

The Canonical Distribution of Kubernetes

Enterprise kubernetes, anywhere

Canonical in partnership with Google delivers the ‘pure K8s’ experience, tested across a wide range of clouds and integrated with modern metrics and monitoring. The Canonical Distribution of Kubernetes works across all major public clouds and private infrastructure, enabling your teams to operate Kubernetes clusters on demand, anywhere.

Ubuntu is the container OS used by 70% of Docker developers and deployments. Docker containers are a lightweight, hyper-elastic way to distribute compute across a cluster. When you run a command in a Docker container you spin up a ‘process with an IP address’ instead of a full virtual machine. This ‘process container’ can run on any machine in the cluster.

Kubernetes is the Google-led way to coordinate these ‘process containers’ and their associated state across a cluster, enabling very high efficiency devops with self-healing, horizontal scaling, service discovery, and load balancing for 12-factor apps.

Offering a range of engagement plans, from fully managed to self-operated, the Canonical Distribution of Kubernetes is your fastest path to K8s. Alongside Canonical’s existing support for Ubuntu and OpenStack, the Canonical Distribution of Kubernetes provides a fully supported enterprise Kubernetes from the experts in scale-out operations.

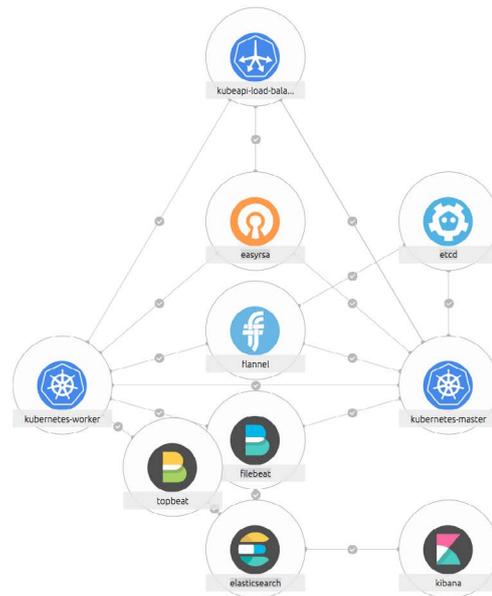
Easiest Operations

Elasticity built-in

Installing and operating Kubernetes at scale is daunting, even for experts. With Ubuntu and Juju charms under the hood, the Canonical Distribution of Kubernetes is naturally elastic, and integrates with common operations dashboards. The charms deliver the latest stable K8s and the ability to grow and operate the cluster easily. Empower workgroups, projects and teams to adopt K8s quickly.

Your choice of infrastructure

This distribution of Kubernetes from Canonical is certified on public clouds and on-premise private infrastructure like VMware, OpenStack or bare-metal managed with MAAS. The ability to move workloads is critical for organizations to remain competitive, foster innovation and avoid infrastructure lock-in. With standardised operations across clouds, you gain common practices and tooling regardless of your choice of infrastructure.



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The Canonical Distribution of Kubernetes bundle

Analytics on tap

Canonical’s Kubernetes comes integrated with Prometheus for monitoring, Ceph for storage and a fully integrated Elastic stack including Kibana for analysis and visualisations.

Support and Customisation Services

Enterprise support for Kubernetes is provided by Canonical in partnership with Google. Customers gain access to a global pool of knowledge and expertise. Canonical offers consulting services and customisation for larger organisations to integrate Kubernetes with existing infrastructure. Canonical also offers a fully managed Kubernetes – we will deploy and operate your cluster remotely, and hand over to your own team as soon as they are familiar with the operational practices under the hood.

Cost-effective at scale

The major cost of Kubernetes is the automation and operations expertise needed to run a complex topology of software at scale. Thanks to Juju’s charms, the Canonical Distribution of Kubernetes includes all operational scripting and tooling needed to manage a long-lived cluster, including upgrades and elastic scaling. Charms encapsulate operational code that is developed upstream and represents global best practices for Kubernetes ops.

Production Features

The Canonical Distribution of Kubernetes gives you access to stable upstream Kubernetes releases as well as access to daily 'edge' builds of upstream Kubernetes development branch (1.5.x) with rollback. You can scale master nodes independently of worker nodes. Workloads are automatically portable between public clouds, private clouds and bare metal with an easy onramp to Google Container Engine (GKE). Lifecycle features include the ability to easily create and remove user access, a maintenance mode and a supported upgrade path to new upstream versions.

The bundle also includes: the Kubernetes dashboard; Prometheus to collect and process system metrics for class-leading monitoring and alerting with a diverse ecosystem; Elastic Stack for Insights with Elastic Beats log collection and monitoring and analysis and visualization with Elastic Search and Kibana; you can optionally use Ceph for filesystem; secure inter-node communications with TLS and block storage, and Flannel SDN for networking.

FAQs

How is this different than kubeup.sh?

Kubeup.sh configures and installs Kubernetes on a single node, it is appropriate for development and experimentation. Canonical's Kubernetes is for users that need a multi-node real world deployment. Both reuse the same code, just with different parameters.

Can I run this in a public cloud? Why would I use this over something like ECS?

Canonical's Distribution of Kubernetes can run on any public cloud supported by Ubuntu including AWS, GCE and Azure. Most of these clouds offer their own managed container system. This is for people who want a pure Kubernetes deployment that is cloud agnostic and portable.

Can I run just Kubernetes without all the other stuff?

If you really want nothing but Kubernetes, you can check out kubernetes-core, which is raw kubernetes and etcd. While this is great for experimentation, we feel that the addition of Prometheus and the Elastic Stack provide end users with the additional monitoring and logging required to run the stack in production.

What if I want to use something different than Prometheus, or ELK, or Ceph?

Like everything in Juju, this cluster is just a set of opinions. Users are free to connect whatever services they wish to their cluster and contribute that functionality back to the community.

I use Ubuntu Openstack. What does this mean for me?

It means you can try out Kubernetes with the same existing tools you've been using for OpenStack or even try Kubernetes running on top of your existing OpenStack.

Model-driven operations with Juju

Juju transforms enterprise software operations using model-driven principles, enabling shared operations code across many organisations. Juju dramatically improves the quality of operations while spreading the cost of expertise across a broad ecosystem. Juju's charms are the easiest way to operate 'Big Software' – complex topologies of reusable and composable applications across public or private infrastructure.

Charms are the encapsulation of operational code sets of scripts for deploying and managing services with Juju. They are usually built by the community of operators working with that software, alongside the open source code upstream. Charms handle the full application lifecycle – installs and upgrades – as well as scaling, integration and ongoing operations such as backups, monitoring and recovery.

The Canonical Distribution of Kubernetes leverages charms that are maintained in the upstream Kubernetes repository.

Support and Customisation Services

The Canonical Distribution of Kubernetes is free to deploy yourself with Juju. If you need assistance we offer white-glove deployment and integration services on site, to deploy the Canonical Kubernetes reference platform. We also offer a fully managed Canonical Kubernetes with 24/7 remote operations provided by the Canonical team, under an SLA. Managed services are the fastest path to an operational K8s for your devops evaluation and adoption. Managed Kubernetes clusters can be transferred to your operations team at any time.

Got a question?

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For more information visit:
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