

A complex, stylized diagram in shades of red and orange. It features a central cloud with a keyhole, a large upward-pointing arrow, a database cylinder, a server rack, and various geometric shapes like squares, circles, and lines, some with 'X' marks, suggesting a network or data flow architecture.

OPENSIFT CONTAINER PLATFORM

ARCHITECTURAL OVERVIEW



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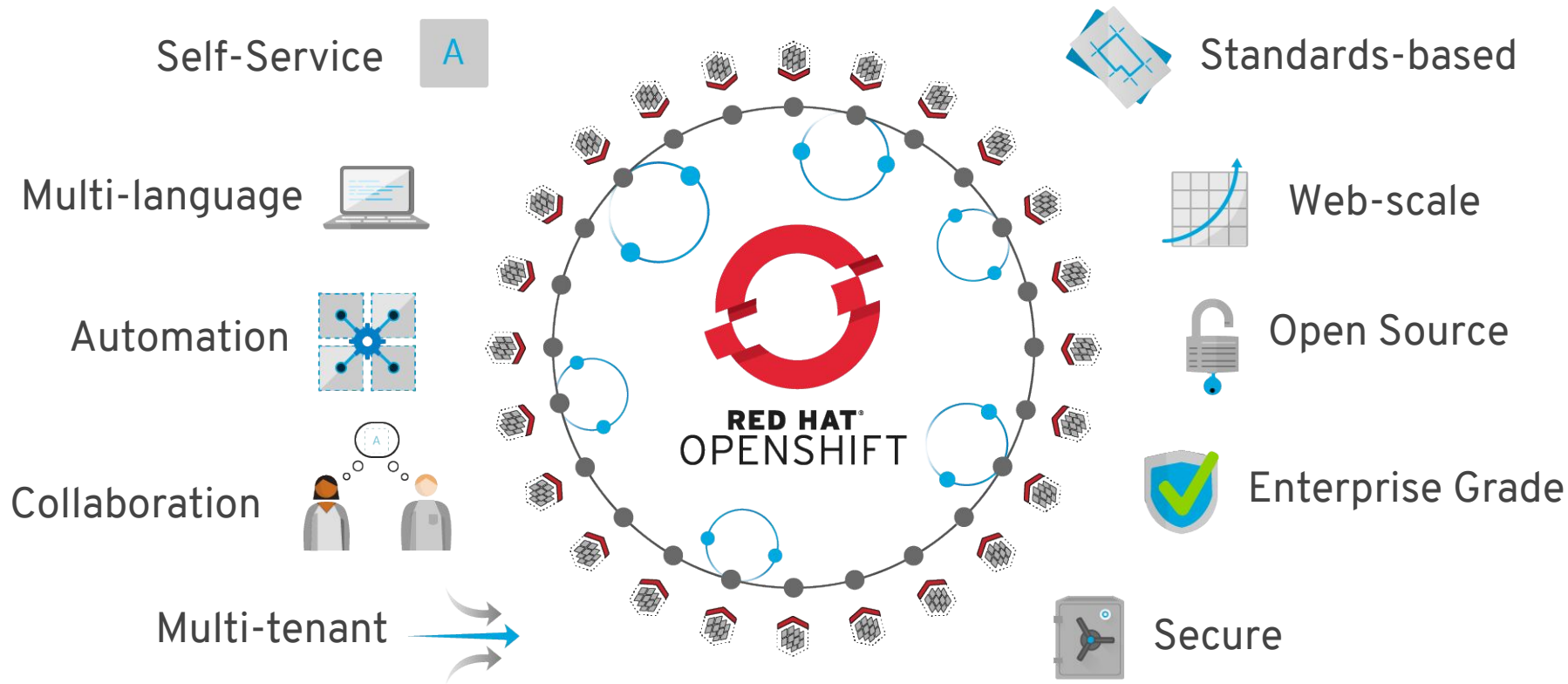
twitter.com/RedHat

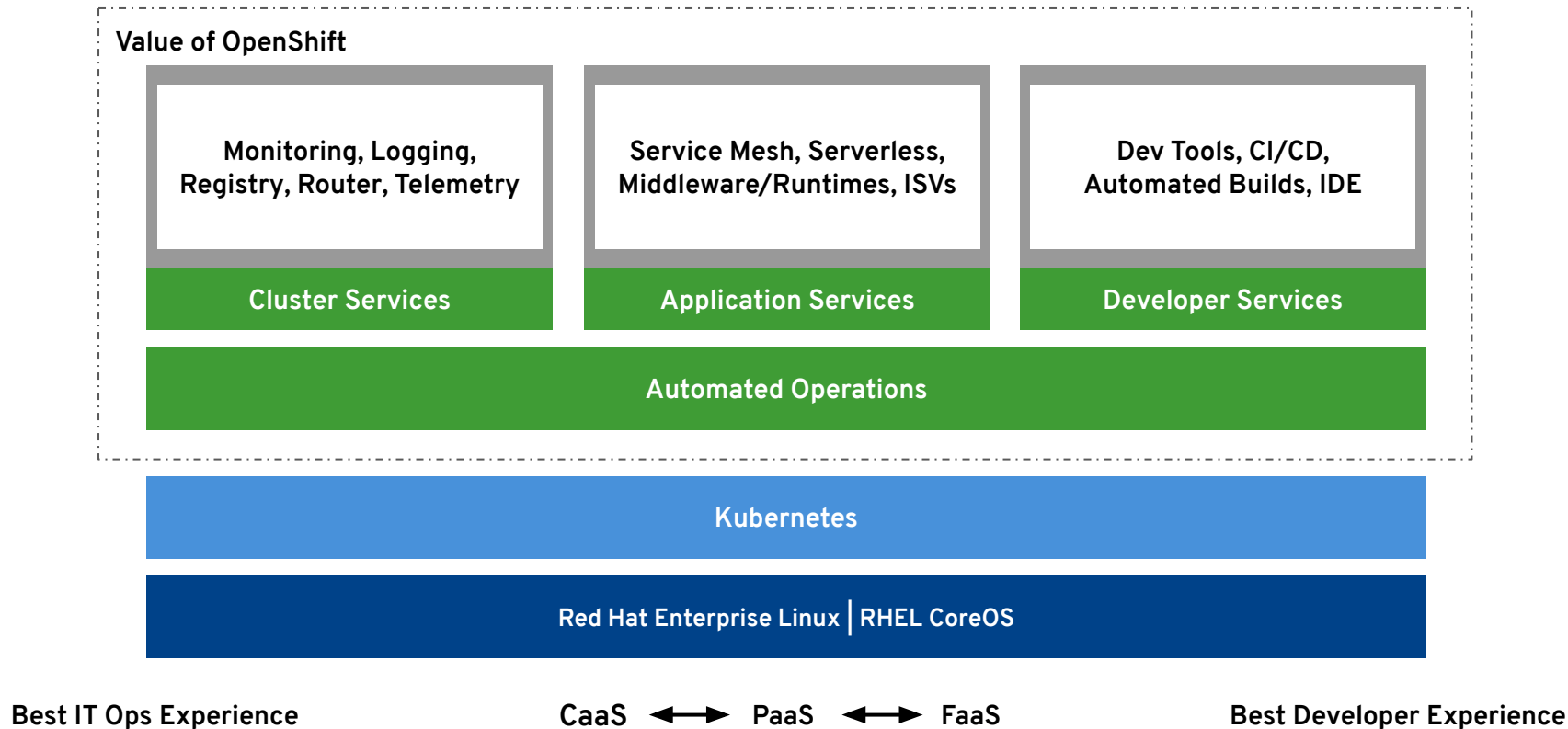
Alfred Bach
Principal Solution Architect
June 2021

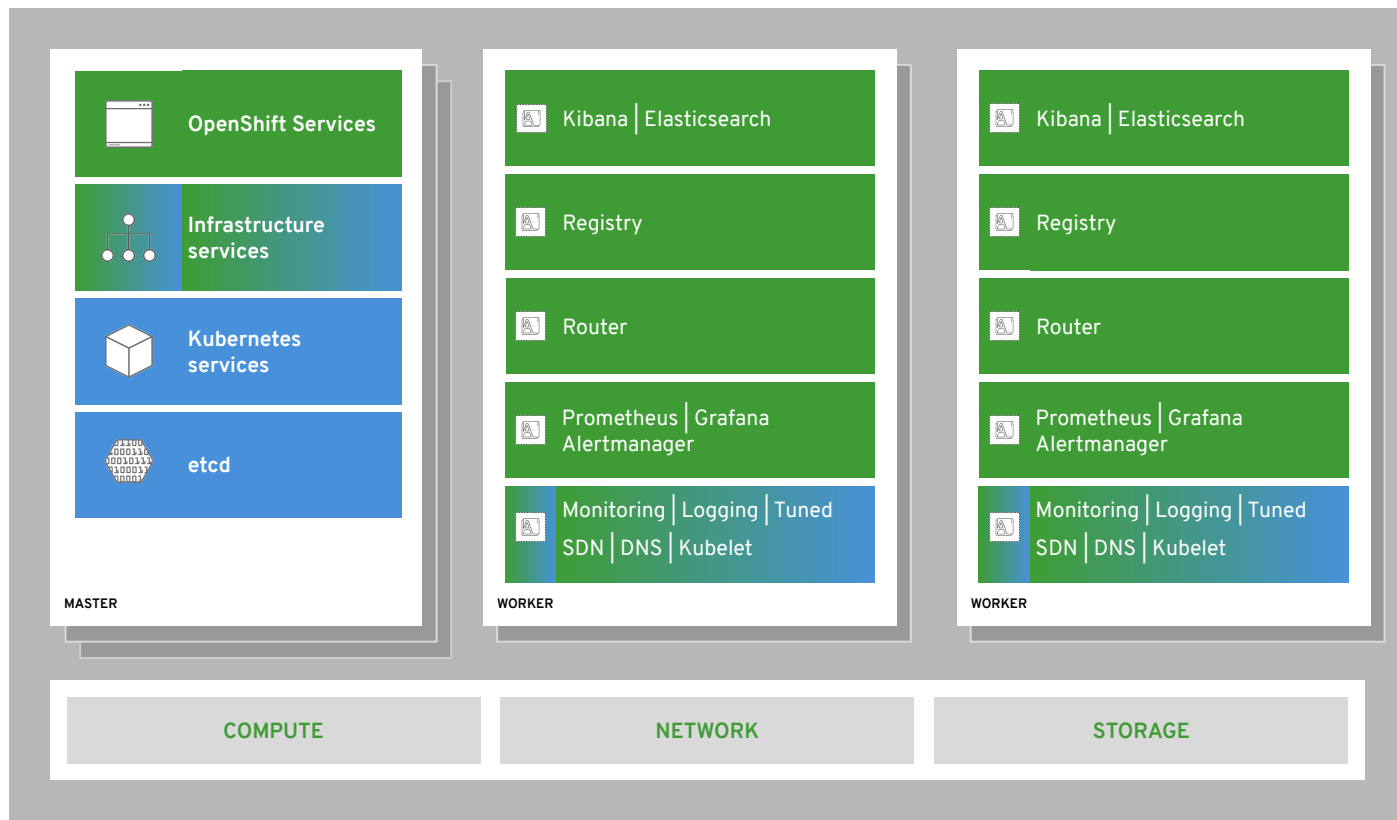
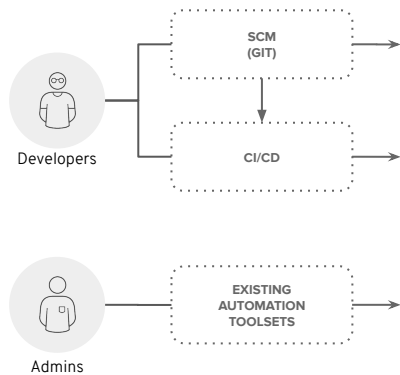




Functional overview







Database

Streaming & Messaging

Application Definition & Image Build

Continuous Integration & Delivery

Platform

Observability and Analysis

App Definition and Development



Orchestration & Management



Runtime



Provisioning



Cloud





OpenShift 4 Architecture

your choice of infrastructure

COMPUTE

NETWORK

STORAGE

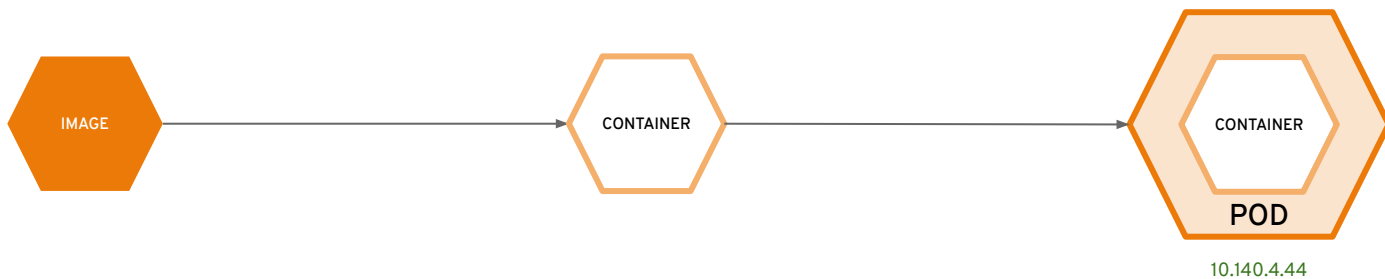
workers run workloads



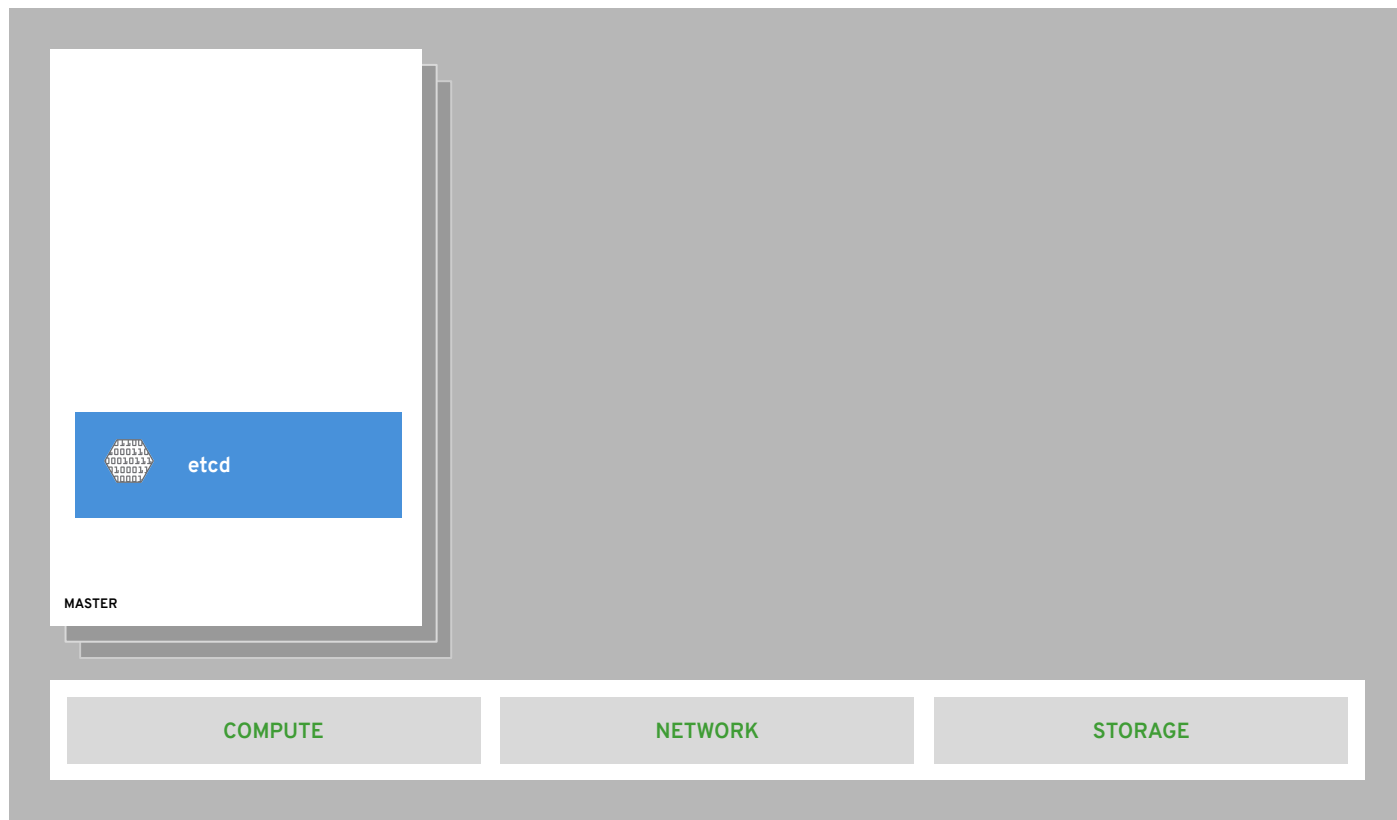
masters are the control plane



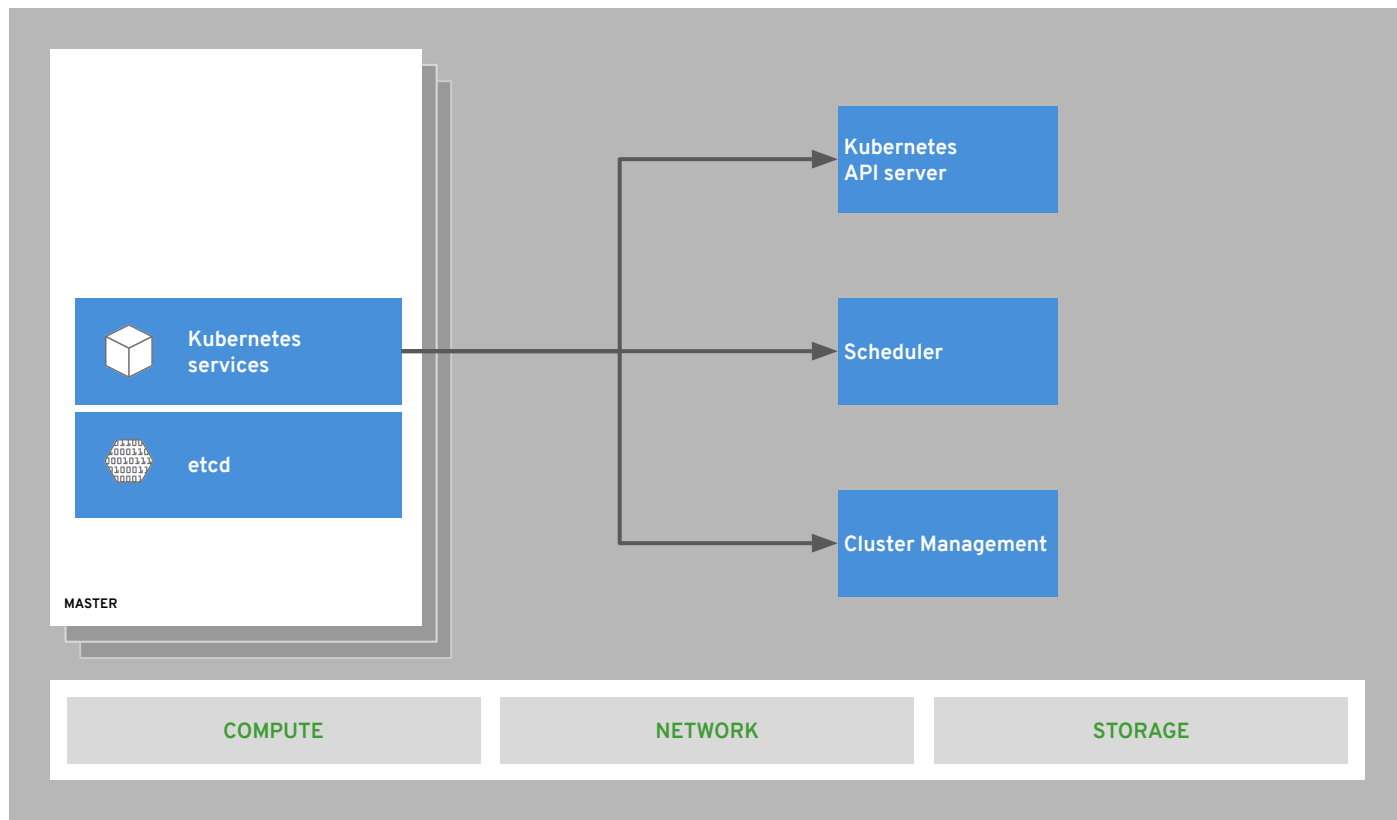
everything runs in pods



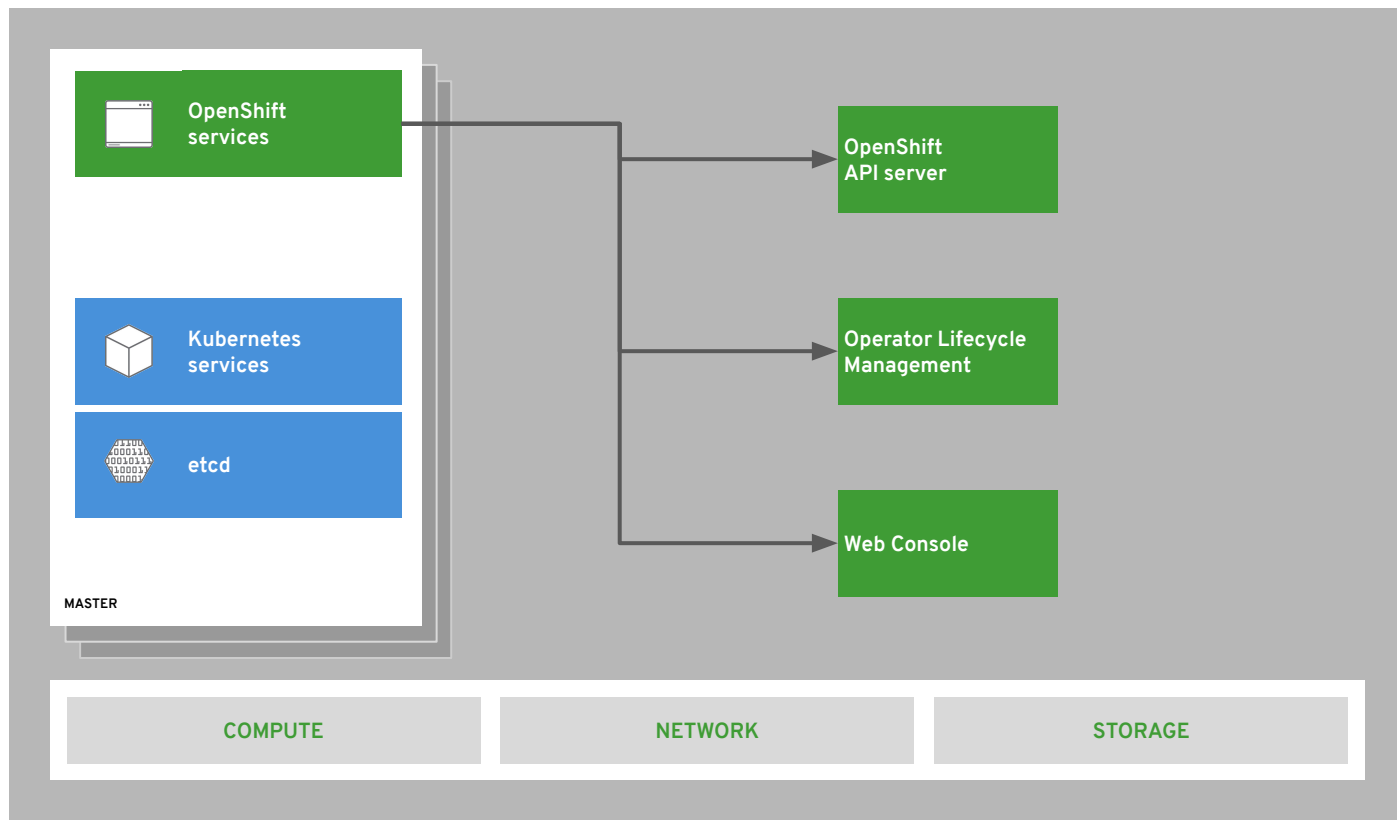
state of everything



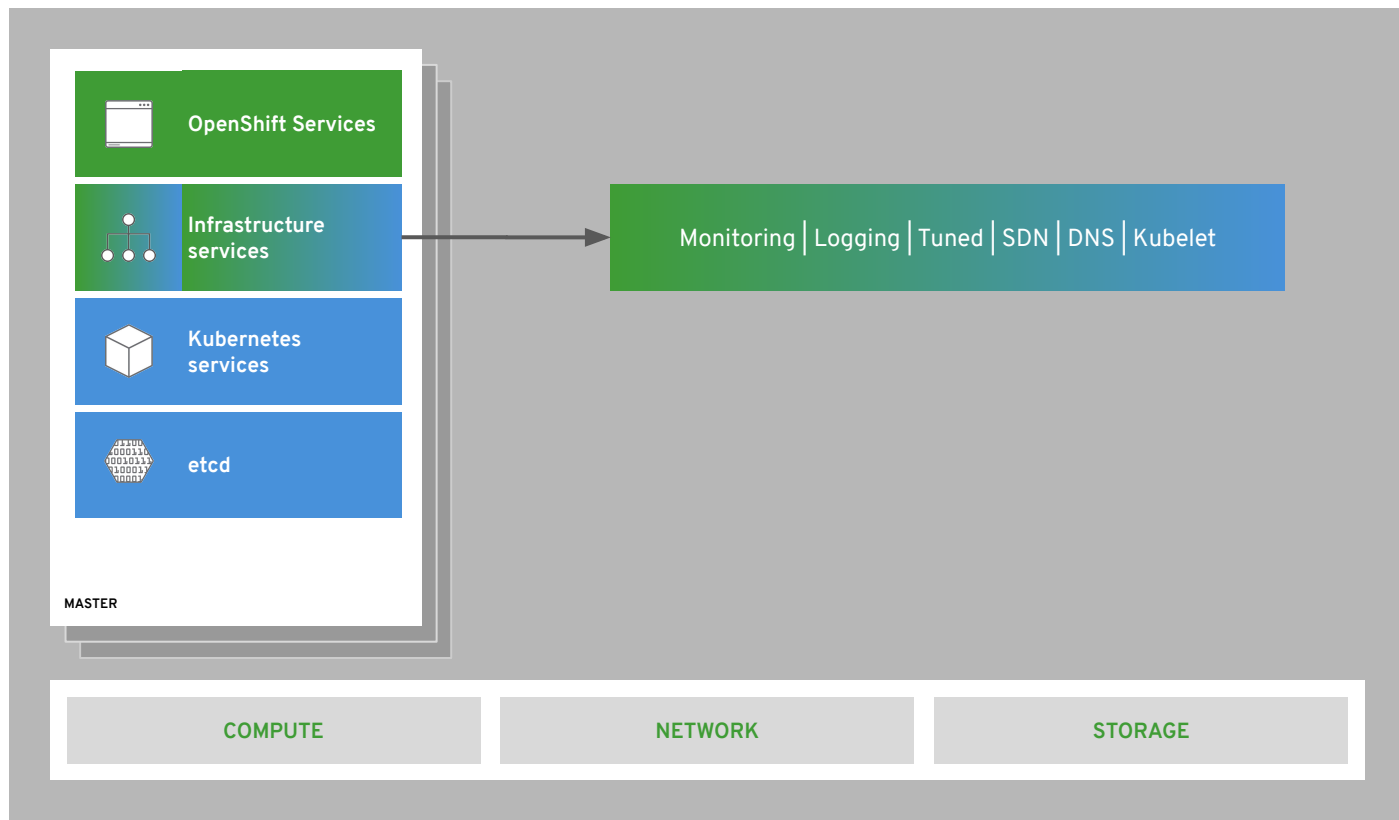
core kubernetes components



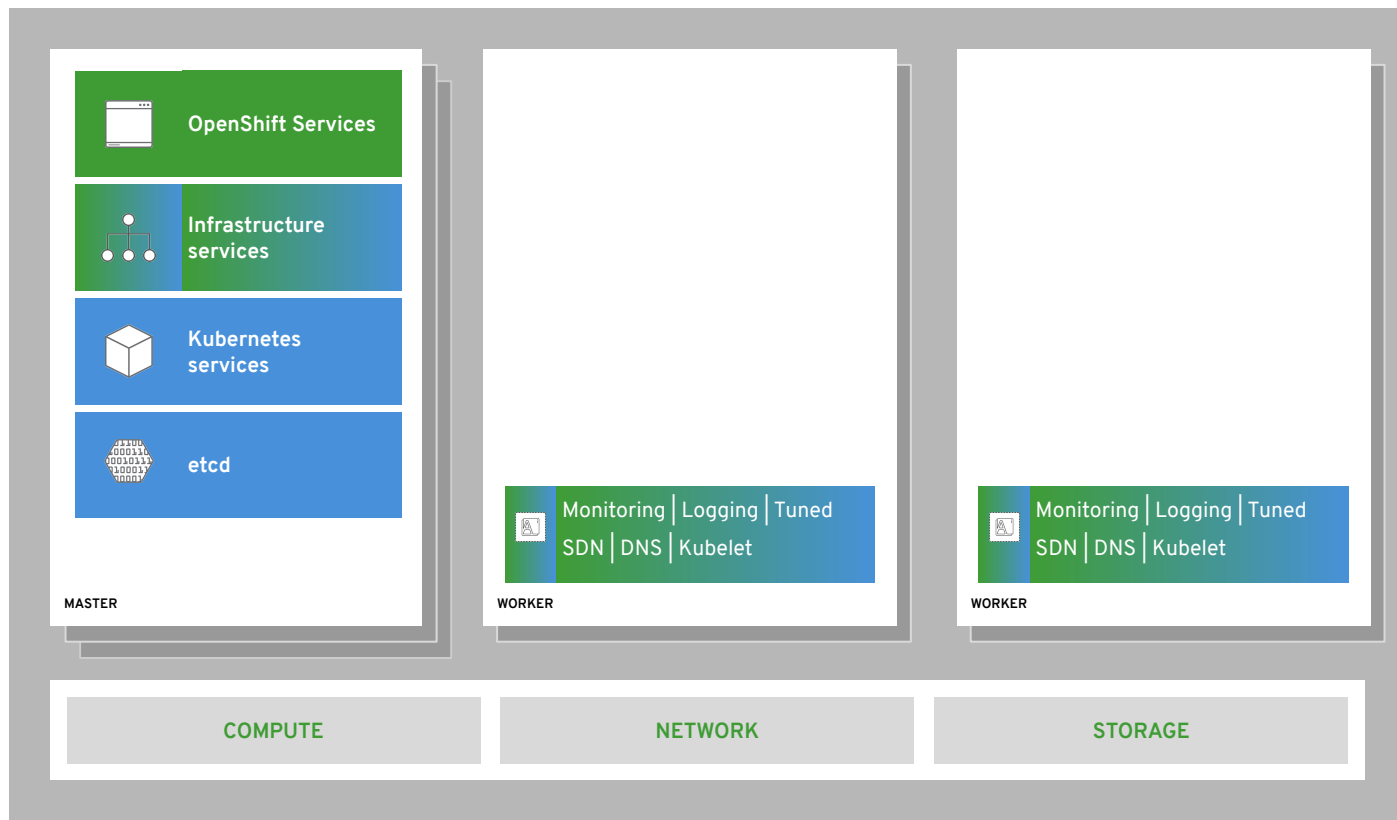
core OpenShift components



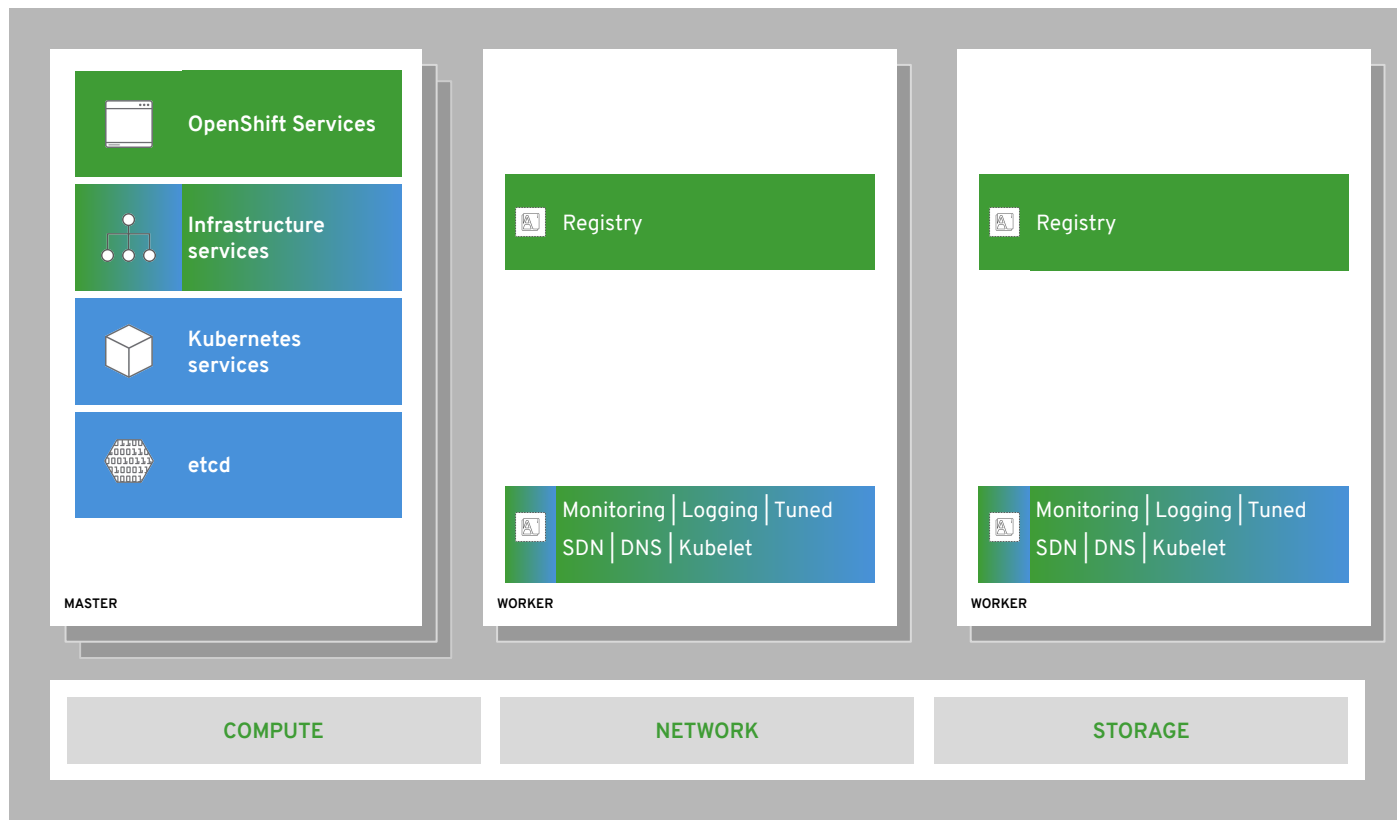
internal and support infrastructure services



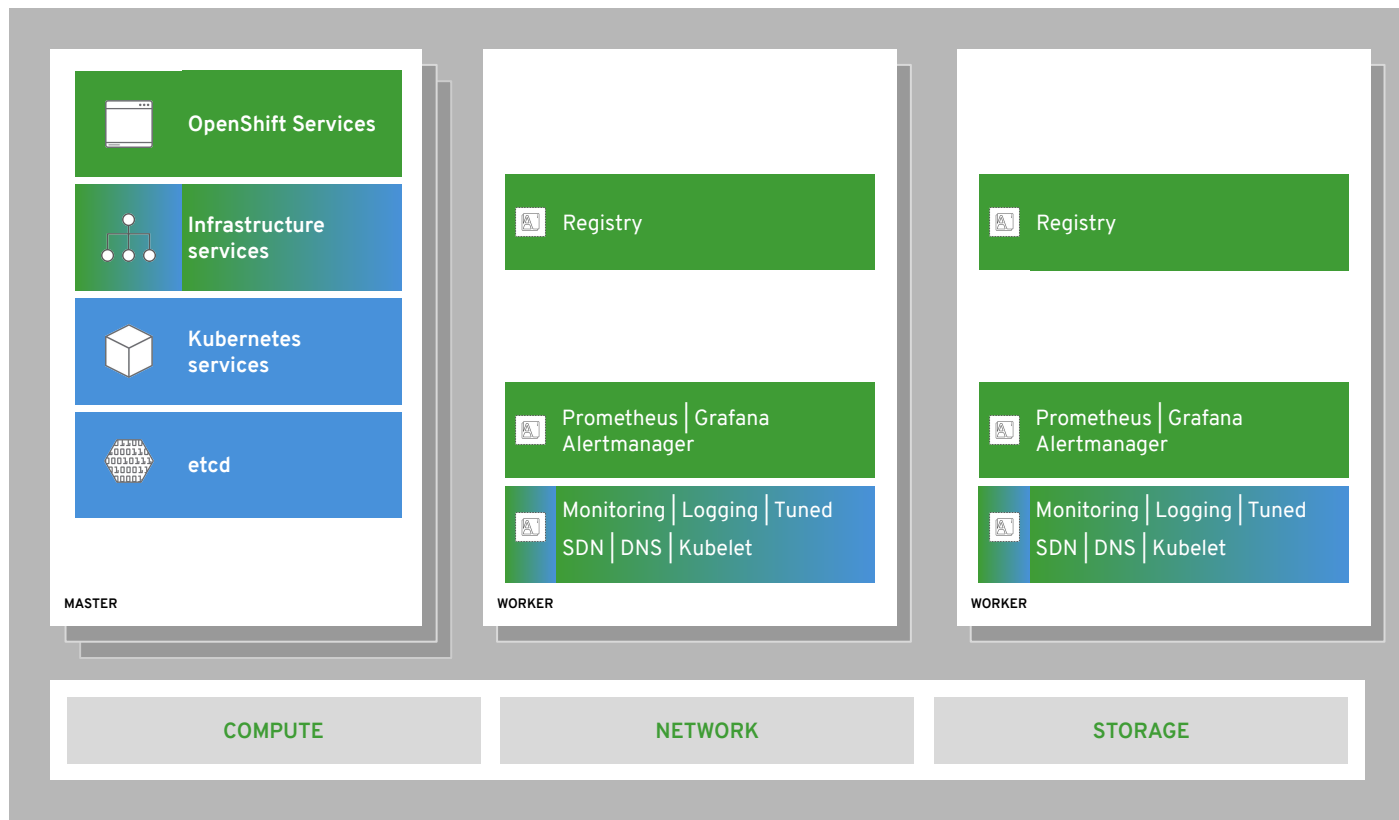
run on all hosts



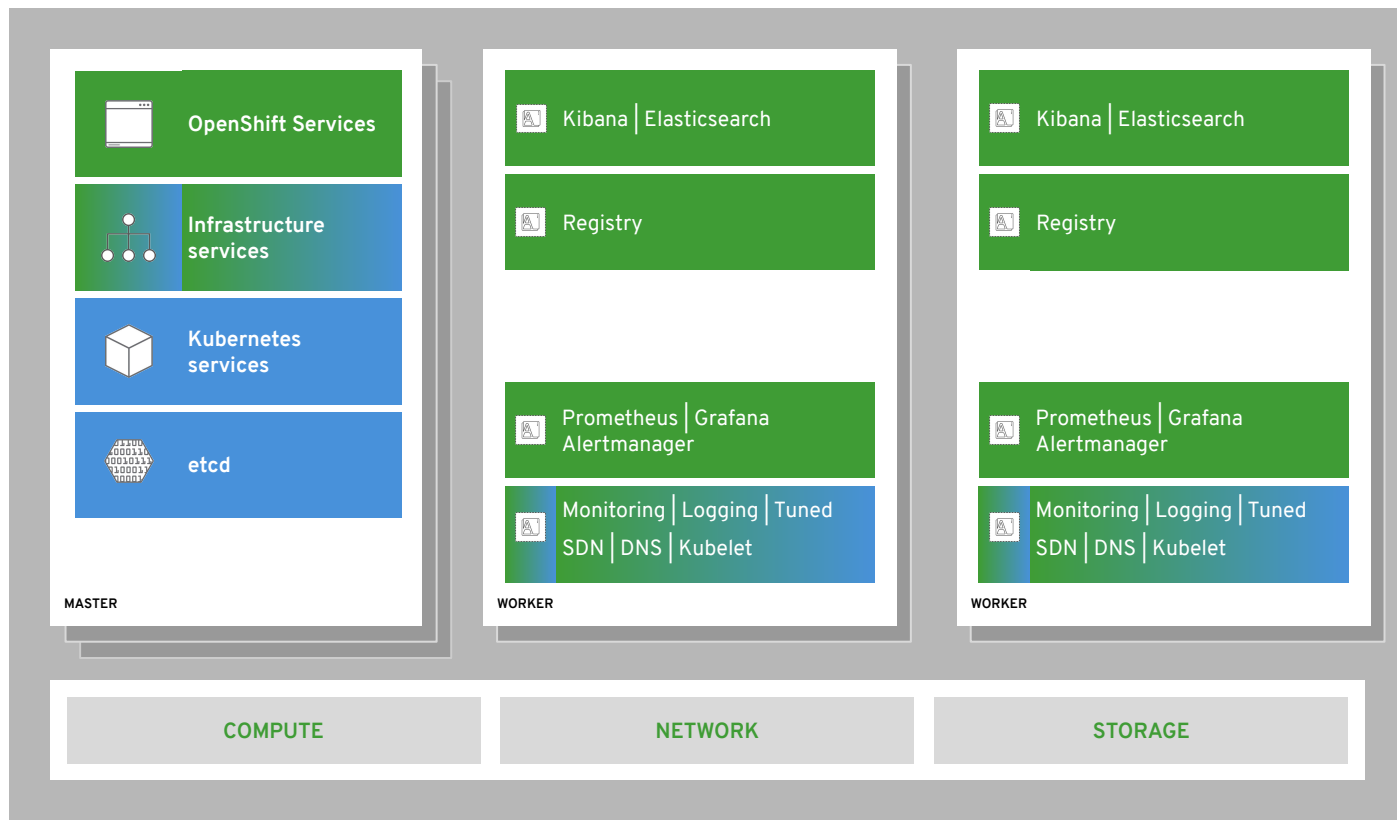
integrated image registry



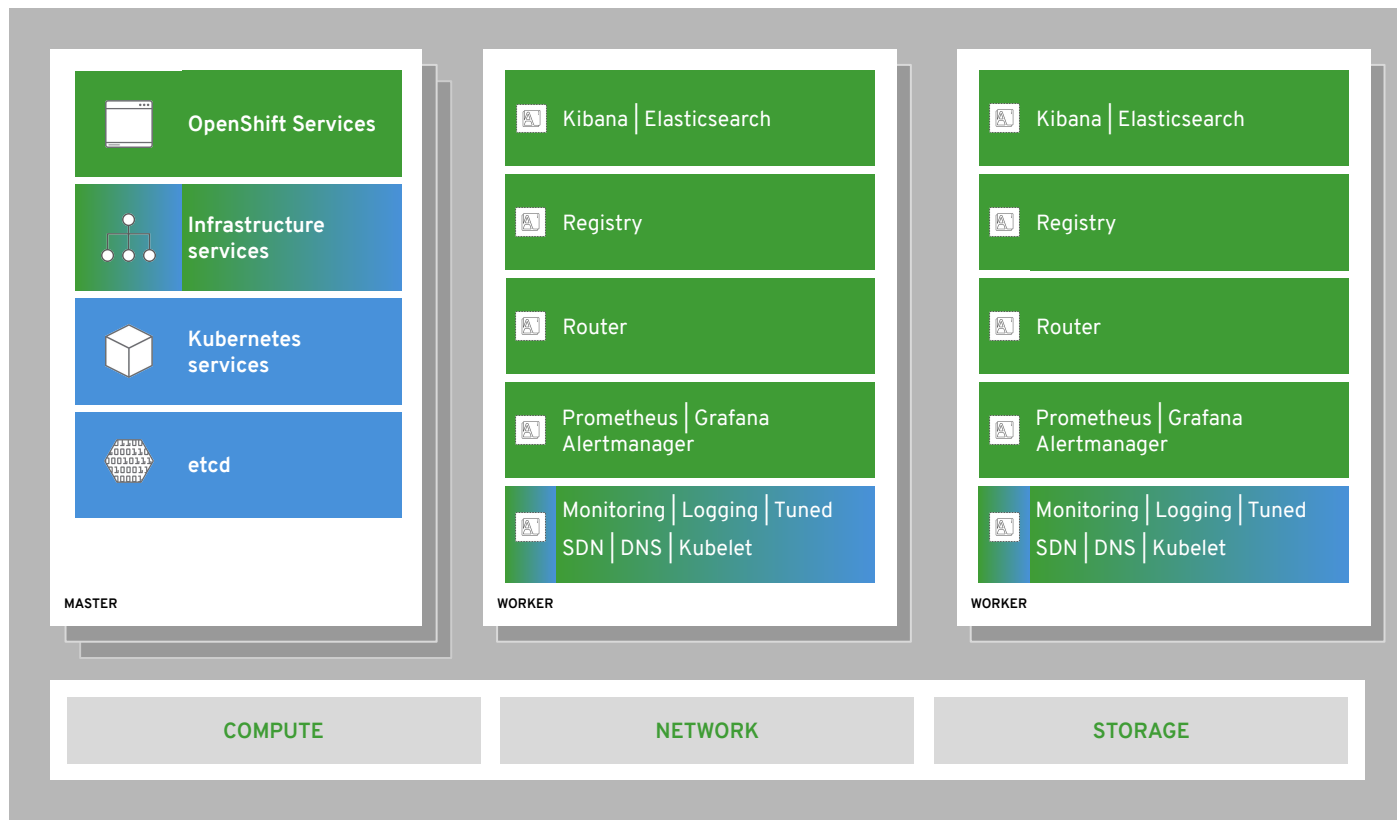
cluster monitoring



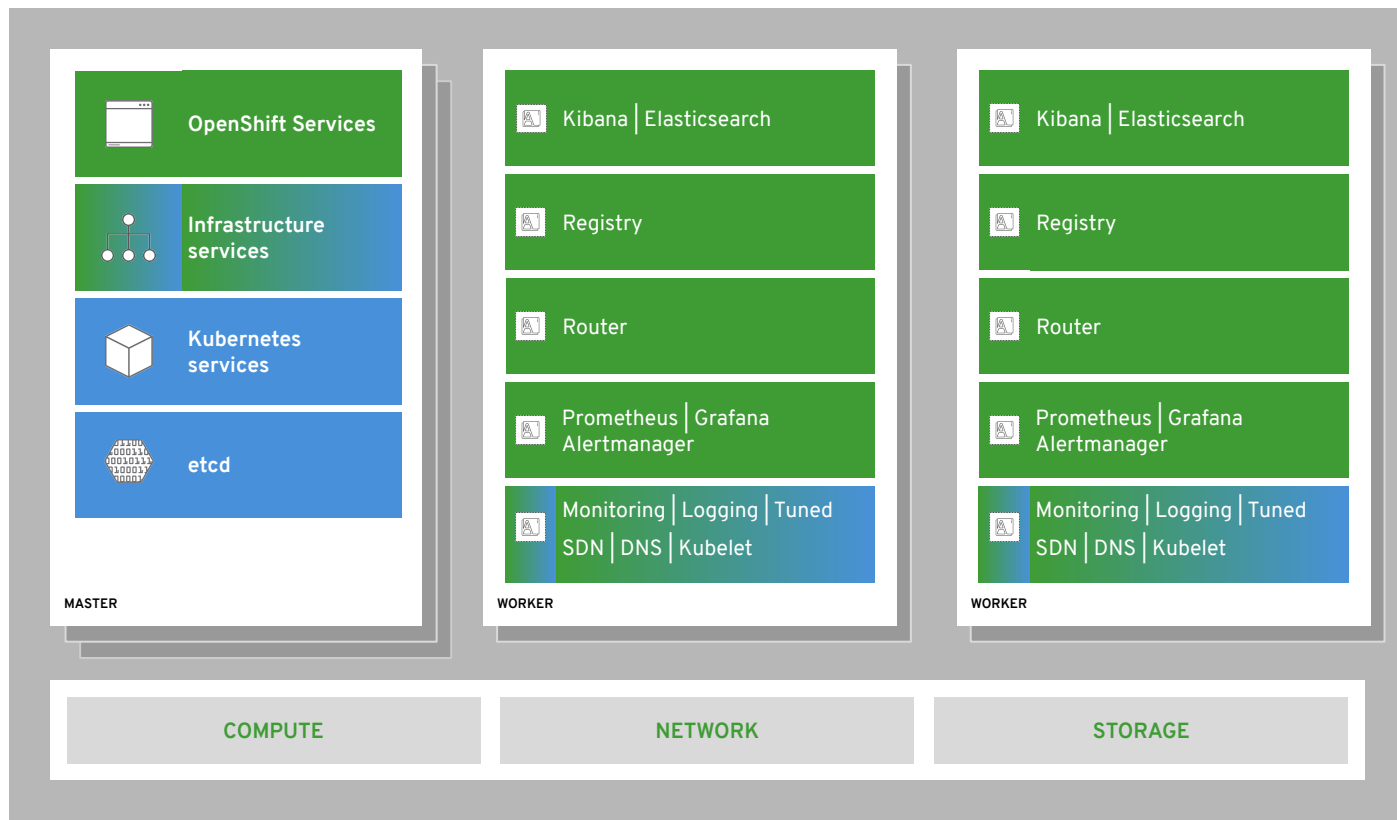
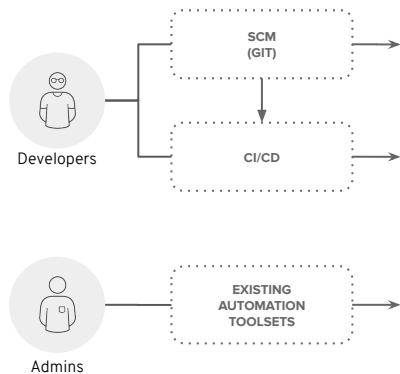
log aggregation



integrated routing



dev and ops via web, cli, API, and IDE



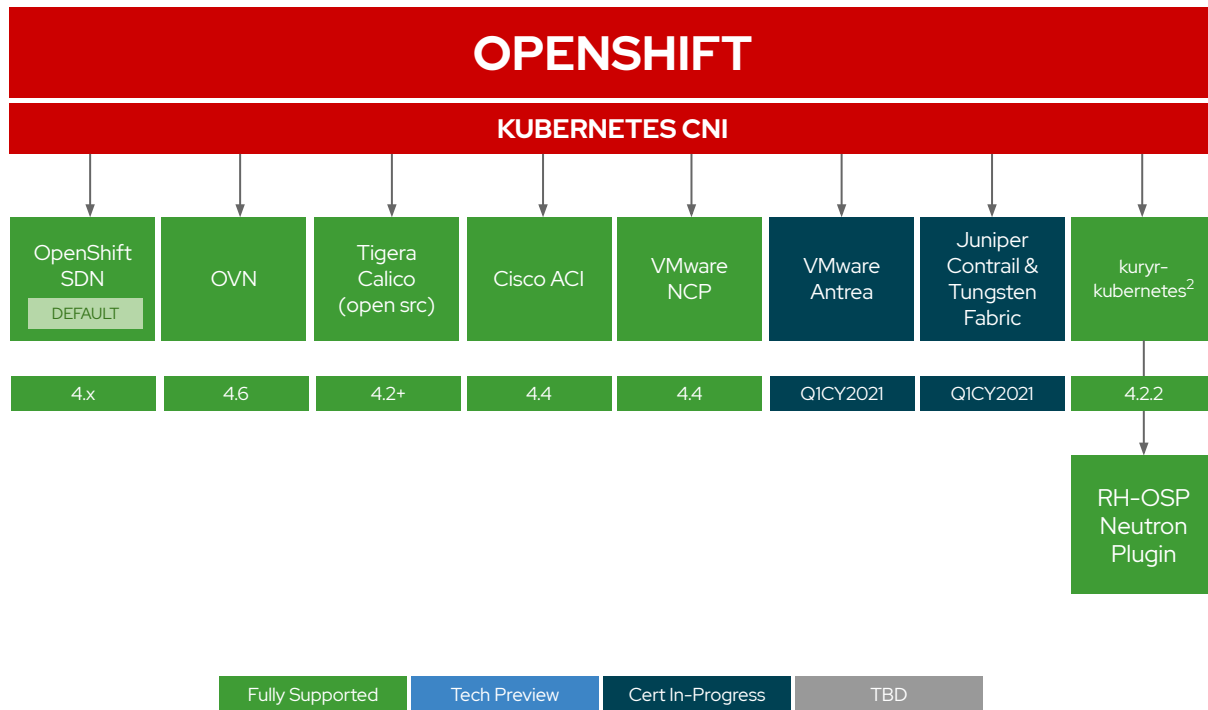
Networking

A pluggable model for
network interface
controls in kubernetes

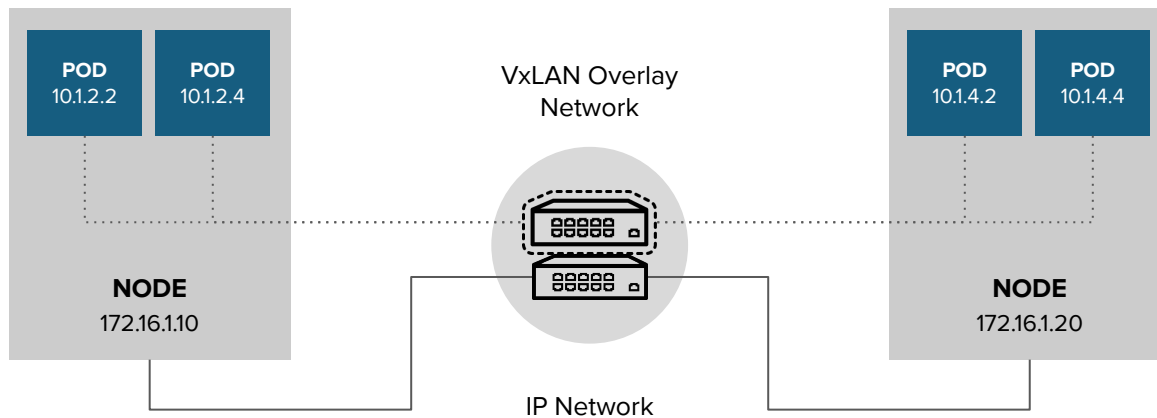
OpenShift Networking Plug-ins

3rd-party Kubernetes CNI plug-in certification primarily consists of:

1. Formalizing the partnership
2. Certifying the container(s)
3. Certifying the Operator
4. Successfully passing the same Kubernetes networking conformance tests that OpenShift uses to validate its own SDN



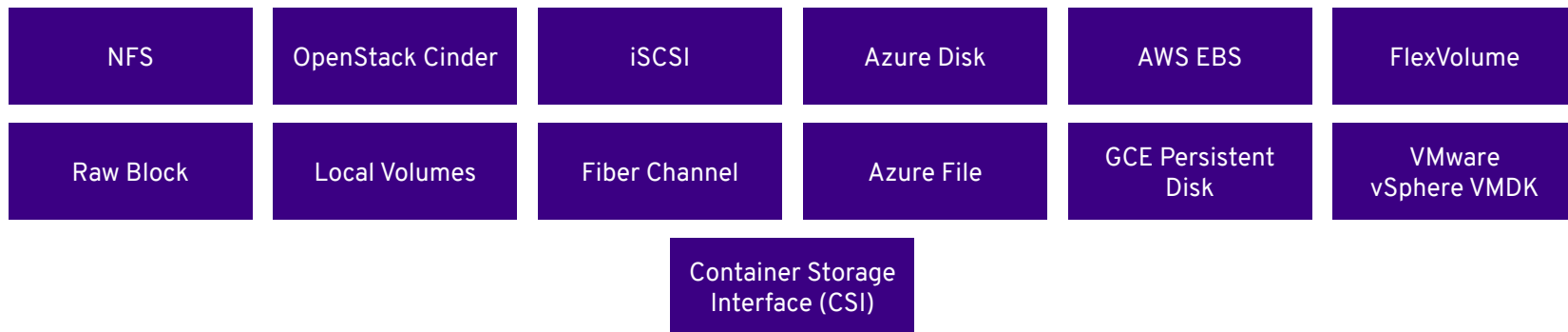
OpenShift SDN high-level architecture



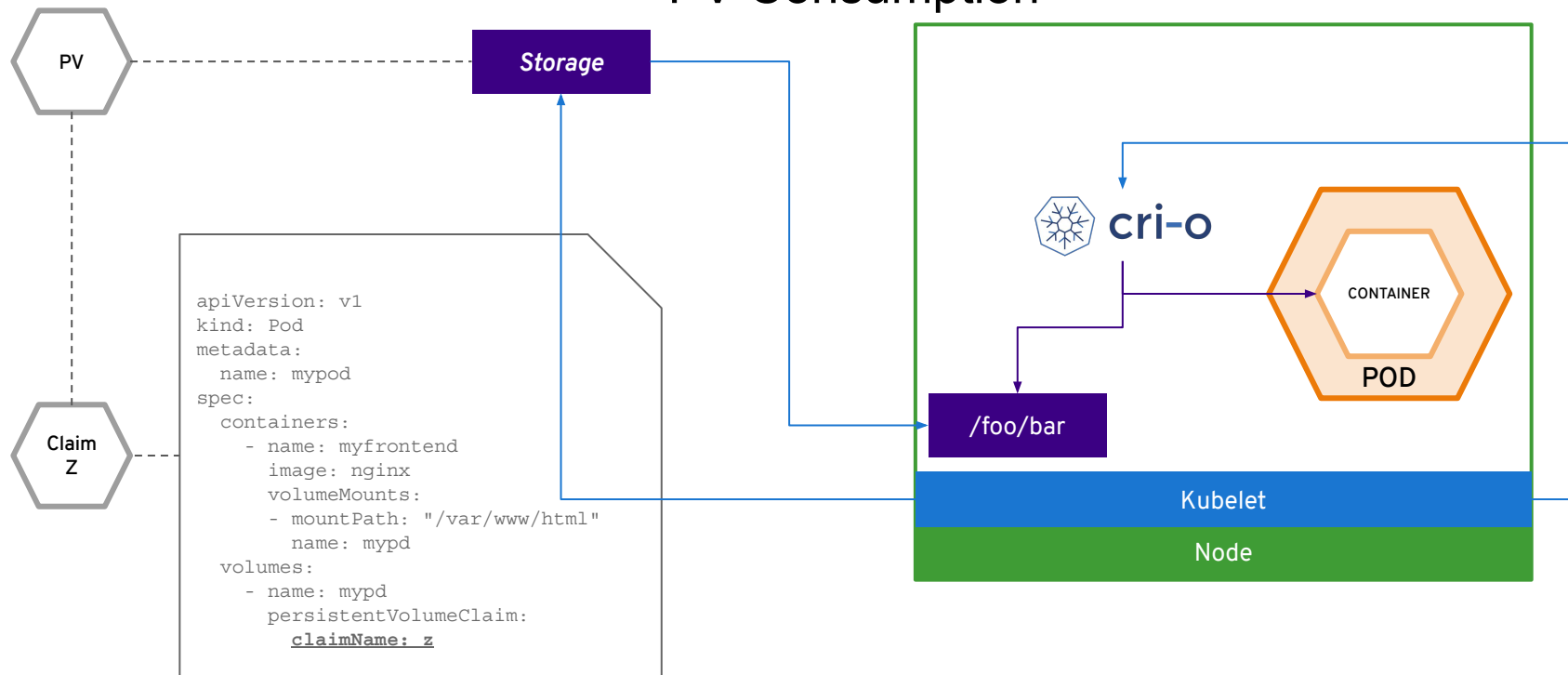
Persistent Storage

Connecting real-world
storage to your
containers to enable
stateful applications

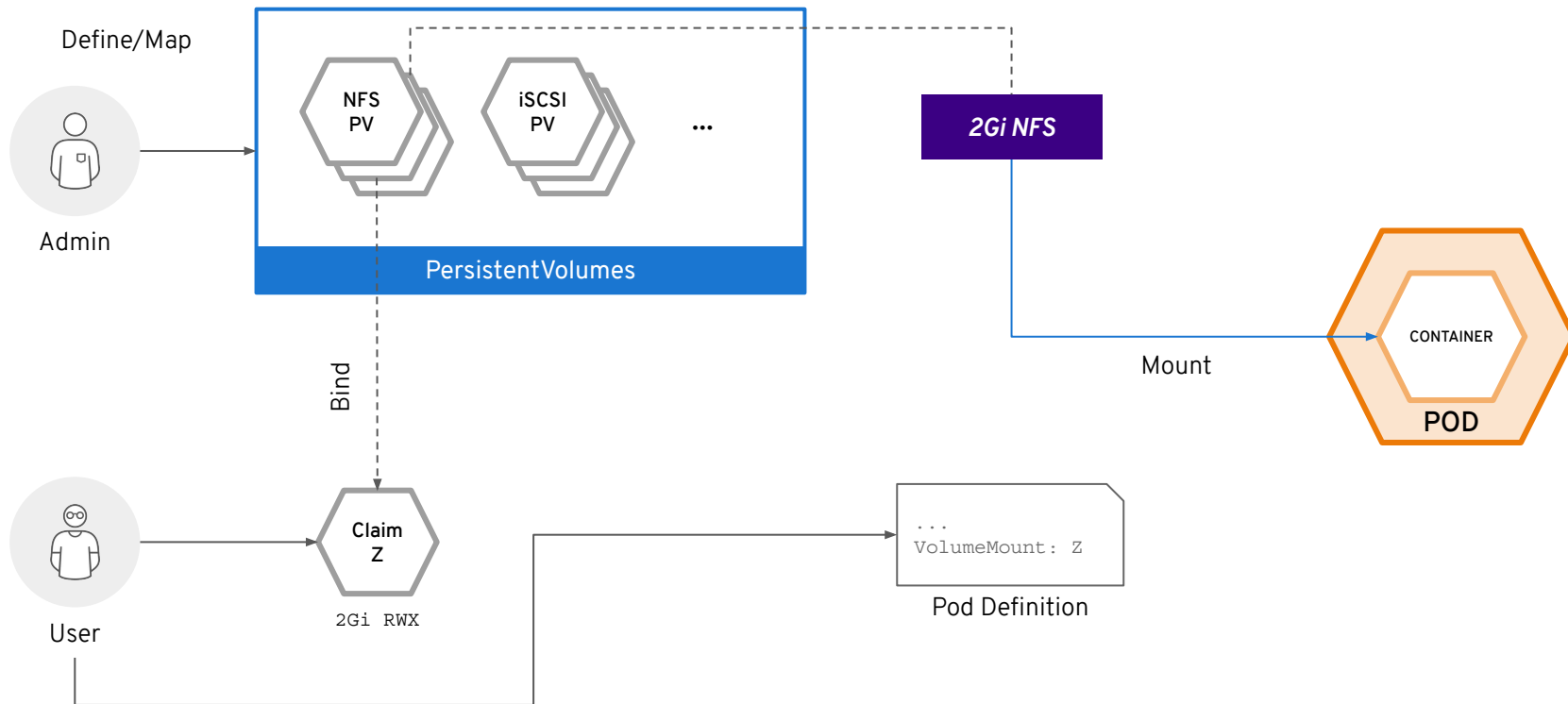
A broad spectrum of static and dynamic storage endpoints



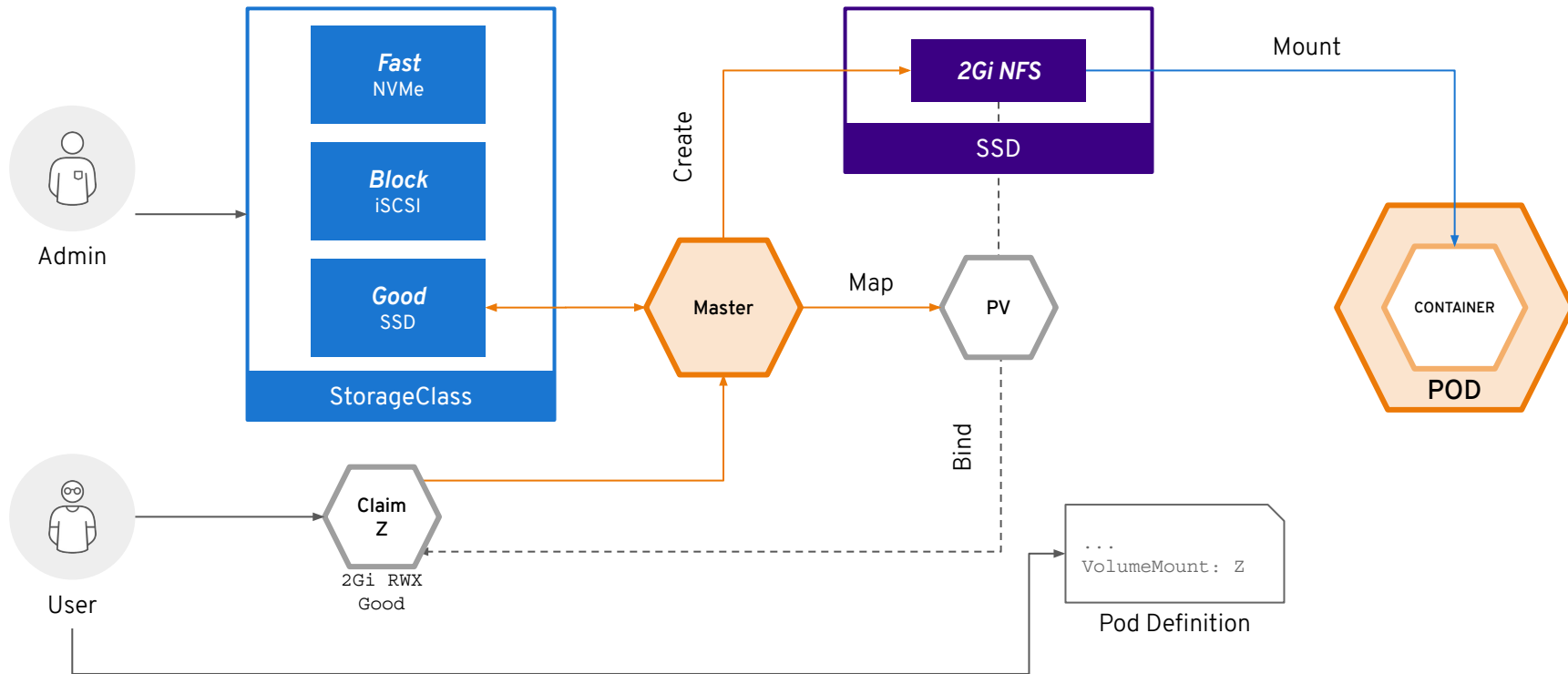
PV Consumption



Static Storage Provisioning

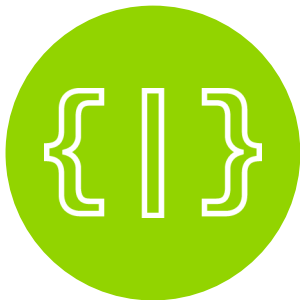


Dynamic Storage Provisioning



Build and Deploy Container Images

Tools and automation
that makes developers
productive quickly



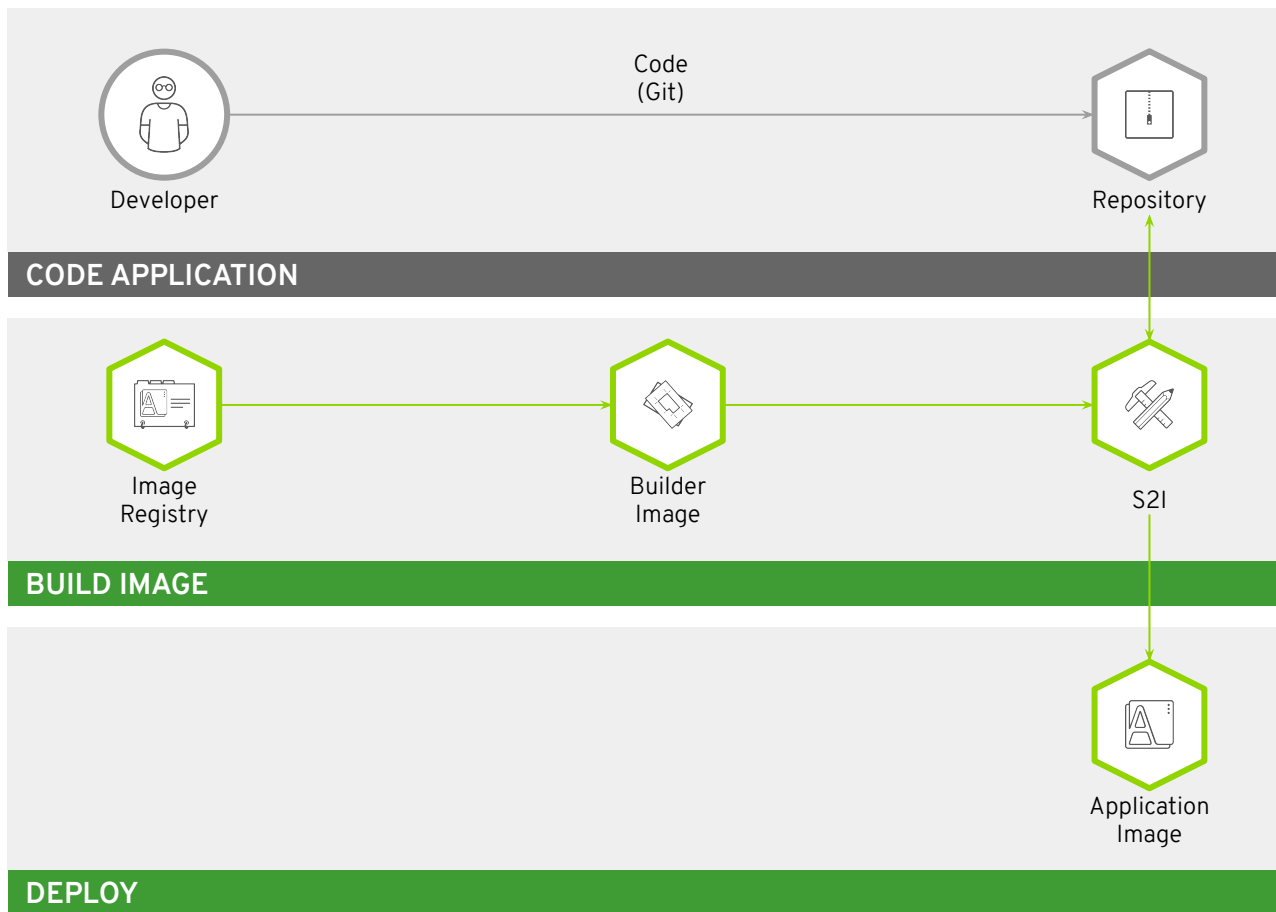
**DEPLOY YOUR
SOURCE CODE**



**DEPLOY YOUR
APP BINARY**



**DEPLOY YOUR
CONTAINER IMAGE**





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