

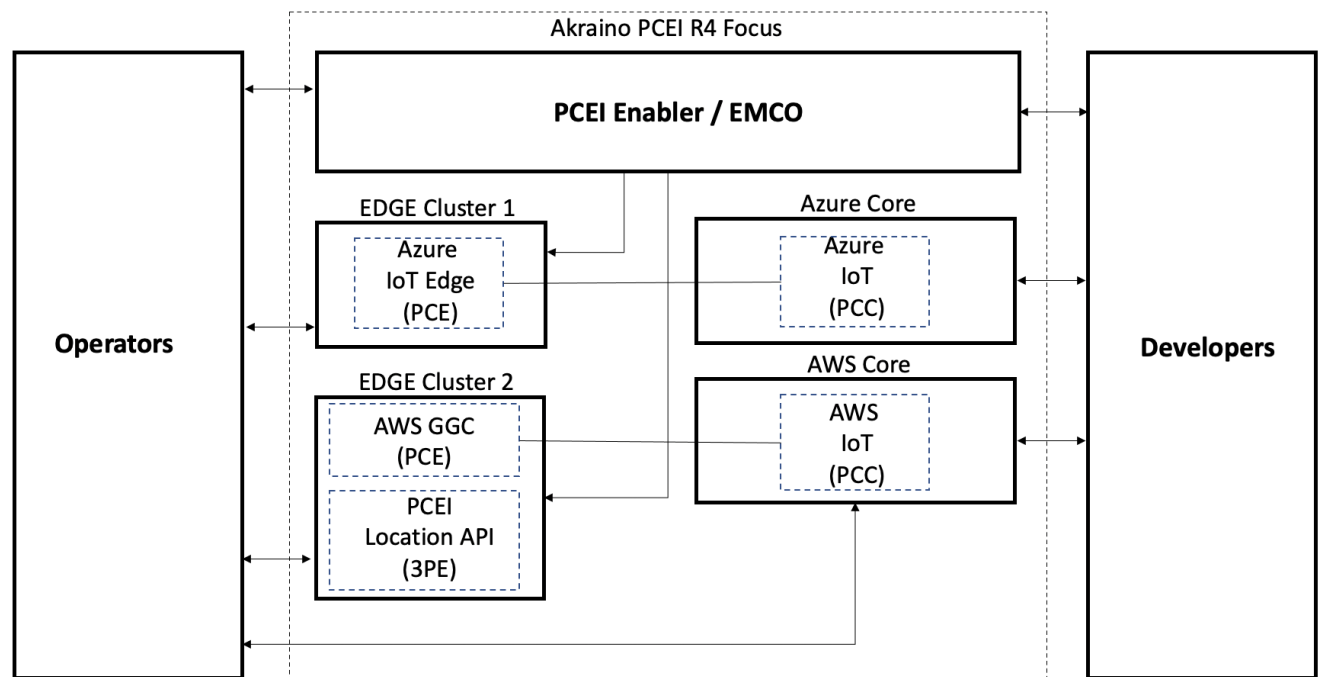
PCEI R4 Architecture Document

PCEI General Architecture

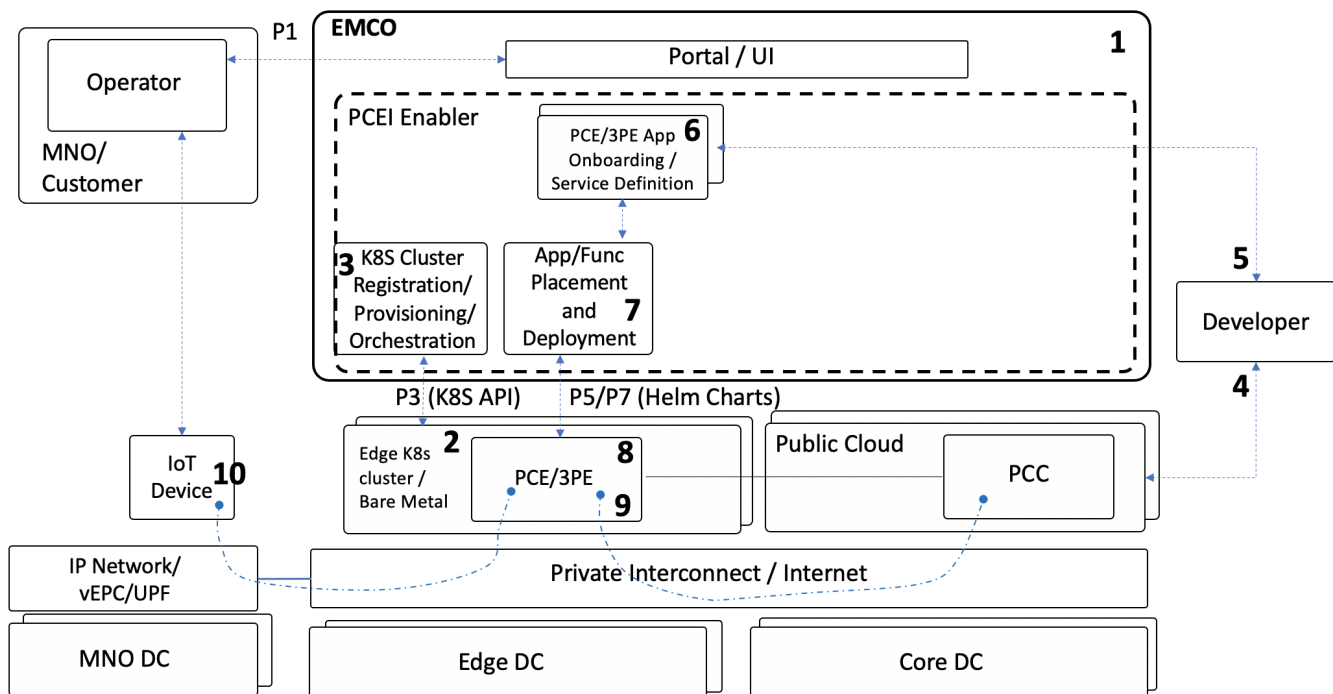
The general PCEI Architecture Document can be found at this link: <https://wiki.akraino.org/x/CAW6AQ>

PCEI R4 Architecture and Focus

Public Cloud Edge Interface (PCEI) is implemented based on Edge Multi-Cluster Orchestrator (EMCO). PCEI Release 4 (R4) supports deployment of Public Cloud Edge (PCE) Apps from two Public Clouds (Azure and AWS), deployment of a 3rd-Party Edge (3PE) App (an implementation of ETSI MEC Location API App), as well as the end-to-end operation of the deployed PCE Apps using simulated Low Power Wide Area (LPWA) IoT client



The EMCO-based implementation of PCEI in R4 is shown below:



Architecture and Validation elements used in PCEI R4.

1. Deploy EMCO on K8S
2. Deploy Edge K8S clusters
3. Onboard Edge K8S clusters onto EMCO
4. Provision Public Cloud Core Service and Push Custom Module for IoT Edge
5. Package Azure IoT Edge and AWS GGC Helm Charts into EMCO application tar files
6. Onboard Azure IoT Edge and AWS GGC as a service/application into EMCO
7. Deploy Azure IoT Edge and AWS GGC onto the Edge K8S clusters
8. All pods came up and register with Azure cloud IoT Hub and AWS IoT Core
9. Deploy a custom LPWA IoT module into Azure IoT Edge on the worker cluster
10. Successfully pass LPWA IoT messages from a simulated IoT device to Azure IoT Edge, decode messages and send Azure IoT Hub