

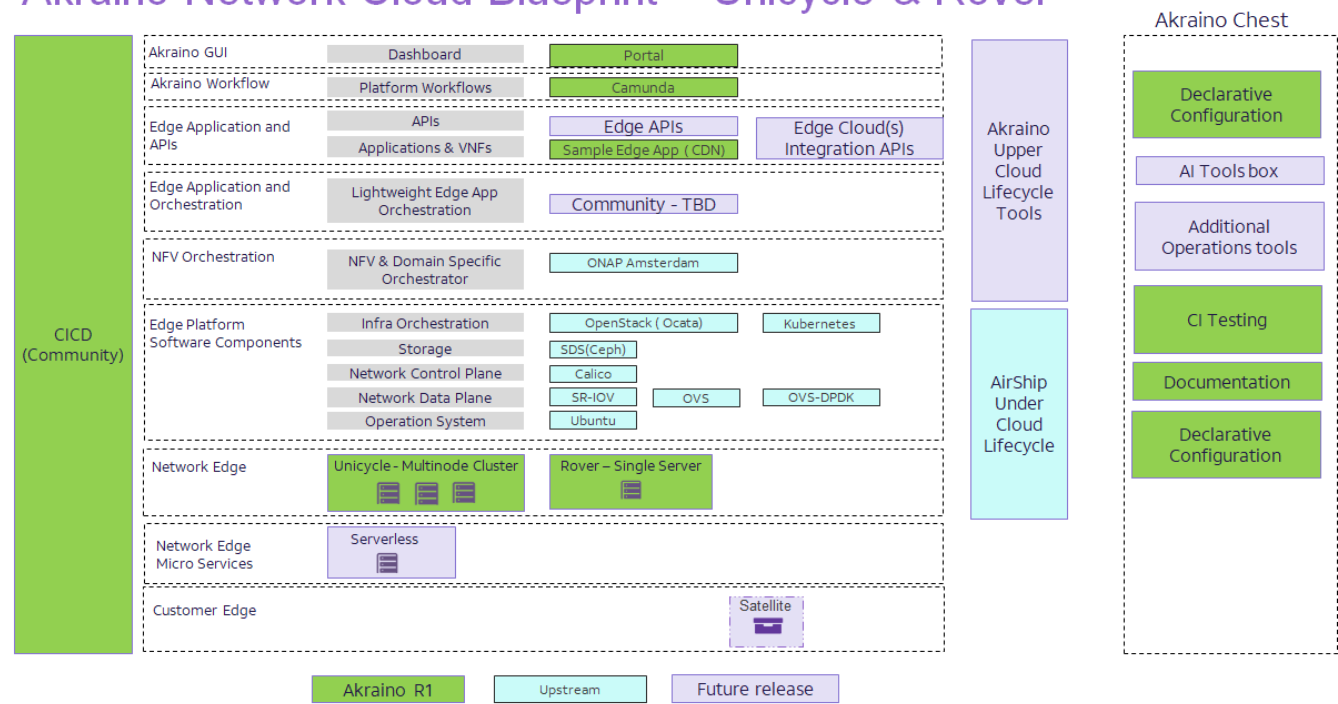
# Software Architecture

- Overview
  - Regional Controller Platform Software
  - Edge Node Platform Software
- Akraino Projects
  - Regional Controller
  - Portal User Interface
  - Camunda Workflow
  - YAML Builds
  - ONAP
  - Sample VNF
  - Redfish
  - Test Automation
  - Airship in a Bottle
  - Database Schema

## Overview

The Network Cloud family consists of multiple software components running on the Regional Controller and edge nodes. The Regional Controller runs software components that are required to deploy and manage edge nodes. The components provide functions such as a graphical user interface, workflow engine, software repository, hardware configuration tools. The edge nodes run software components necessary to deliver OpenStack services using components such as Airship, Openstack Helm, kubernetes, docker, calico, sr-iov, ovs and ovs-dpdk.

## Akraino Network Cloud Blueprint – Unicycle & Rover



## Regional Controller Platform Software

Platform Software	Version
ubuntu	16.04
docker	18.09.2
openjdk	11.0.1
camunda	2.3.0
postgres	9.6.9

openmicroscopy/apacheds	0.7.0
python-iloest-library	v2.3.1
iDRAC-Redfish-Scripting	commit 64f184c8c37ed1f64831c5695cd69092105e5eec
ipxe	latest
httpd:alpine	2.4.39-alpine
networkboot/dhcpd	latest

## Edge Node Platform Software

Platform Software	Version
ubuntu	16.04
airship** (Unicycle)	commit 059857148ad142730b5a69374e44a988cac92378
airship-in-a-bottle**	commit 5613857adebf4b063f4e01ceaaee17fb62e50e3d
docker	1.13.1
kubernetes	v1.10.2
helm	v2.9.1
ceph	10.2.1
openstack	ocata

\*\* Airship and airship-in-a-bottle deploy multiple software components which are defined in the in a versions.yaml file.

Rover: [https://github.com/airshipit/airship-in-a-bottle/blob/5613857adebf4b063f4e01ceaaee17fb62e50e3d/deployment\\_files/global/v1.0dev/software/config/versions.yaml](https://github.com/airshipit/airship-in-a-bottle/blob/5613857adebf4b063f4e01ceaaee17fb62e50e3d/deployment_files/global/v1.0dev/software/config/versions.yaml)

Unicycle with OVS-DPDK: [https://gerrit.akraino.org/r/gitweb?p=yaml\\_builds.git;a=blob;f=site\\_type/ovsdpdk/airship-treasuremap/global/v4.0/software/config/versions.yaml;h=0a52db9dd5a41f0d0ce58a479815245585694f8e;hb=refs/heads/master](https://gerrit.akraino.org/r/gitweb?p=yaml_builds.git;a=blob;f=site_type/ovsdpdk/airship-treasuremap/global/v4.0/software/config/versions.yaml;h=0a52db9dd5a41f0d0ce58a479815245585694f8e;hb=refs/heads/master)

Unicycle with SR-IOV: [https://gerrit.akraino.org/r/gitweb?p=yaml\\_builds.git;a=blob;f=site\\_type/sriov/airship-treasuremap/global/v4.0/software/config/versions.yaml;h=b074da69511c385ce6d7c9ffc37d3a7243364a78;hb=refs/heads/master](https://gerrit.akraino.org/r/gitweb?p=yaml_builds.git;a=blob;f=site_type/sriov/airship-treasuremap/global/v4.0/software/config/versions.yaml;h=b074da69511c385ce6d7c9ffc37d3a7243364a78;hb=refs/heads/master)

## Akraino Projects

In addition to the upstream projects references above, Akraino has several projects that provide software to integrate all of the platform software.

### Regional Controller

*Scripts for initializing an Akraino regional controller and installing Portal components (e.g., GUI, Workflow engine, etc.)*

- [View the Gerrit review repository](#)

### Portal User Interface

The web interface for the Regional Controller. Built and installed as a Docker container.

- [View the Gerrit review repository](#)

### Camunda Workflow

*Workflow engine, templates, and scripts for automated installation of Akraino clusters*

Invoked from the Portal UI.

- [View the Gerrit review repository](#)

### YAML Builds

*YAML files and accompanying scripts for installing an Akraino cluster*

Invoked from the Workflow engine; largely concerned with installing [Airship](#).

- [View the Gerrit review repository](#)

## ONAP

*Scripts for installing [ONAP](#) on an operational Akraino cluster*

ONAP is installed as a single VM.

- [View the Gerrit review repository](#)

## Sample VNF

*A sample VNF that simulates a Content Deployment Caching node and can be used to evaluate Akraino cluster functionality*

- [View the Gerrit review repository](#)

## Redfish

*Scripts for bare metal configuration and OS deployment via the [Redfish API](#) with OEM specific extensions.*

- [View the Gerrit review repository](#)

## Test Automation

*[Tempest](#) tests for evaluating OpenStack functionality within an Akraino cluster*

- [View the Gerrit review repository](#)

## Airship in a Bottle

Scripts for deploying a single node Openstack environment using Airship-in-a-bottle.

- To be Announced

## Database Schema

Postgres\_db\_schema used by the Regional Controller portal.

- [View the Gerrit review repository](#)