ONAP CDS and Terraform - Multi-Domain Orchestration and Interconnection of Cloud and Edge

Equinix - Oleg Berzin
Aarna Networks - Vivekanandan M

**THE LINUX FOUNDATION**

Agenda

› Problem statement

› Public Cloud Edge Interface Use Case

› ONAP CDS & Terraform Integration Architecture

› Demo

Problem Statement

› Most practical deployments of edge infrastructure and applications are hybrid in nature, where an application deployed at the edge often needs to access services residing in the core cloud.

› Need for efficient and performant interconnection between edge and cloud as well as between the distributed edges proximal to end users.

› Individual service domains (e.g. edge, cloud, network fabric) present their own specific APIs and/or other provisioning methods (e.g. CLI), thus making end-to-end deployment challenging both in complexity and in time.

› A Multi-domain orchestration solution is required to handle edge, cloud and interconnection in a uniform and consistent manner.

› An end-to-end application can be deployed, configured and interconnected between the edge and core clouds by using ONAP/CDS orchestration in combination with Terraform.

Public Cloud Edge Interface - Akraino Blueprint

The purpose of Public Cloud Edge Interface (PCEI) Blueprint family is to specify a set of open APIs and orchestration functionalities for enabling Multi-Domain Inter-working across 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.
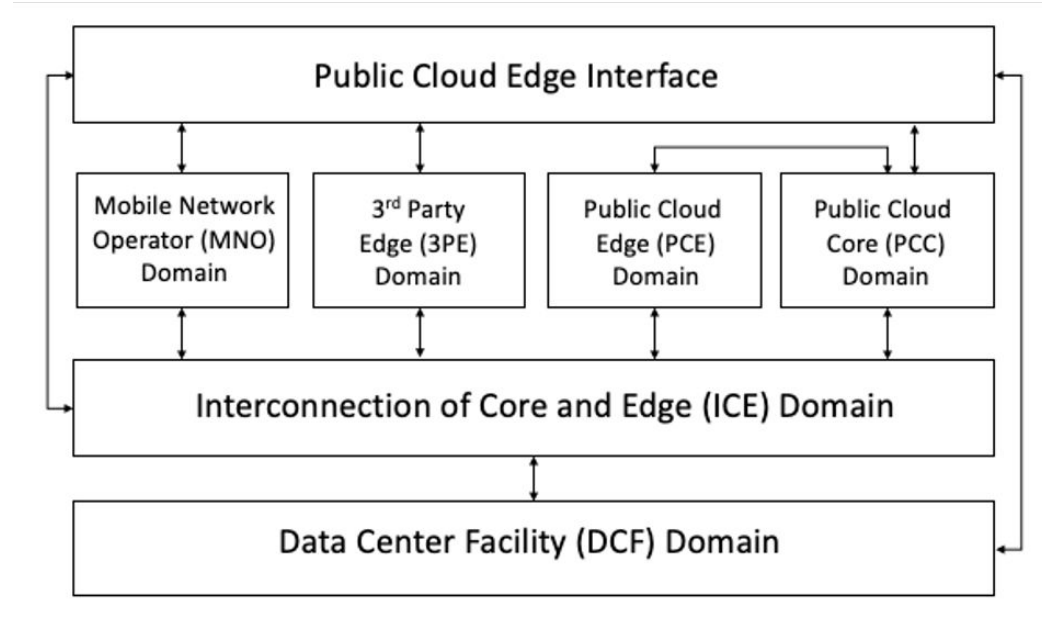
ONAP CDS & Terraform Integration Architecture
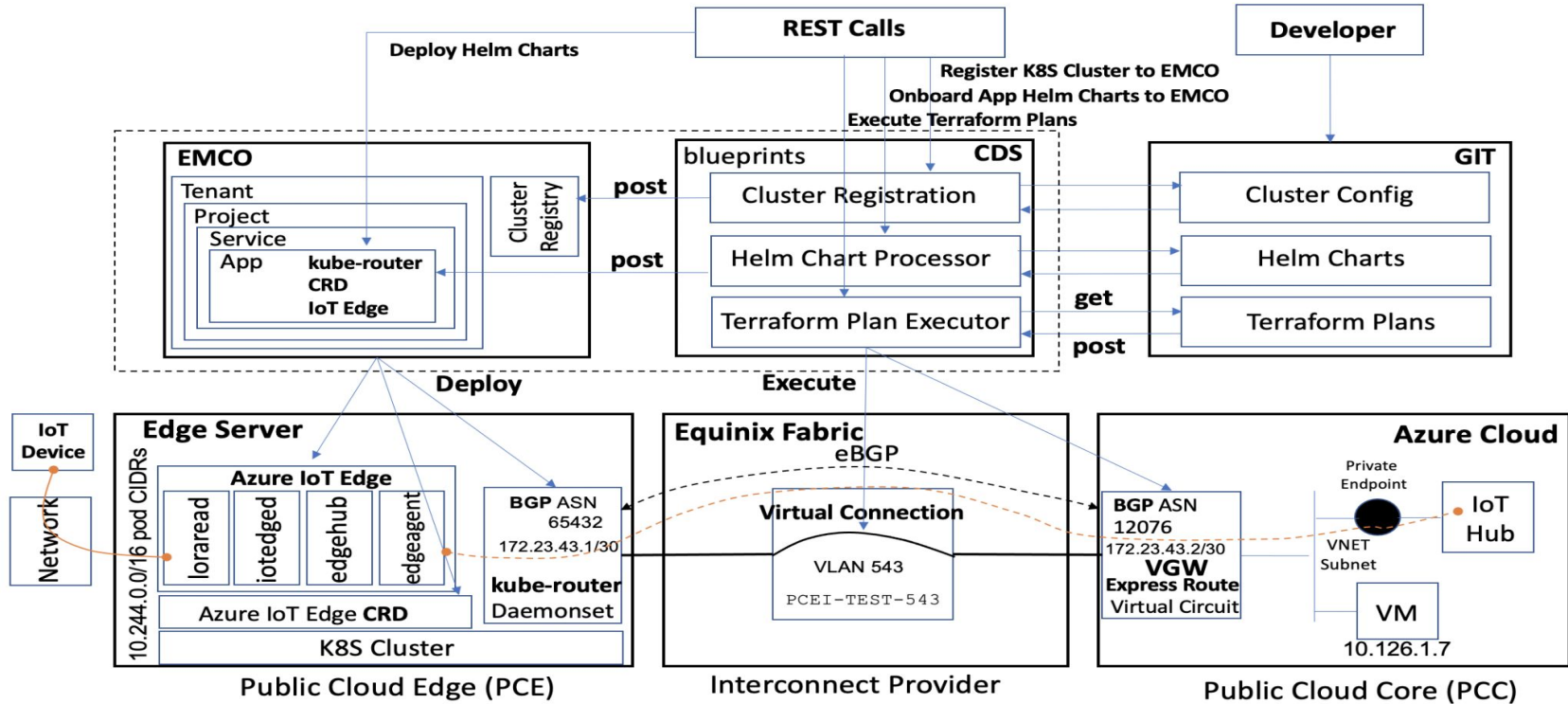
Demo (15 min)

1. Deploy EMCO 2.0 (a new LFN project), CDS and CBAs
2. Deploy Edge K8S Cluster
3. Publish to GIT
   a. Cluster Info
   b. Application Helm Charts (Azure IoT Edge)
   c. Terraform Plans
      i. Azure Cloud
      ii. Equinix Interconnect
4. Dynamic Cluster Registration to EMCO
5. Execute Terraform Plans by CDS
6. Dynamic onboarding of App Helm Charts to EMCO
7. Composite cloud native app deployment and end-to-end operation

Thank You!

THE LINUX FOUNDATION