

# PCEI R4 Release Notes

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## Summary

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

## Components of the release

1. Edge Multi-Cloud Orchestrator
2. Azure IoT Edge Helm Charts
3. AWS Greengrass Core Helm Charts
4. PCEI Location API Helm Charts
5. PCEI Location API Code
6. Simulated IoT Client Code
7. Azure IoT Edge Custom Software Module Code

## Dependencies of the release (upstream version, patches)

EMCO:

- <https://git.onap.org/multicloud/k8s/>

Azure IoT Edge Helm Charts

- <https://github.com/Azure/iotedge>

PCEI Location API Spec

- The ETSI MEC ISG MEC012 Location API described using OpenAPI. The API is based on the Open Mobile Alliance's specification RESTful Network API for Zonal Presence
- ETSI MEC013 V1.1.1 Location Service API
- [http://www.etsi.org/deliver/etsi\\_gs/MEC/001\\_099/013/01.01.01\\_60/gs\\_mec013v010101p.pdf](http://www.etsi.org/deliver/etsi_gs/MEC/001_099/013/01.01.01_60/gs_mec013v010101p.pdf)  
[BSD-3-Clause](#)

## Differences from previous version

None. This is the first release of PCEI

## Upgrade Procedures

None.

EMCO Deployment procedures: <https://wiki.akraino.org/x/EiW6AQ>

PCE/3PE Deployment procedures: <https://wiki.akraino.org/x/NSW6AQ>

## Release Data

### Module version changes

None.

### Document Version Changes

Initial versions.

### Software Deliverable

- Edge Multi-Cloud Orchestrator Deployment  
<https://wiki.akraino.org/x/EiW6AQ>
- Azure IoT Edge Helm Charts

<https://github.com/Azure/iotedge>

- AWS Greengrass Core Helm Charts
- PCEI Location API Helm Charts
- PCEI Location API Code
- Simulated IoT Client Code
- Azure IoT Edge Custom Software Module Code

<https://gerrit.akraino.org/r/pcei> (for all items above)

### Documentation Deliverable

[PCEI R4 Installation Guide](#)

[PCEI R4 End-to-End Validation Guide](#)

PCEI R4 Release Notes - this document

### Fixed Issues and Bugs

None

### Enhancements

1. Helm Charts for AWS Greengrass Core PCE App
2. Helm Charts for PCEI Location API 3PE App
3. Simulated Low Power Wide Area IoT Client
4. Custom Module for Azure IoT Edge
5. PCEI Location API Code

<https://gerrit.akraino.org/r/pcei> (for all items above)

### Functionality changes

None - First Release.

### New Features

First Release:

1. Deployment of Azure IoT Edge using PCEI/EMCO.
2. Deployment of AWS Green Grass Core using PCEI/EMCO.
3. Deployment of PCEI Location API App (based on ETSI MEC Location API Spec)

### Version change

First Release

### Deliverable

1. Edge Multi-Cloud Orchestrator Deployment
2. Azure IoT Edge Helm Charts
3. AWS Greengrass Core Helm Charts
4. PCEI Location API Helm Charts
5. PCEI Location API Code
6. Simulated IoT Client Code
7. Azure IoT Edge Custom Software Module Code

## Known Limitations, Issues and Workarounds

### System Limitations

- EMCO supports Kubernetes clusters only.
- EMCO UI does not support deletion/modification of projects/services/apps at this time

### Known Issues

- PCEI-R4-Issue-01: Azure IoT Edge requires deployment of Custom Kubernetes CRD. Azure IoT Custom CRD deployment by EMCO fails (see manual workaround)
- PCEI-R4-Issue-02: Sometimes App tar files created on a Mac fail to be deployed by EMCO (see workaround)

### Workarounds

- For PCEI-R4-Issue-01: Refer to [PCEI R4 End-to-End Validation Guide](#), section "Add Azure CRD to Edge K8S Cluster"
- For PCEI-R4-Issue-02:
  - Download PCEI Helm Charts to a Ubuntu or CentOS Host/VM
  - Create tar App files on Ubuntu or CentOS Host/VM
  - Copy the tar App files to a Mac and use Chrome browser to load tar App files in EMCO UI
- Other workarounds:
  - For convenience, the [PCEI R4 End-to-End Validation Guide](#) uses a local Docker registry on the EDGE-K8S-2 cluster for AWS GGC and PCEI Location API App images. Any other registry could be used. However, the Helm charts values.yaml file must be updated with the correct repo values for the AWS GGC and PCEI Location API App images.

## References

EMCO Deployment procedures: <https://wiki.akraino.org/x/EiW6AQ>

PCEI/3PE Deployment procedures: <https://wiki.akraino.org/x/NSW6AQ>