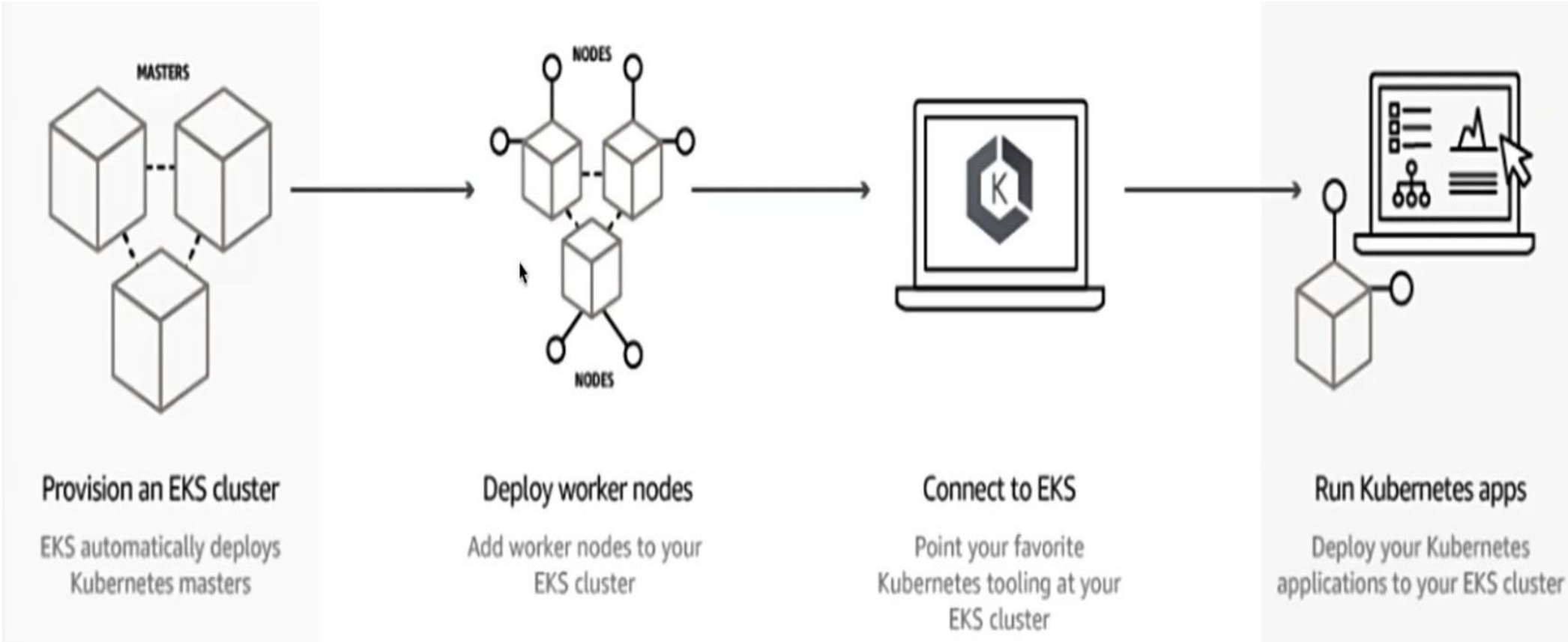
EKS

ow

What is Amazon EKS?

- Amazon Elastic Kubernetes Service(EKS) is managed service that you can use to run Kubernetes on AWS without needing to install, operate and maintain Kubernetes control plane.
- Note: Kubernetes is an open-source system for automating the deployment, scaling and management of containerized applications.
- Amazon EKS is a managed service, which means AWS takes care of the Kubernetes control plane, such as provisioning, scaling, and managing the infrastructure required to run Kubernetes clusters.


MASTERS
NODES
NODES
K
Provision an EKS cluster
EKS automatically deploys Kubernetes masters
Deploy worker nodes
Add worker nodes to your EKS cluster
Connect to EKS
Point your favorite Kubernetes tooling at your EKS cluster
Run Kubernetes apps
Deploy your Kubernetes applications to your EKS cluster

Why EKS?

- **High Availability :**When you set up EKS on AWS, it gives you a control plane that is available across multiple availability zones, if there is an issue with any of the control planes EKS automatically detects and replaces those unhealthy control plane nodes, and provides on-demand, zero downtime upgrades, and patching.
- **Provision Your Resources For Scale:**EKS managed services come pre-configured with the required compute (Server resources)provisioning which is designed to scale your K8S app. You don’t need to manage those configurations manually.

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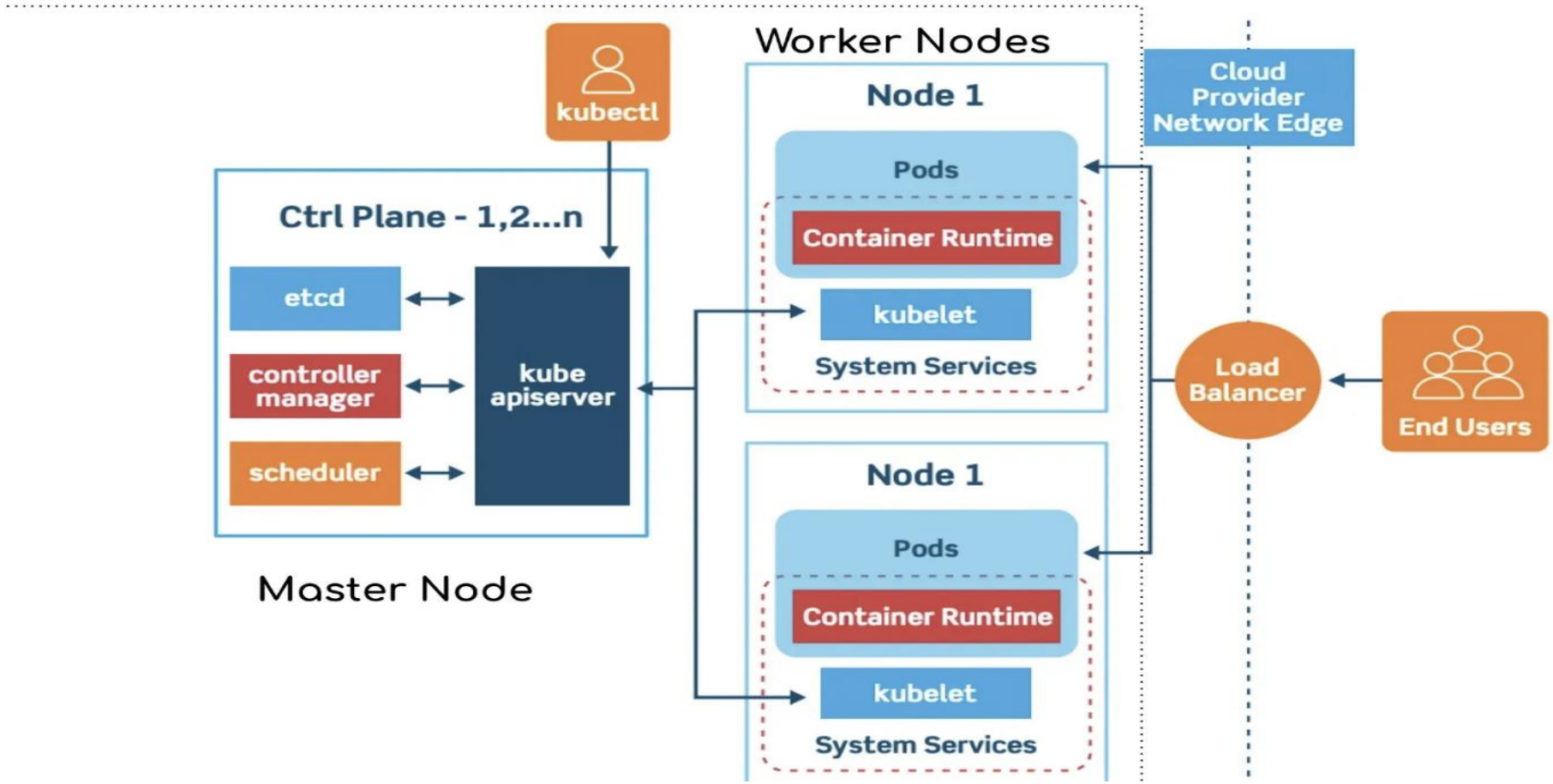
kubectl
Worker Nodes
Node 1
Cloud Provider Network Edge
Pods
Container Runtime
kubelet
System Services
Ctrl Plane - 1,2...n
etcd
controller manager
scheduler
kube apiserver
Load Balancer
End Users
Node 1
Pods
Container Runtime
kubelet
System Services
Master Node

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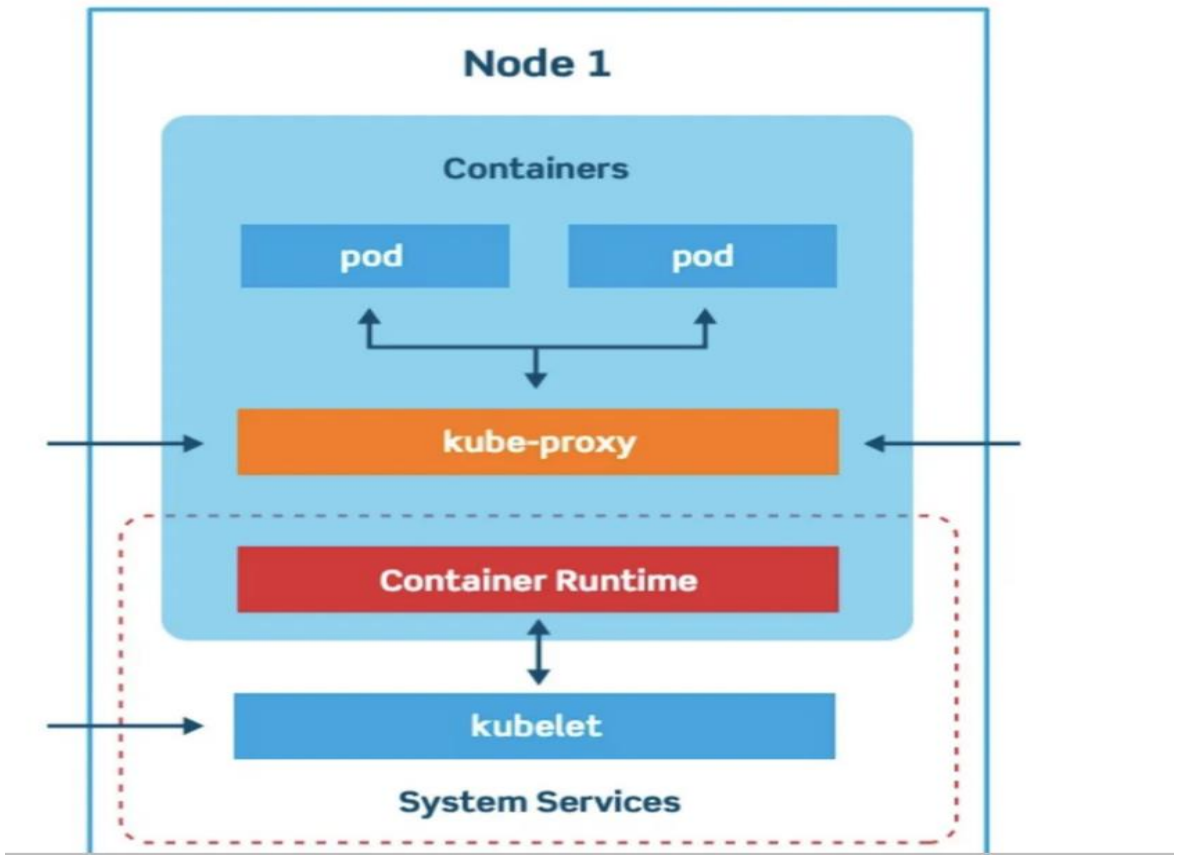
Node 1
Containers
pod
pod
kube-proxy
Container Runtime
kubelet
System Services

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- Explain
  - Kubeadm
  - Eksctl
  - Kubectl
  -

eksctl

- WeaveWorks created this tool called eksctl (eksey-cuttle or eks-cuttle) that can be used in a similar way, to allow us to create our own cluster in a single command.
- The eksctl tool uses CloudFormation under the hood, creating one stack for the EKS master control plane and another stack for the worker nodes.

```
eksctl create cluster \
  --version 1.14 \
  --region us-west-2 \
  --node-type t3.medium \
  --nodes 3 \
  --nodes-min 1 \
  --nodes-max 4 \
  --name my-demo
```