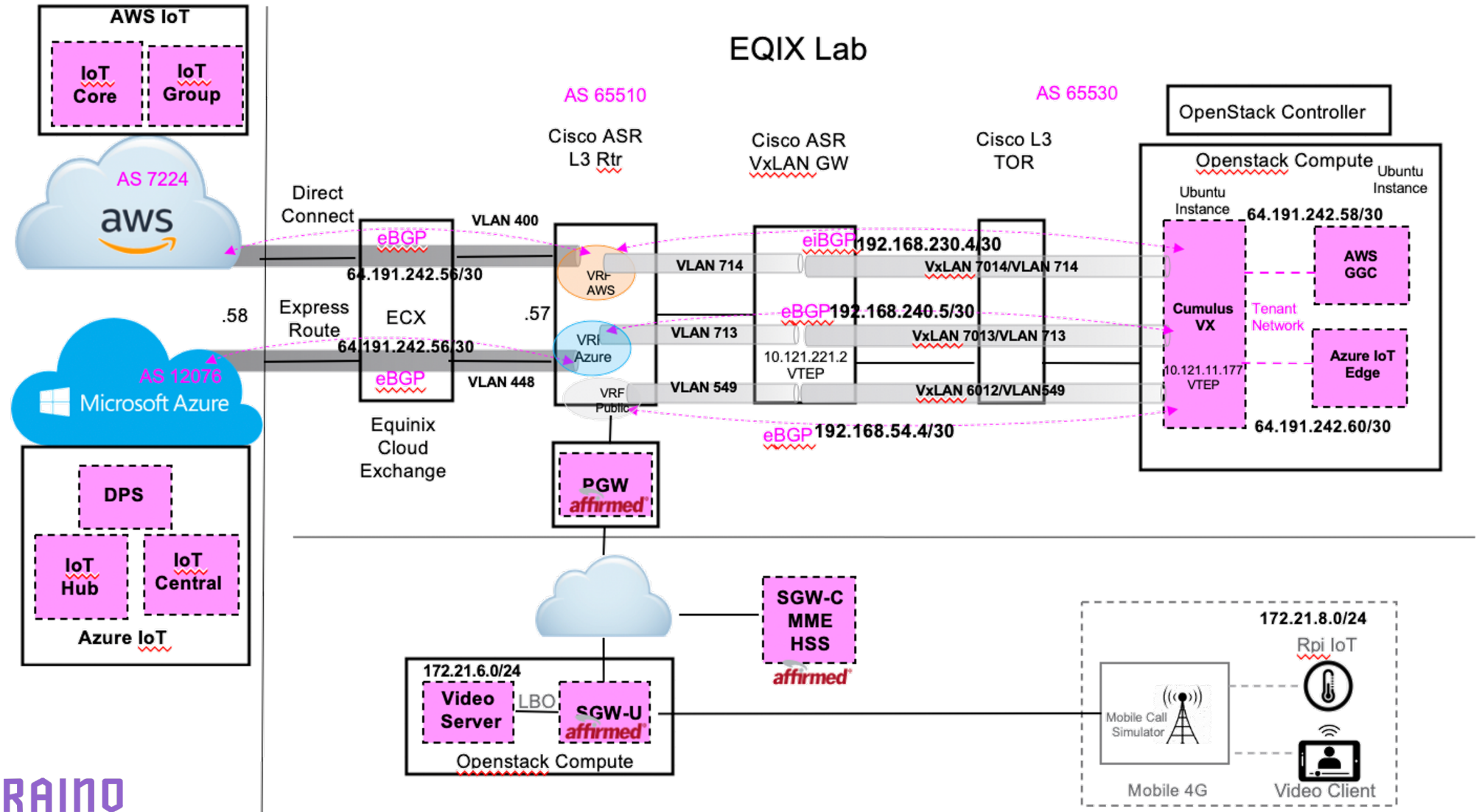
PCEI Multi-Cloud Edge Demo Lab Details



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