# KUBERNETES SOLUTIONS DIRECTORY

# The New Stack Kubernetes Solutions Directory First Edition, released February 2018

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# INTRODUCTION

Although this directory has more than 100 entries, it is not meant to be comprehensive. It lists many, but not all, of the projects and vendor offerings that are used to deploy and manage Kubernetes and the applications running on it. Listings are divided into four sections to make it easier for the reader to quickly review, and are only a starting point when considering solutions you may want to use. For a more in-depth look at Kubernetes deployment and security solutions, please see our <u>Kubernetes Ecosystem ebook series</u>.

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# KUBERNETES DISTRIBUTIONS

Several offerings are classified as a managed service, a Platform as a Service (PaaS), Containers as a Service (CaaS) or a container management solution. These categorizations are not definitive, but rather a guide to help the reader. Sponsor products and services are highlighted.

# **Product/Project (Company or Supporting Org.)**

# **Type of Kubernetes Distribution**

# **Alauda EE** (Alauda)

» PaaS

Alauda EE is a next-generation PaaS based on container technology and DevOps for microservices applications. Kubernetes is fully integrated, and the Spring Cloud microservices framework is supported.

# **Alibaba Cloud Container Service (Alibaba Group)**

» Container Service or Platform

Alibaba Cloud Container Service is a fully-managed cloud container management service that enables you to run and manage Docker applications on a distributed cluster of Alibaba Cloud ECS instances. It supports Kubernetes.

# **Amazon Elastic Container Service for Kubernetes/ Amazon EKS**

» Container Service or Platform

(AWS)

Amazon EKS is a managed service that makes it easy for you to run Kubernetes on AWS without needing to install and operate your own Kubernetes clusters. It is currently in preview. AWS Fargate allows users to utilize both Amazon ECS and EKS to run containers.

# **Apprenda** (Apprenda)

» PaaS

Apprenda provides a private PaaS for enterprises that supports the hosting of containers.

# **AppsCode** (AppsCode)

» PaaS

AppsCode is developing many open source components for Kubernetes that are integrated into its platform for collaborative coding, testing and deploying of containerized apps. Projects include: Voyager, an ingress controller; Stash, a Kubernetes operator for the backup program restic; and Pharmer, a cluster manager for Kubeadm.

### **APPUIO** (APPUIO)

» Container Service or Platform

A PaaS based on Red Hat OpenShift, APPUiO is from a Swiss company that targets developers as customers.

# **Azure Container Service/ AKS (Microsoft)**

» Container Service or Platform

AKS is a fully-managed Kubernetes container orchestration service that also supports other orchestrators.

# **Caicloud Compass** (Caicloud)

» PaaS

Compass is an enterprise containerization solution built on Kubernetes. The Chinese company also promotes the use of deep learning workloads on the system.

# **Type of Kubernetes Distribution**

# **Canonical Distribution of Kubernetes (Canonical)**

Canonical's distribution provides customers access to stable upstream Kubernetes releases, as well as access to early builds of the upstream Kubernetes development branch. Canonical has optimized Kubernetes to run with its existing infrastructure and DevOps tools, but it also works across all major public clouds and private infrastructure.

# **Chorus** (Stratoscale)

» Container Service or Platform

A highly scalable Kubernetes as a Service that lets developers and admins create Kubernetes clusters via a GUI or APIs.

# **Cloud Foundry Container Runtime (Cloud Foundry Foundation)**

» Container Service or Platform

Cloud Foundry (CF) Container Runtime offers a uniform way to instantiate, deploy and manage highly available Kubernetes clusters on a cloud platform using CF BOSH.

# **Containership** (Containership)

» Managed Service

Allows users to run services necessary to quickly launch a Kubernetes cluster. Containership is a self-hosted container management platform, capable of running on any cloud, and used to manage containers from development to production.

# **DaoCloud Enterprise (DaoCloud)**

» PaaS

A cloud-native application cloud platform that lets users run Kubernetes clusters.

# **Diamanti Container Converged Platform (Diamanti)**

A purpose-built container infrastructure that addresses the challenges of deploying containers to production while letting users keep their existing infrastructure. It does switching natively on bare metal by plugging into a CPU bus.

# **Docker Enterprise Edition (Docker)**

» Container Service or Platform

A CaaS, Docker Enterprise now provides support for Kubernetes. The bulk of the Kubernetes integration work happens in the Moby Project.

# **EasyStack Kubernetes Service (EasyStack)**

» Container Service or Platform

An enterprise container platform that integrates applications and infrastructure resources through deep integration of Kubernetes and the OpenStack platform.

# **Enterprise Container Operation System/ Ecos** (Chengdu Ghostcloud » PaaS **Technology Co.**)

An enterprise-grade PaaS/CaaS platform, EcOS supports Kubernetes with kernel-depth customization and one-click deployment of Kubernetes and Docker.

### **Enterprise DC/OS (Mesosphere)**

Mesosphere DC/OS runs Kubernetes as a Service alongside traditional apps and data services on any infrastructure.

# **FusionStage** (Huawei Technologies Co.)

» PaaS

An enterprise-grade PaaS product, the core of which is based on mainstream open source container technology including Kubernetes and Docker. It is available for both public cloud and private data center deployments.

# **Getup Container Platform (Getup Cloud)**

» PaaS

A platform built with Docker, Kubernetes and OpenShift, it is currently offered on a trial basis by a Brazilian startup that is also developing an engine to be deployed on your servers.

# **Type of Kubernetes Distribution**

# **Giant Swarm (Giant Swarm)**

» Managed Service

A hosted container solution to build, deploy and manage containerized services with Kubernetes as a core component. It offers customers fully-managed private Kubernetes clusters, including management of master and nodes. It is offered "as a service" or can be deployed and managed on premises by Giant Swarm.

# **Google Kubernetes Engine (Google)**

» Container Service or Platform

A managed environment to deploy, manage and scale containerized applications on Kubernetes, powered by Google Cloud.

# **Hasura Platform** (Hasura Technologies Private Limited)

» PaaS

A platform for creating and deploying microservices from an emerging company whose infrastructure is built using Docker and Kubernetes.

# **Heptio Kubernetes Subscription/ HKS (Heptio)**

A fully-supported Kubernetes deployment with the assurance and stability of a distribution, but the control and flexibility of open source.

# **IBM Cloud Container Service (IBM)**

» Container Service or Platform

The service allows users to deploy Docker containers and the IBM Cloud Container Registry on Kubernetes clusters.

# **Kubernetes** (Cloud Native Computing Foundation)

Kubernetes is an open source container orchestration tool that many organizations deploy as-is. Google initially developed Kubernetes to help manage its own LXC containers. Stateful support for this "vanilla" distribution is done through a new object called Pet Set. In addition, there are many networking and data-volume plugins available.

# **Last.Backend** (Last.Backend)

» PaaS

A platform built on top of Kubernetes with a command-line toolkit and UI to deploy apps and manage infrastructure.

### **Madcore** (Madcore)

» Managed Service

Madcore attempts to bring managed Kubernetes platforms and deep learning platforms together. The unique differentiator for this offering is the built-in support for Spark and associated deep learning tools within the Kubernetes cluster. Madcore is available only on AWS.

# **Magnum** (OpenStack Foundation)

» Container Service or Platform

An OpenStack API service which makes container orchestration engines, such as Docker and Kubernetes, available as first-class resources in OpenStack.

# **Managed Kubernetes (Canonical)**

» Managed Service

Canonical manages Kubernetes clusters on bare metal, VMware, OpenStack or any public cloud.

# **Managed Kubernetes (Kumina)**

» Managed Service

Dutch consulting company that provides managed services.

# **MCP OpenCaaS** (Mirantis)

» Container Service or Platform

A composable CaaS that lets users manage Kubernetes clusters across public and private clouds via a single control plane.

# **NetEase Container Service (NetEase)**

» Container Service or Platform

An enterprise-class container platform based on Kubernetes technology.

# **Type of Kubernetes Distribution**

### **Nirmata** (Nirmata)

» PaaS

A platform that helps enterprise DevOps teams deploy, operate and optimize Kubernetes applications across public and private clouds.

# **OpenShift Origin** (Red Hat)

» Container Service or Platform

OpenShift Origin is the upstream open source version of Red Hat OpenShift Container Platform and is meant to allow for development of cloud-native applications. OpenShift is a container application platform built on Open Container Initiative (OCI)-compliant Linux containers that orchestrates with Kubernetes. It also has Atomic and Red Hat Enterprise Linux (RHEL) components.

# <u>Pivotal Container Service/ PKS</u> (Pivotal Software)

» Container Service or Platform

A commercial version of Cloud Foundry Container Runtime that makes it easy to deploy Kubernetes and consume it in environments running vSphere or Google Cloud Platform. VMware offers Pivotal Container Service, which is integrated with VMware Software-Defined Data Center (SDDC).

# **Platform9 Managed Kubernetes (Platform9)**

» Managed Service

Customers can utilize Platform9's single pane of glass, allowing users to orchestrate and manage containers alongside virtual machines (VMs). You can orchestrate VMs using OpenStack and/or Kubernetes.

# **Rancher** (Rancher Labs)

» Container Service or Platform

Rancher's container management platform natively supports and manages Kubernetes, Mesos and Swarm clusters.

# **Red Hat OpenShift Container Platform (Red Hat)**

» Container Service or Platform

A container application platform that can span multiple infrastructure footprints: bare metal, virtual machine, VMware, OpenStack, Amazon Web Services (AWS), Azure and Google Cloud Platform (GCP). It is built using OCI-compliant Linux containers and Kubernetes technology.

# **Red Hat OpenShift Dedicated (Red Hat)**

» Container Service or Platform

A private, high availability OpenShift cluster, hosted on AWS or GCP, and operated as a cloud service by Red Hat.

### **Red Hat OpenShift Online** (Red Hat)

» Container Service or Platform

Red Hat's public cloud version of OpenShift is available for developers around the world to consume as a service (with free and paid tiers). It is built using OCI-compliant Linux containers and Kubernetes technology.

# **Supergiant Cloud (Qbox)**

» Container Service or Platform

Supergiant Cloud hosts stateful, clustered applications utilizing Kubernetes under the hood.

### **SUSE Caas Platform (SUSE)**

» Container Service or Platform

An application development and hosting platform for container-based applications and services. It uses SUSE Linux Enterprise MicroOS and Kubernetes.

### **Tectonic** (CoreOS)

Tectonic is the enterprise-ready Kubernetes solution that delivers pure, upstream Kubernetes. Tectonic provides automated operations allowing users to easily upgrade to the latest Kubernetes software version with one click.

# **TenxCloud Container Engine (TenxCloud)**

» Container Service or Platform

A Kubernetes service offered by a Chinese company.

# **Type of Kubernetes Distribution**

# Typhoon (N/A)

Typhoon distributes upstream Kubernetes, architectural conventions and cluster add-ons, much like a GNU/Linux distribution provides the Linux kernel and userspace components.

# KUBERNETES SUB-PROJECTS

The Cloud Native Computing Foundation manages these open source projects as part of the umbrella Kubernetes repository. Sponsor products and services are highlighted.

# **Product/Project (Company or Supporting Org.)**

# **Type of Tool or Service**

# **Heapster** (Cloud Native Computing Foundation/ CNCF)

» Monitoring

Enables analysis of compute resource usage and monitoring of container clusters. Heapster currently supports Kubernetes and CoreOS natively.

Helm (CNCF) » Management

A Kubernetes-native package manager that helps operators declare and manage complex, multi-part applications.

**Kompose** (CNCF) » Deployment

A tool to help users familiar with docker-compose move to Kubernetes.

» Deployment/ Management kops (CNCF)

Kubernetes Operations (kops) enables a production-grade Kubernetes installation, upgrades and management.

### **Kube deploy (CNCF)** » Deployment

A repository of community-maintained Kubernetes cluster deployment automations.

### **kubeadm** (CNCF) » Deployment

A part of the Kubernetes distribution that helps install and set up a Kubernetes cluster.

# **Kubernetes Anywhere (CNCF)**

» Deployment

An automated solution that will eventually allow users to deploy Kubernetes clusters across multiple clouds.

# **Kubernetes Dashboard (CNCF)**

» Management

A general purpose, web-based UI for Kubernetes clusters. It allows users to manage applications running in the cluster and troubleshoot them, as well as manage the cluster itself.

### Minikube (CNCF) » Deployment

Minikube is a tool that makes it easy to run Kubernetes locally. Minikube runs a single-node Kubernetes cluster inside a VM on your laptop. For users looking to try out Kubernetes or develop with it day-to-day.

### test-infra (CNCF) » Management

A collection of tools for testing Kubernetes and displaying Kubernetes tests results.

# TOOLS AND SERVICES

Offerings that help with the implementation of Kubernetes, as well as the deployment and management of applications on top of Kubernetes. Sponsor products and services are highlighted.

# **Product/Project (Company or Supporting Org.)**

# Type of Tool or Service

# **Argo** (Intuit)

» Deployment

An open source container-native workflow engine for Kubernetes. Argo integrates Kubernetes with cloud services such as AWS.

# **Bootkube** (Cloud Native Computing Foundation)

» Deployment

A helper tool for launching self-hosted Kubernetes clusters.

# **Brigade** (Microsoft)

» Management

Brigade is a tool for running scriptable, automated tasks as part of your Kubernetes cluster.

# **cAdvisor** (Google)

» Monitoring

cAdvisor (Container Advisor) is a Google-supported project that analyzes resource usage and performance characteristics of running containers.

## **conjure-up** (Canonical)

» Deployment

conjure-up provides the quickest way to deploy Kubernetes on Ubuntu for multiple clouds and bare metal. It provides a userfriendly Ul that prompts for cloud credentials and configuration options.

# **Draft** (Microsoft)

» Application Deployment

A tool for developers to create cloud-native applications on Kubernetes. Draft is still experimental.

### FaaS-netes (N/A)

» Application Deployment/ Serverless

A plugin to enable Kubernetes as an OpenFaaS (Functions as a Service) backend. OpenFaaS is a framework for building serverless functions with Docker and Kubernetes which has first-class support for metrics.

### **fabric8** (Red Hat)

» Application Deployment

An integrated development platform for Kubernetes, fabric8 allows your applications to read and write data into etcd. A simple use case is to store database connection details or feature flags in etcd as key-value pairs. These values can be watched, allowing your app to reconfigure itself when they change.

# **Fission** (Platform9)

» Serverless

A framework for serverless functions on Kubernetes.

TOOLS AND SERVICES THENEWSTACK

Product/Project (Company or Supporting Org.)

Type of Tool or Service

goPaddle (Bluemeric)

A tool to build, provision and deploy Kubernetes services.

Heptio Ark (Heptio) » Management

A utility for managing disaster recovery, specifically for your Kubernetes cluster resources and persistent volumes.

Kedge (N/A) » Application Deployment

Converts defined definitions to their Kubernetes equivalent.

# **Kismatic Enterprise Toolkit** (Apprenda)

» Deployment

Apprenda's commercially supported and fully open source Kubernetes offering provides a set of default cluster services that go beyond the basic automation of installing and running Kubernetes on a few nodes or on a laptop.

Koki (N/A) » Management

Manageable Kubernetes manifests through a composable, reusable syntax.

# **Kolla-Kubernetes** (OpenStack Foundation)

» Deployment

The project provides Docker containers and Ansible playbooks to deploy Kubernetes on OpenStack.

<u>Kraken</u> (Samsung) » Deployment

Enables deployment of a Kubernetes cluster using Terraform and Ansible on top of CoreOS.

## **ksonnet** (Heptio and Bitnami)

» Management

Built on the JSON templating language Jsonnet from Google, ksonnet simplifies defining an application configuration, updating the configuration over time and specializing it for different clusters and environments. ksonnet-lib and kubecfg provide a simpler alternative to writing complex YAML for Kubernetes configurations.

## Kubeapps (Bitnami) » Deployment

Kubeapps combines Kubernetes application packaging with the functionality of a number of projects to provide a simple, one-click experience to deploy pre-packaged applications in any format.

<u>Kubeless</u> (**Bitnami**) » Serverless

A Kubernetes-native serverless framework. It supports both HTTP and event-based triggers, has a serverless plugin, a graphical user interface and multiple runtimes.

# Kubermatic (Loodse) » Deployment/ Management

Makes it easy to deploy and manage multiple container clusters.

# <u>Kubernetes service-catalog</u> (N/A) » Application Deployment

Works with the Open Service Broker API to integrate service brokers with Kubernetes. It provides a way for Kubernetes users to consume services from brokers and easily configure their applications to use those services.

# <u>Kubernetic</u> (Harbur Cloud Solutions S.L.) » Management

A desktop client to manage Kubernetes clusters.

TOOLS AND SERVICES THENEWSTACK

# **Product/Project (Company or Supporting Org.)**

# Type of Tool or Service

# **kubesec** (controlplane)

» Management

Secure secret management for Kubernetes.

# **Kube-spawn** (Kinvolk)

» Deployment

A tool for creating multi-node Kubernetes clusters on a Linux machine using kubeadm and systemd-nspawn.

<u>Kubicorn</u> (N/A) » Management

An unofficial project that solves the Kubernetes infrastructure problem and gives users a rich Golang library to work with infrastructure. With Kubicorn a user can create new clusters, modify and scale them, and take a snapshot of their cluster at any time.

# **Kublr** (EastBanc Technologies)

» Management

An automated cluster management platform.

Kubespray (N/A) » Deployment

A tool to deploy Kubernetes clusters. It is an alternative to kops and kubeadm.

# **NavOps Command (Univa)**

» Management

An automated workload placement and policy management solution that plugs into any Kubernetes distribution.

# **Navops URB** (Univa)

» Deployment/ Management

Universal Resource Broker (URB) enables enterprises to run Mesos-compatible frameworks alongside native Kubernetes applications and manage these services on a single Kubernetes cluster.

# **Open Service Broker API** (Cloud Foundry Foundation)

» Application Deployment

An open source project that gives developers, Independent Software Vendors (ISVs) and Software as a Service (SaaS) vendors a way to deliver services to applications running within cloud-native platforms such as Cloud Foundry, OpenShift and Kubernetes. It works with the service-catalog project that is in the Kubernetes incubator.

## **<u>Platformer</u>** (Platformer Cloud)

» Application Deployment

A cloud-native platform to build, deploy and run applications on containers managed by Kubernetes on AWS, GCP or Azure.

# **Sonobuoy Scanner (Heptio)**

» Monitoring

A diagnostic tool that makes it easier to understand the state of a Kubernetes cluster by running a set of Kubernetes conformance tests in an accessible and non-destructive manner.

# StackPointCloud (StackPointCloud)

» Deployment/ Management

Allows users to easily create, scale and manage Kubernetes clusters of any size with the cloud provider of their choice. Its goal is to be a universal control plane for Kubernetes clouds.

# **Tarmak** (Jetstack)

» Management

An open source toolkit for Kubernetes cluster life cycle management that focuses on best-practice cluster security and cluster management/operation.

# **<u>Telekube</u>** (Gravitational)

» Application Deployment/ Management

A toolkit for packaging, deploying and remotely managing complex multi-node Linux applications across clouds and on premises, all over the world. It bills itself as a private SaaS platform.

TOOLS AND SERVICES THENEWSTACK

Product/Project (Company or Supporting Org.)	Type of Tool or Service
Triton Kubernetes (Joyent)  A multi-cloud Kubernetes solution, Triton Kubernetes has a global cluster manage Kubernetes environments.	» Management r which will run on Triton and manages

# OTHER RELEVANT TECHNOLOGIFS

The following products and projects include common examples of technologies that work with Kubernetes. The entries categorized as DevOps Life Cycle are defined as primarily helping with the create, package/release, configure or monitor steps. The infrastructure examples are primarily storage, networking, compute and other infrastructure technologies that enable the use of cloud-native environments like Kubernetes. Spanning both areas are security technologies, which have been identified as a separate category. Sponsor products and services are highlighted.

# **Product/Project (Company or Supporting Org.)**

# **Type of Kubernetes Distribution**

# **Alcide Data Center Security Platform (Alcide)**

» Security

Alcide's data center security platform for the cloud-native era is designed for any combination of container, serverless, VM and bare metal environments operated by multiple orchestration systems.

### **Aqua Container Security Platform (Aqua Security Software Ltd.)** » Security

Provides a scalable security solution that protects containerized applications against internal and external threats.

**Canal** (Tigera) » Infrastructure

A community-driven initiative that integrates the Calico and flannel networking projects. Applying Calico's industry-leading network policy enforcement capabilities to flannel's broad range of connectivity options, Canal represents the best-of-breed policy-based networking solution for cloud-native applications.

# **Cavirin** (Cavirin Systems)

» Security

Provides continuous security assessment and remediation across physical, public and hybrid clouds. Supports AWS, Microsoft Azure, Google Cloud Platform, VMware, KVM and Docker.

Cilium (N/A) » Security

Open source software for providing and transparently securing network connectivity and load balancing between application workloads such as application containers or processes.

# **Container Networking Interface/ CNI (Cloud Native Computing Foundation**)

» Infrastructure

CNI is a project to help configure network interfaces for Linux application containers. It helps set up network connectivity of containers and remove allocated resources when the container is deleted

# **CNI-Genie** (Huawei)

» Infrastructure

Enables container orchestrators to seamlessly connect to a choice of CNI plugins such as Calico, Canal, Romana and Weave.

# **Type of Kubernetes Distribution**

# **Codeship Pro (CloudBees)**

» DevOps Life Cycle

Codeship Pro is a customizable continuous integration platform with native Docker support in the cloud. Test and deploy microservices and push to any registry. If you want to deploy with Kubernetes, it comes with a local CLI tool that allows you to run your builds locally, helps encrypt environment variables and guarantees 100% parity between your development and production environments.

# **Conduit** (Buoyant)

» Infrastructure

An ultralight service mesh for Kubernetes from the makers of Linkerd. It features a native proxy, written in Rust, that boasts the performance of C without all the heartbleed.

# **Container Builder (Google)**

» DevOps Life Cycle

Fast, consistent, reliable builds on Google Cloud Platform.

**Contiv** (Cisco)

Unifies containers, VMs and bare metal with a single networking fabric, allowing container networks to be addressable from VM and bare metal networks.

# **CoreOS Container Linux (CoreOS)**

» Infrastructure

» Infrastructure

CoreOS Container Linux is a minimal operating system that supports popular container systems out of the box. The operating system is designed to be operated in clusters. For example, it is engineered to be easy to boot via Preboot Execution Environment (PXE) and on most cloud providers.

# **Datadog** (Datadog)

» DevOps Life Cycle

Datadog is a monitoring and analytics service for IT operations and development teams. It has containerized agents that can monitor container environments.

dex (CoreOS) » Infrastructure

dex is an identity service that uses OpenID Connect to drive authentication for other apps. Dex runs natively on top of any Kubernetes cluster.

### **Elasticsearch** (Elastic)

» DevOps Life Cycle

Elasticsearch is a search and analytics engine. It stores data and other parts of the Elastic Stack to enable discovery.

etcd (CoreOS) » DevOps Life Cycle

etcd is a distributed key-value store that provides a reliable way to store data across a cluster of machines. It's open source and available on GitHub, and is the primary datastore for Kubernetes. etcd gracefully handles leader elections during network partitions and will tolerate machine failure, including the leader. Your applications can read and write data into etcd.

**flannel** (CoreOS) » Infrastructure

flannel is a virtual network that gives a subnet to each host for use with container runtimes.

# **Fluentd** (Cloud Native Computing Foundation)

» DevOps Life Cycle

Fluentd is an open source data collector for unified logging layers.

# **Forge** (Datawire)

» DevOps Life Cycle

Builds services based on Docker and Kubernetes. YAML files are used to specify deployment configurations.

# **Type of Kubernetes Distribution**

# FreshTracks (CA Technologies)

» DevOps Life Cycle

Aimed at developers and operations engineers who are already utilizing Prometheus and Kubernetes to monitor their container orchestration, FreshTracks identifies adaptive thresholds for your changing metrics and anomalies across your system.

# **Grafana** (Grafana Labs)

» DevOps Life Cycle

Grafana is a metrics dashboard and graph editor for Graphite, Elasticsearch, OpenTSDB, Prometheus and InfluxDB.

**Habitat** (Chef) » DevOps Life Cycle

An application automation framework that allows you to build, deploy and manage applications that have automation built-in.

» Infrastructure **HAProxy** (N/A)

A real-time processing pipeline that offers high availability, load balancing, and proxying for TCP and HTTP-based applications.

**HyTrust** (HyTrust) » Security

A security solution that provides automated compliance and enables policy-driven security across multiple cloud environments.

# **InfluxDB** (InfluxData)

» Infrastructure

An open source database written in Go specifically to handle time series data with high availability and high-performance requirements. It is one of the more commonly used databases in the stacks used to monitor containers.

# **Linkerd** (Cloud Native Computing Foundation)

» DevOps Life Cvcle

An out-of-process network stack for microservices, Linkerd functions as a transparent remote procedure call (RPC) proxy, handling everything needed to make inter-service RPC safe, including load balancing, service discovery, instrumentation and routing. Linkerd is built on top of Finagle.

Minio (Minio) » Infrastructure

Minio is an open source object storage server built for cloud applications and DevOps.

# **Navigator** (Jetstack)

» DevOps Life Cycle

A managed Database as a Service (DBaaS) on Kubernetes, Navigator is a centralized controller for managing common stateful services on Kubernetes.

# **NetScaler CPX Express (Citrix)**

» Infrastructure

A Docker-containerized load balancer that can be supported on premises and in multi-cloud environments. Also in the NetScaler family are the MPX hardware version and the VPX, which is a software-based virtual appliance that runs on hypervisors.

» Infrastructure **NGINX** (NGINX)

An HTTP and reverse proxy server, a mail proxy server and a generic TCP/UDP proxy server.

### **OpenEBS** (OpenEBS) » Infrastructure

OpenEBS is an open source storage platform that provides persistent and containerized block storage for DevOps and container environments.

# **Type of Kubernetes Distribution**

# **OpenSDS** (The Linux Foundation)

» Infrastructure

An open source project community working to address software-defined storage integration challenges, particularly in scaleout cloud environments dealing with multiple storage platform providers.

# **OpenShift.io** (Red Hat)

» DevOps Life Cycle

An integrated, web-based developer environment based on the Eclipse Che project (acquired by Codenvy), source code repository and CI/CD pipeline. The development environment is integrated with OpenShift Online.

# **OpenStorage** (Portworx)

» Infrastructure

An open storage protocol for Linux Containers.

# **Portworx PX-Series (Portworx)**

» Infrastructure

A data layer for persistent storage that can be managed with Kubernetes.

# **Project Calico** (Tigera)

» Infrastructure

Provides a scalable networking solution for connecting data center workloads (containers, VMs or bare metal). It uses a Layer 3 approach. Calico can be deployed without encapsulation or overlays to provide high performance at massive scales.

# **Prometheus** (Cloud Native Computing Foundation)

» DevOps Life Cycle

Prometheus is an open source systems monitoring and alerting toolkit, service monitoring system and time-series database.

# **Puppet Pipelines (Puppet)**

» DevOps Life Cycle

Puppet Pipelines provides a dashboard to build, deploy and manage applications on Kubernetes clusters.

# Red Hat OpenShift Application Runtimes/RHOAR (Red Hat)

» DevOps Life Cycle

Currently in beta, RHOAR is a set of cloud-native, container-optimized application runtimes based on Spring Boot, Eclipse Vert.x, Node.js and WildFly Swarm. Natively integrated with OpenShift Container Platform and Kubernetes.

### **REX-Ray** (Dell Technologies)

» Infrastructure

An open source project that has grown to become the first stable, working model of the open source Container Storage Interface.

### Romana (N/A)

» Infrastructure

A network and security automation solution for cloud-native applications. Romana automates the creation of isolated cloud-native networks and secures applications. Its distributed firewall applies access control policies consistently across all endpoints and services, wherever they run.

# **Rook** (Cloud Native Computing Foundation)

» Infrastructure

Storage for Kubernetes apps through persistent volumes.

# **Telepresence** (Datawire)

» DevOps Life Cycle

Enables local development against a remote Kubernetes or OpenShift cluster.

# **Trireme** (Aporeto)

» Security

An open source library curated by Aporeto to provide segmentation for cloud-native applications.

# **Type of Kubernetes Distribution**

# **Twistlock** (Twistlock)

» Security

Automated, integrated, and built for scale, Twistlock provides comprehensive container security for teams using Docker, Kubernetes and other cloud-native technologies. From container-aware firewalls to active threat protection and incident response to identifying and triaging vulnerabilities across the application life cycle, Twistlock is the centralized cybersecurity platform for protecting containers, cloud-native stacks and the applications they run against the threats of today and tomorrow.

# **Weave Cloud (Weaveworks)**

» DevOps Life Cycle

SaaS that simplifies deployment, monitoring and management for containers and microservices. It integrates with Kubernetes and provides Prometheus monitoring as a service.

# **Wercker Pipelines, Releases and Clusters (Oracle)**

» DevOps Life Cycle

The Wercker pipeline is a fully-managed CI/CD platform optimized for Kubernetes and working with microservices. It is being integrated into a larger Oracle container life cycle management offering.

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