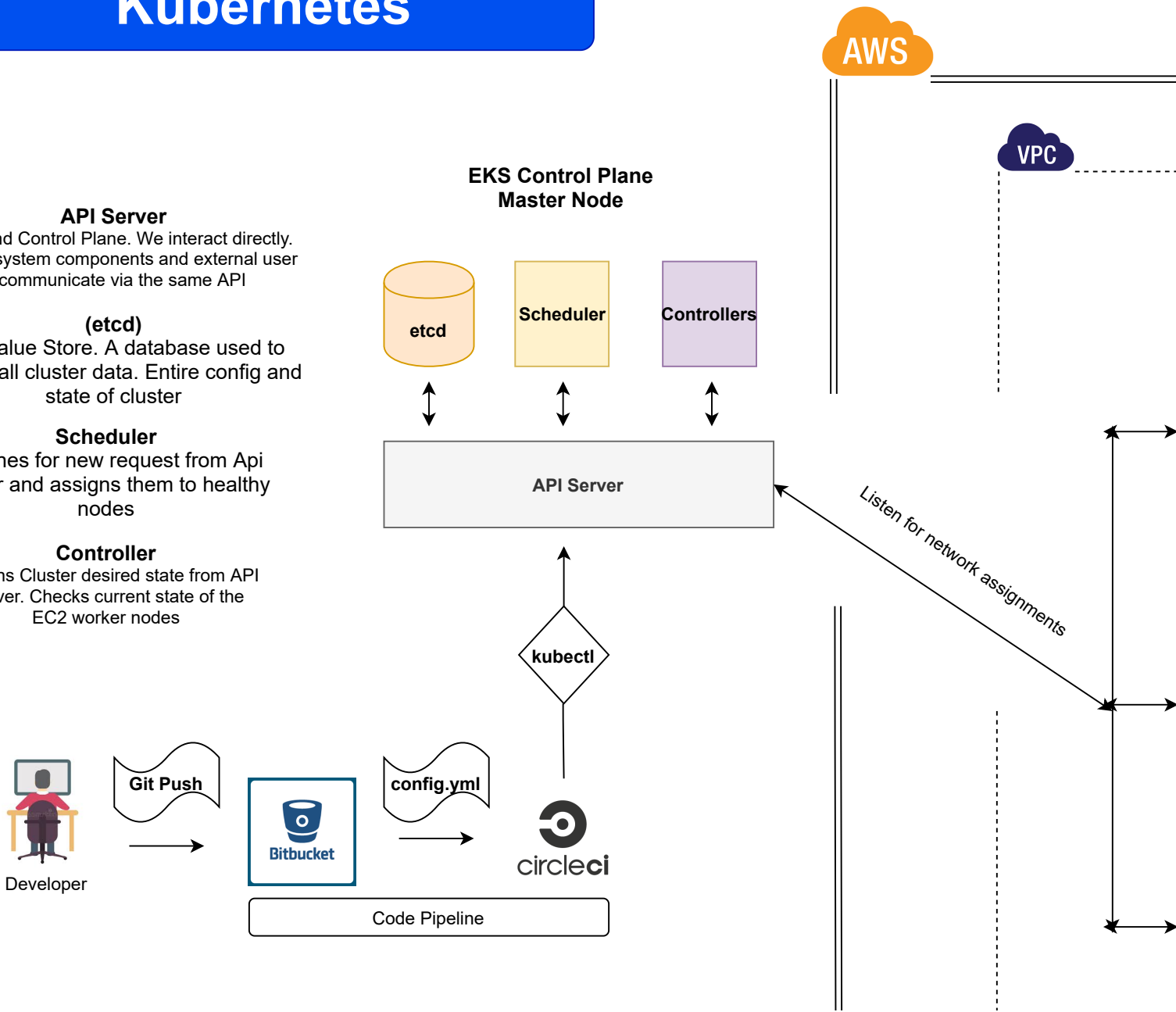
Kubernetes

API Server
Front End Control Plane. We interact directly. Internal system components and external user all communicate via the same API

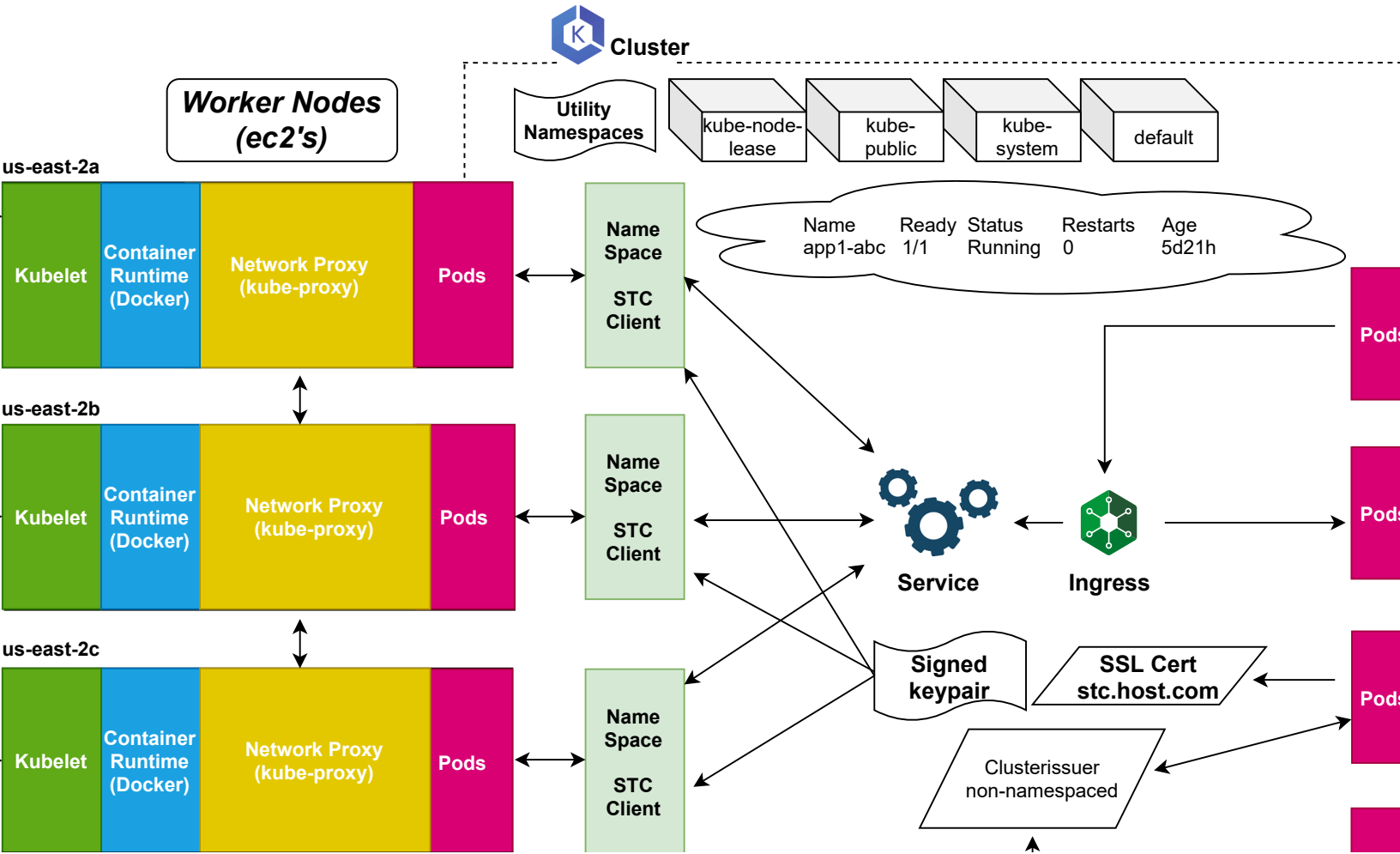
(etcd)
Key-Value Store. A database used to backup all cluster data. Entire config and state of cluster

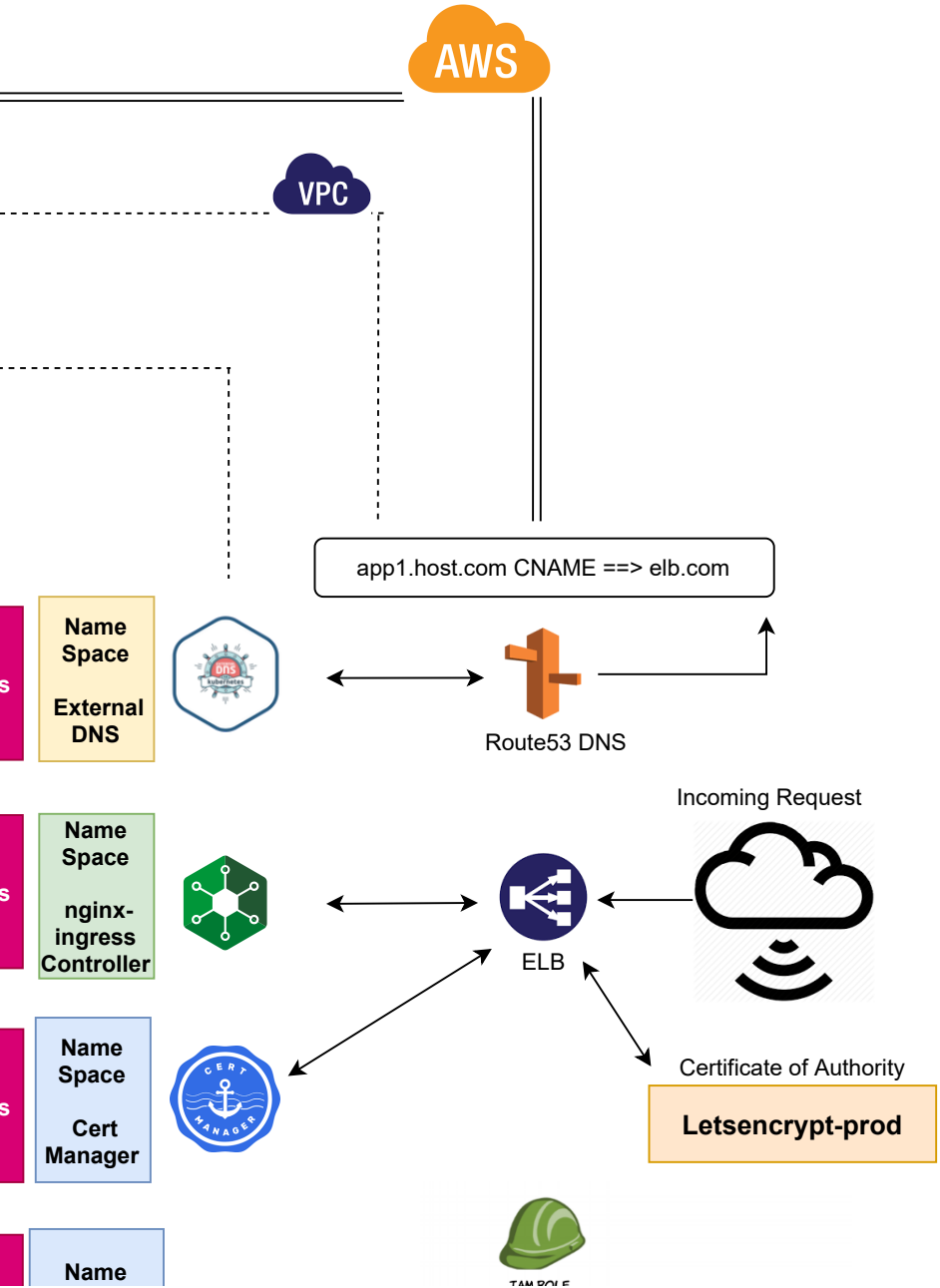
Scheduler
Watches for new request from Api Server and assigns them to healthy nodes

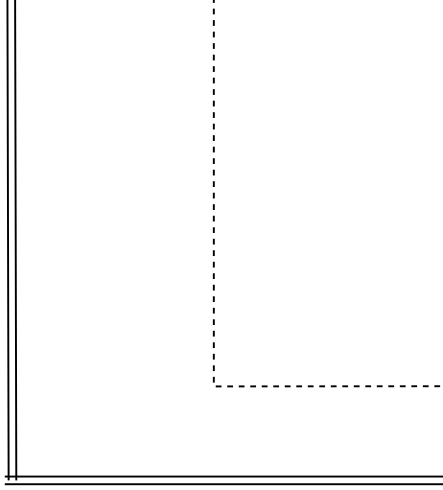
Controller
Obtains Cluster desired state from API Server. Checks current state of the EC2 worker nodes



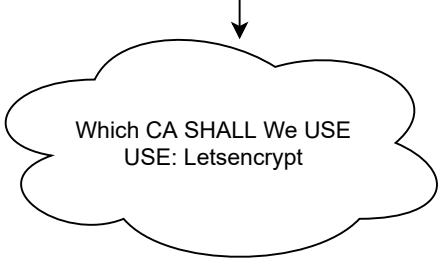
Kubernetes is an open source container scheduling and orchestration system. It automatically schedules containers to run evenly among a cluster of servers.




AWS
VPC
app1.host.com CNAME ==> elb.com
Name Space
External DNS
Route53 DNS
Incoming Request
Name Space
nginx-ingress Controller
ELB
Name Space
Cert Manager
Certificate of Authority
Letsencrypt-prod
Name

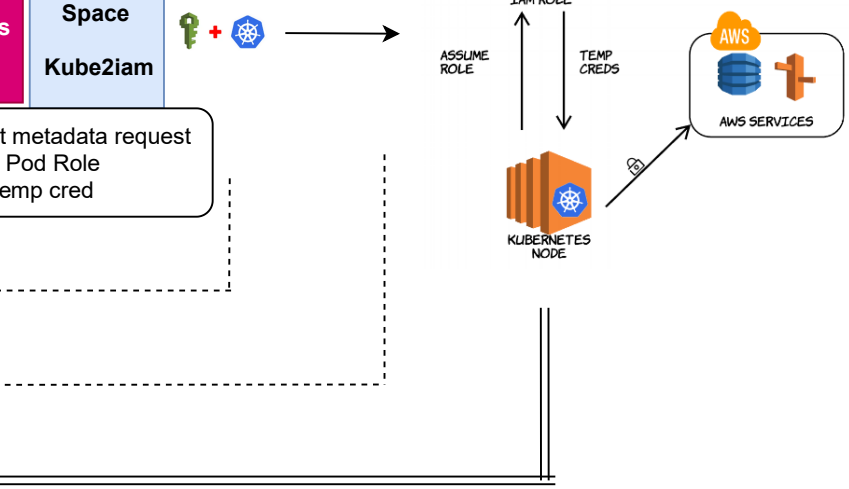


Kubelet
Kube agent that run on every node in the cluster. Executes tasks sent from Server API and reports back to the master.
Container Runtime
Pulls images from a container image registry and start/stops containers
Network Proxy
Makes sure each nodes gets its IP address, implements local iptables and rules to handle routing and traffic.
Pods
mallest element of Kubernetes. W/o it, a container cannot run in the cluster. It serves as a wrapper for a single container w/ application code.



Pods

1. Intercep
2. Assume
3. Return t


Space
Kube2iam
t metadata request
Pod Role
emp cred
ASSUME ROLE
TEMP CREDS
AWS
AWS SERVICES
KUBERNETES NODE