






# Kubermatic Kubernetes Platform for Edge Computing

## What is Kubermatic Kubernetes Platform for Edge Computing?

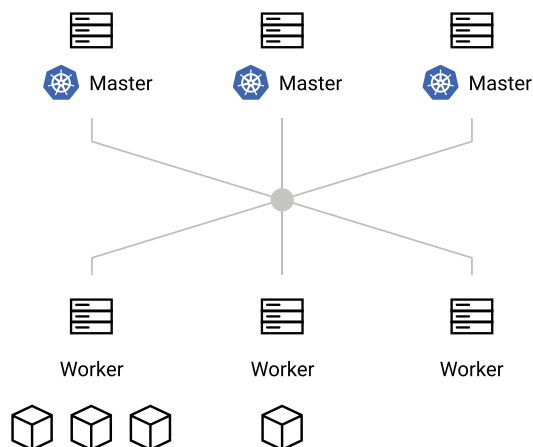
Edge computing is unlocking many new business opportunities in areas like manufacturing, retail, healthcare, and telecommunications. However, managing the scale, distribution, and life cycle of applications at a large number of edge locations presents many operational hurdles. Kubermatic Kubernetes Platform for Edge Computing helps teams tackle these challenges by automating IT operations from the infrastructure to the application. Kubermatic Kubernetes Platform easily operates thousands of Kubernetes clusters in your chosen edge environments. It's Kubernetes in Kubernetes architecture automates deployments, Day 2 operations, policy and governance, security, and user management. Combined with unparalleled density and resilience, Kubermatic is the simplest and most effective software to manage your edge infrastructure and applications at scale.

### Kubermatic Kubernetes Platform Benefits at a Glance


-  Automated operations allow teams to increase productivity and focus on customer value
-  Platform density minimizes total infrastructure costs
-  Self-healing infrastructure reduces manual intervention and downtime, and time on site
-  Platform ensures compliance with enterprise policies, governance, and security
-  Flexible deployment models to suit your needs and scale including air gapped clusters

## Key Deployment Models

### One Kubernetes Cluster on Bare Metal with Kubermatic KubeOne

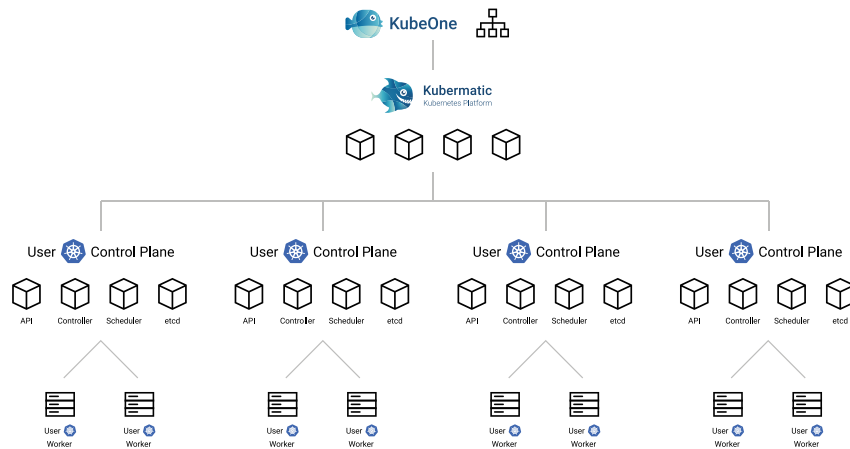


Standalone Kubernetes cluster managed by Kubermatic KubeOne running on bare metal machines. The master nodes may or may not be tainted and the worker nodes can either be static or provisioned by a bare metal provisioner like Metal3 or Tinkerbell.


 **Use Case:** First PoC for edge computing or stand alone unit

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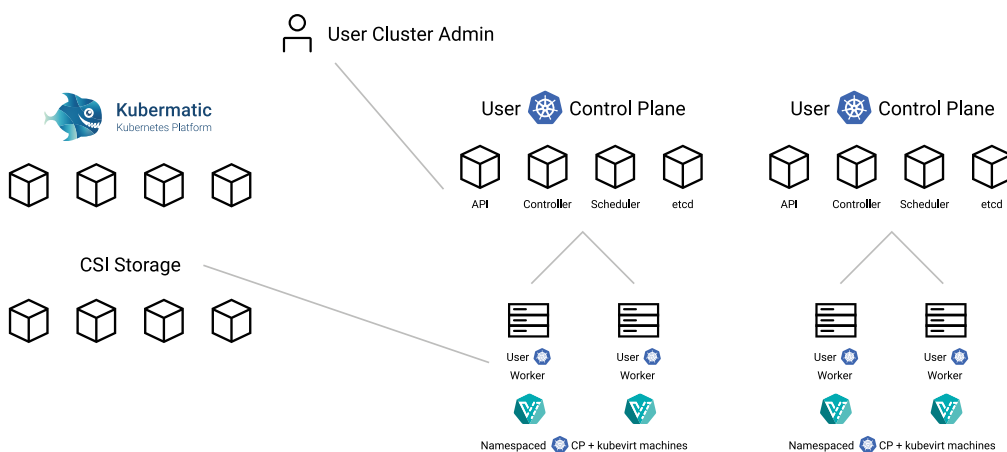
## Kubernetes Clusters on Bare Metal with KubeOne and Kuberatic Kubernetes Platform




Kuberatic Kubernetes Platform is installed into a small bare metal Kubernetes cluster running on a small subset of the nodes. The master nodes may or may not be untainted. User cluster control planes are run as containers within the master cluster while worker nodes are provisioned using a bare metal provisioner like Metal3 or Tinkerbell.

 **Use Case:** Scaling up of PoC or bringing into production at a single customer site

## Nested Kubernetes on Bare Metal with KubeVirt

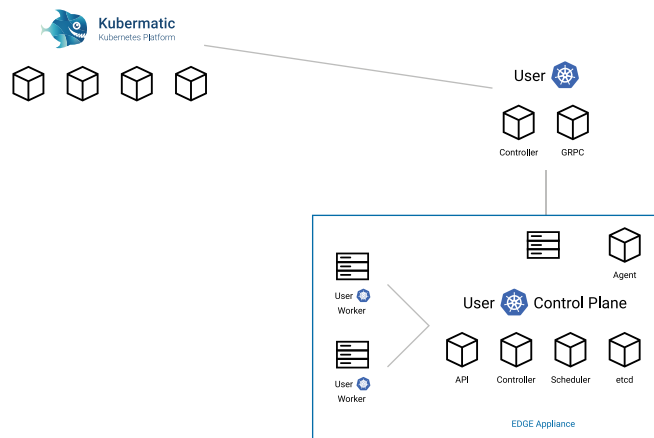


Kuberatic KubeOne is installed to make a cluster out of all of the bare metal nodes. Kuberatic Kubernetes Platform is installed into this master cluster. Kubevirt is used to slice the bare metal machines into smaller virtual machines. These virtual machines are used by Kuberatic Kubernetes Platform to make individual Kubernetes clusters.

 **Use Case:** Using virtualization to slice up larger bare metal machines without the need to run an additional virtualization stack. Gaining the flexibility and security of virtual machines while still running everything with Kubernetes.

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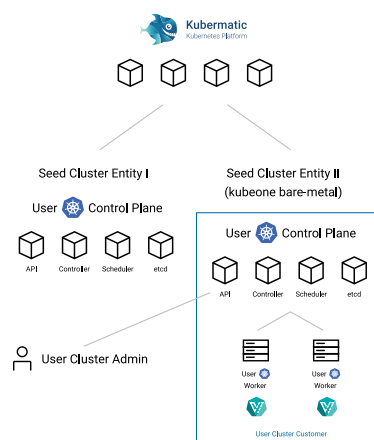
## Centralized Control with Standalone Kubernetes Clusters



Central management of Kubernetes Platform running in either the cloud or one datacenter. For the user cluster deployed edge appliances, the clusters are created using Kubernetes KubeOne. Configuration is pulled over gRPC to the appliance which then provisions the master and worker nodes on the servers.

**Use Case:** Remotely manage hundreds or thousands of Kubernetes clusters on appliances running at customers' premises.

## Centralized Control with Grouped Kubernetes Clusters



Central management of Kubernetes Platform running in either the cloud or one datacenter. Seed cluster deployed to additional datacenters or locations. Containerized user cluster control plane running in each seed cluster. Worker nodes for the user clusters can either be bare metal provisioned or virtual machines deployed by KubeVirt.

**Use Case:** Deploying multiple Kubernetes clusters on a single customer site while still maintaining centralized control across all locations and all clusters.

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## Why Kubermatic?



Kubermatic is our supplier of choice because they understand Kubernetes to the core. Kubermatic Kubernetes Platform allows us to manage thousands of clusters with ease. The best part is that they are approachable for us, even developing the absolutely latest technology.

We choose Kubermatic as our premium partner to bring all the advantages of Kubermatic Kubernetes Platform to the edge and manage thousands of Kubernetes clusters beyond the cloud.

Sascha Haase, iNNOVO Cloud



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**Ready to Try Kubermatic Kubernetes Platform?**

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