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Contents

Airship

A collection of inter-operable and loosely coupled open source tools that provide automated cloud provisioning and management in a declarative way.

Airship helps operators take control of their infrastructure, by providing a declarative framework for defining and managing the life cycle of open infrastructure tools and the hardware below. These tools include OpenStack for Virtual Machines, Kubernetes for container orchestration, and MaaS for bare metal, with support for OpenStack Ironic on the way.

Read the documentation.

Calico

Read the Version 1.6 documentation.

Source: Calico

Camunda

A light-weight, open-source platform for Business Process Management.

Camunda is a Java-based framework supporting BPMN (Business Process Model and Notation) for workflow and process automation.

The following figure shows the most important components:

blocked URL

Read the Version 7.9 documentation.

Source: Camunda

CI

CD

Ceph

A unified, distributed storage system designed for performance, reliability and scalability.

Ceph delivers object, block, and file storage in one unified system.

Read the documentation.

Source: Ceph

CNI

Container Network Interface (CNI), a Cloud Native Computing Foundation project.

CNI consists of a specification and libraries for writing plugins to configure network interfaces in Linux containers, along with a number of supported plugins. CNI concerns itself only with network connectivity of containers and removing allocated resources when the container is deleted. Because of this focus, CNI has a wide range of support and the specification is simple to implement.

Source: Cloud Native Computing Foundation Project.

Gerrit

Gerrit is used for code review. Gerrit is built using the secure postsql db utility. It allows developers to push code into a legitimate vault, where it can be reviewed, and deployed into the production environment. Gerrit also fully synchronizes with git.
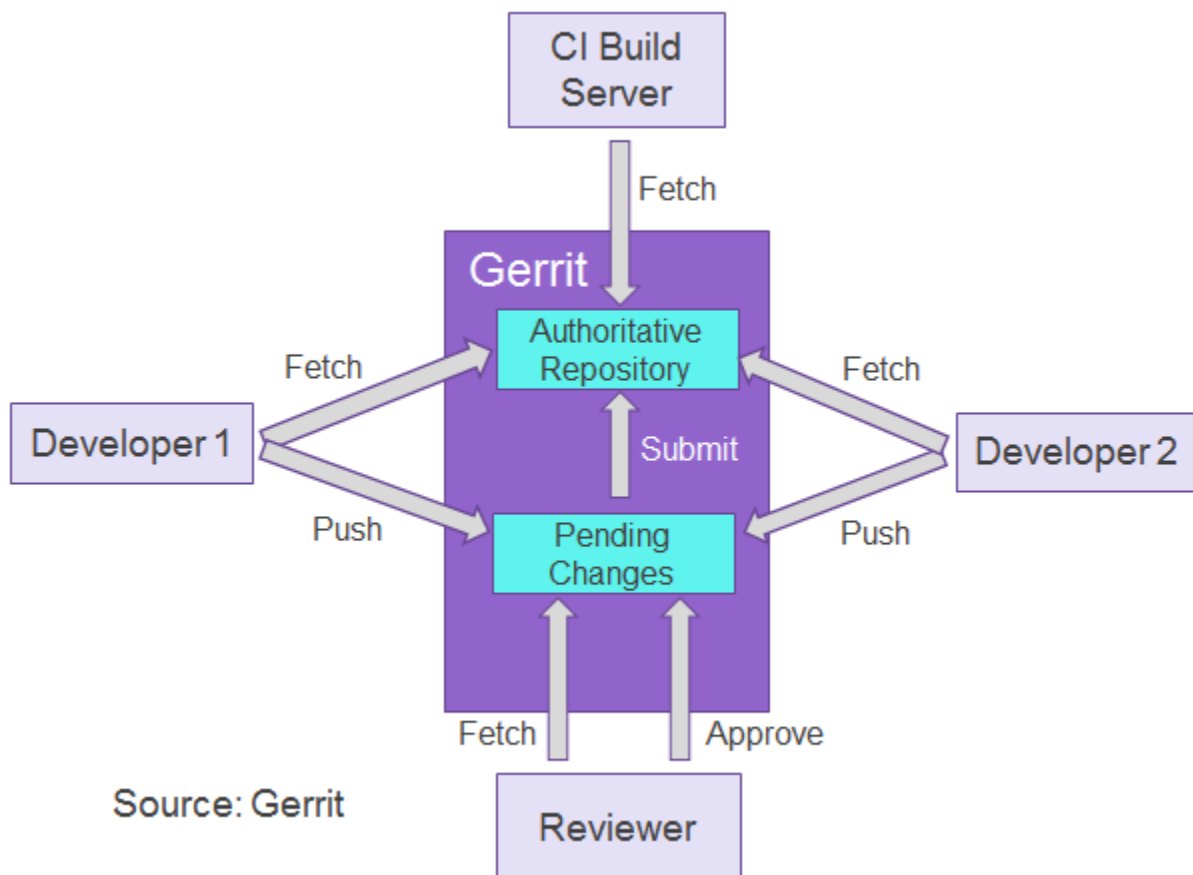
Source: Gerrit

Jenkins

A Jenkins container automates the CI process. This container contains the necessary Gerrit and Nexus plugins to build jobs that will run unit tests, execute static source code analysis, and deploy build artifacts to Nexus.

JIRA

JIRA tracks Akraino code, feature, and overall project-related issues, affording the opportunity for users to report issues in a timely manner and track their resolution per agreed timelines.

Kubernetes

*(Commonly stylized as **K8s**) An open-source system for automating deployment, scaling, and management of containerized applications.*

Kubernetes groups containers that make up an application into logical units for easy management and discovery. Kubernetes provides a container-centric management environment. It orchestrates computing, networking, and storage infrastructure on behalf of user workloads.

Read the documentation.

Source: Kubernetes

Nexus 3

Nexus 3 supports both repositories and containers. It is integrated with Jenkins, publishing both artifacts and Docker containers. The Maven build uses Nexus 3 as a proxy repository for third party libraries. Afterward, built and packaged artifacts are posted in the Nexus release repository for downloading.

ONAP

Open Networking Automation Platform (ONAP), a comprehensive platform for real-time, policy-driven orchestration and automation of physical and virtual network functions.

ONAP will enable software, network, IT and cloud providers and developers to rapidly automate new services and support complete life-cycle management.

Source: ONAP

OpenStack

Open source software for creating private and public clouds.

Read the documentation.

OVS-DPDK

Open vSwitch with Data Plane Development Kit (OVS-DPDK), a high performance open source virtual switch.

Open vSwitch is a multi-layer virtual switch licensed under the open source Apache* 2.0 license. It supports SDN control semantics via the OpenFlow* protocol and its OVSDB management interface. It is available from openvswitch.org, GitHub, and is also consumable through Linux distributions. DPDK is a set of user space libraries that enable a user to create optimized performant packet processing applications (information available at DPDK.org). In practice, it offers a series of Poll Mode Drivers (PMDs), which enable direct transferral of packets between user space and the physical interface, bypassing the kernel network stack.

Source: Intel

SR-IOV

The single root I/O virtualization (SR-IOV) interface is an extension to the PCI Express (PCIe) specification. SR-IOV allows a device, such as a network adapter, to separate access to its resources among various PCIe hardware functions.

Tempest

This is a set of integration tests to be run against a live OpenStack cluster. Tempest has batteries of tests for OpenStack API validation, scenarios, and other specific tests useful in validating an OpenStack deployment.

Source: Github

Read the Documentation