



Autoscaling a Docker Swarm Cluster

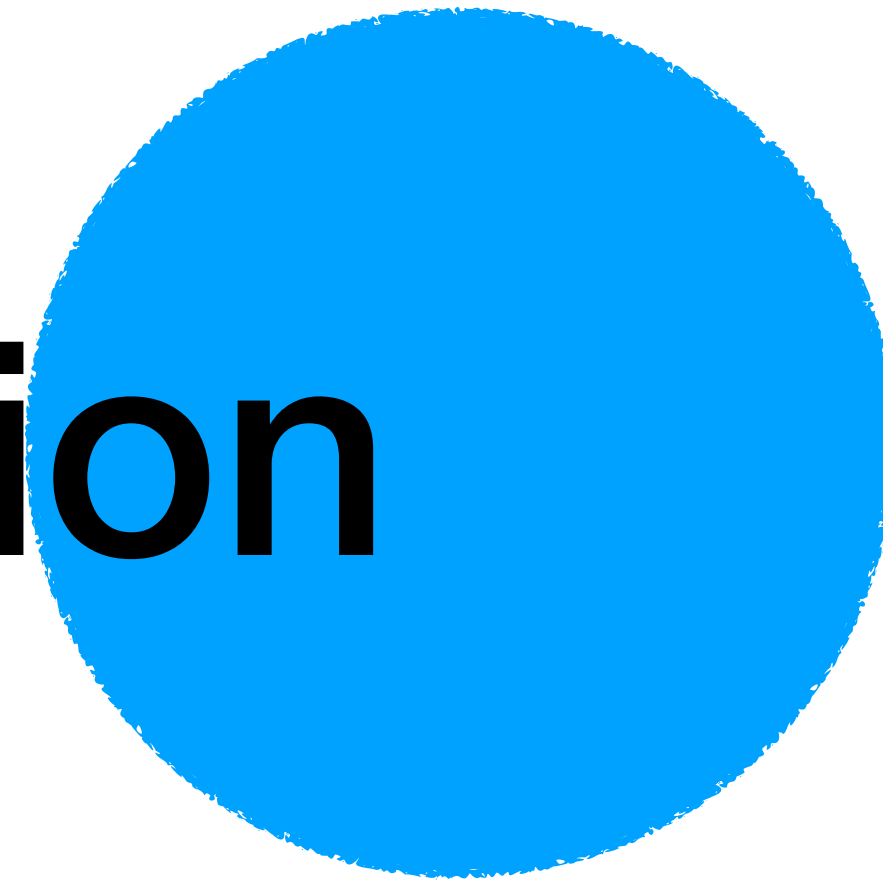
Bruno Cavalcanti (bjcc)

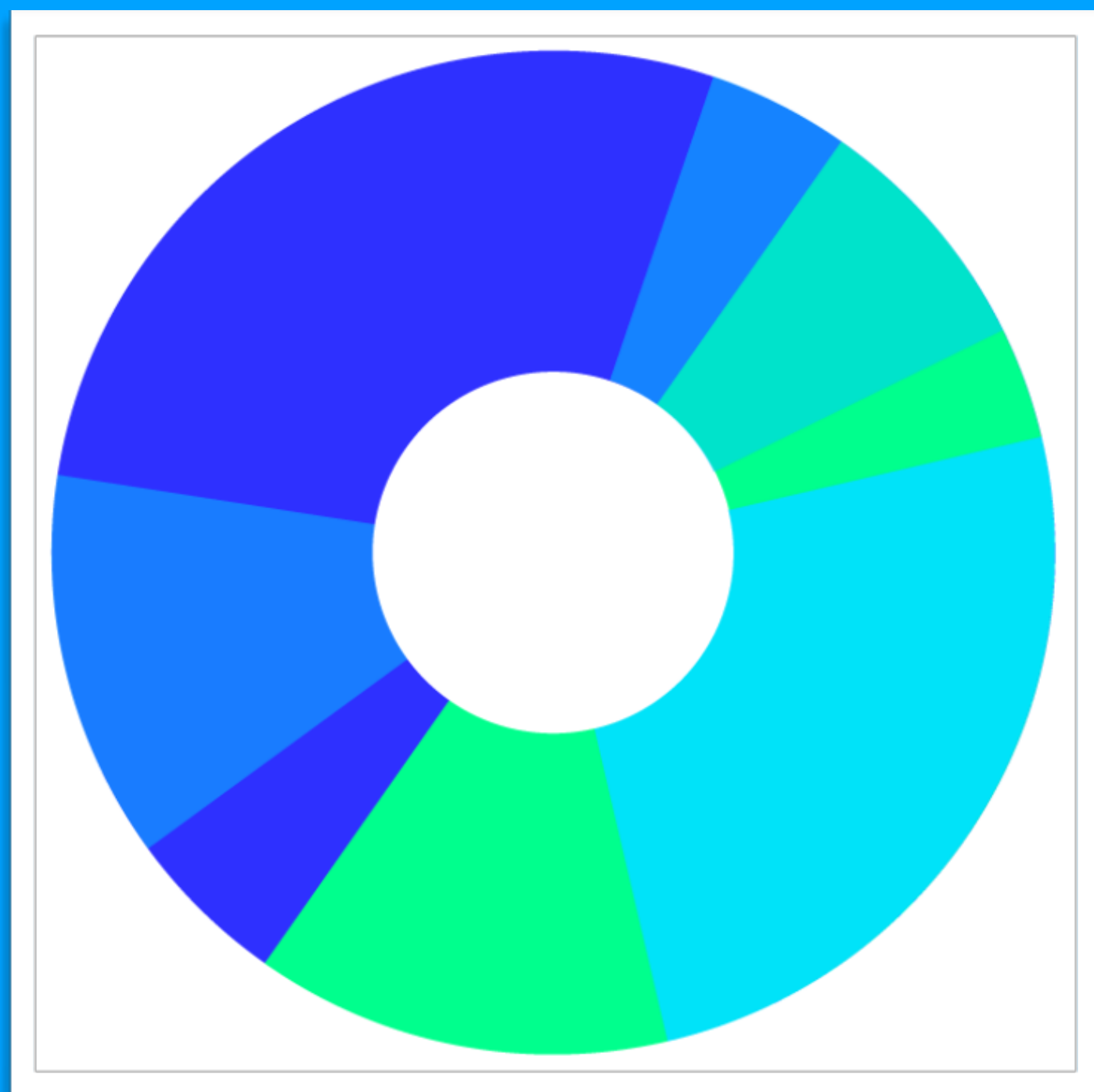
Isaac Douglas (idrn)

Sylvio Freire (sef)

Wellington Felix (wfmf)

Motivation





mesos



kubernetes

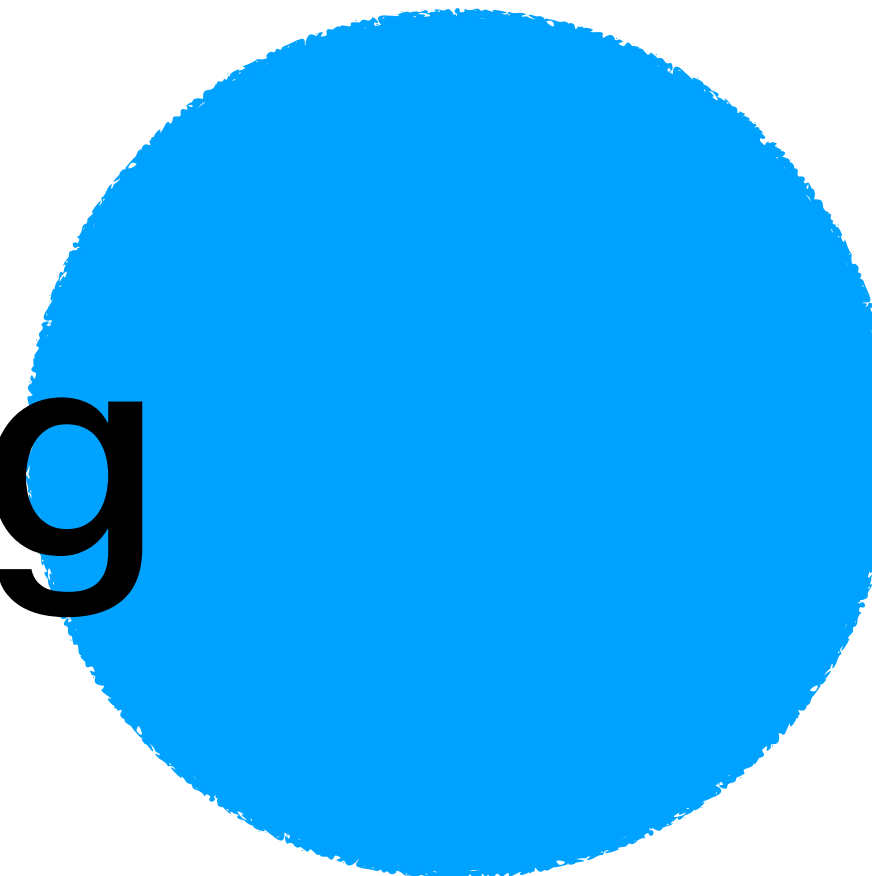


marathon



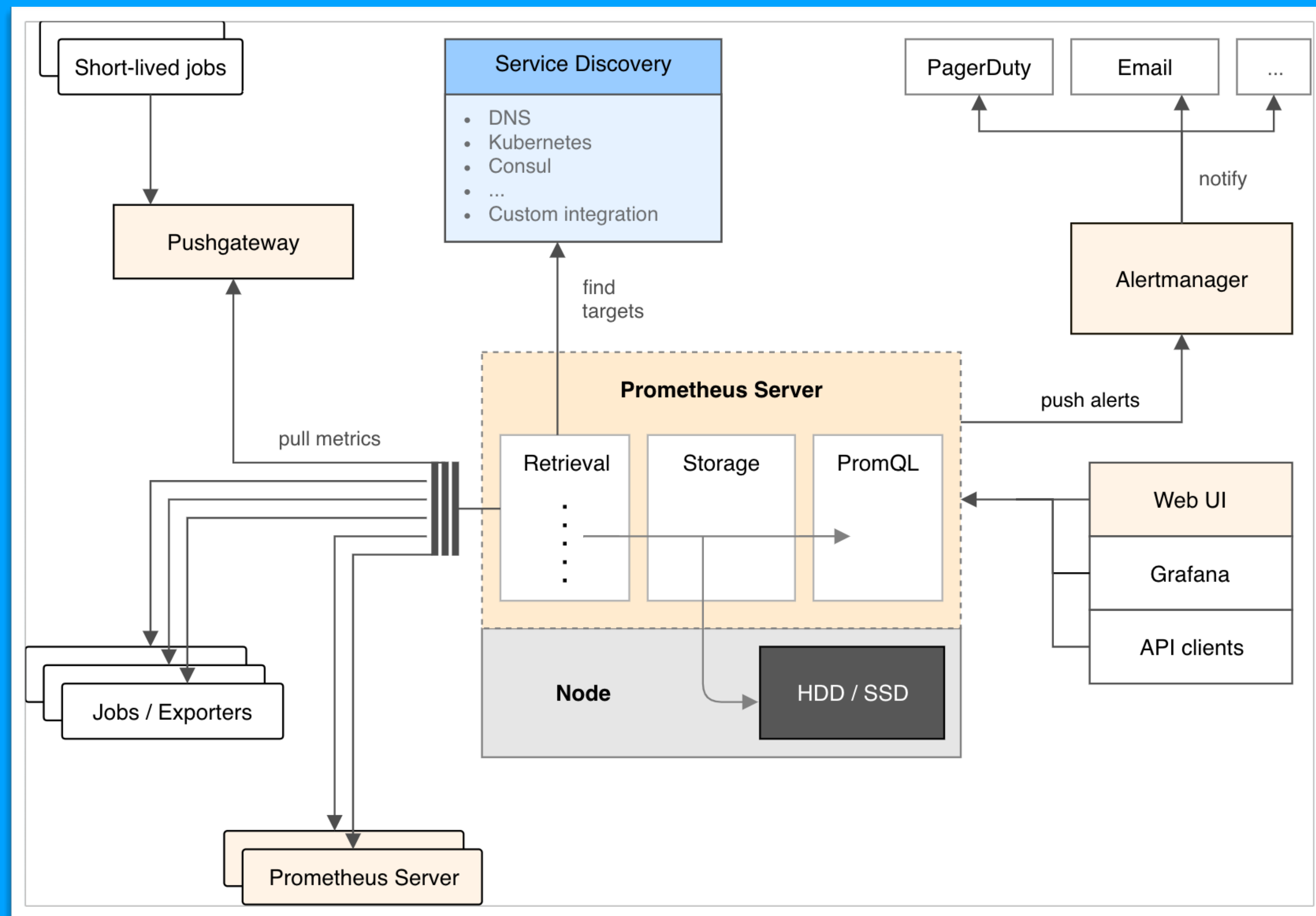
kubernetes

Tooling





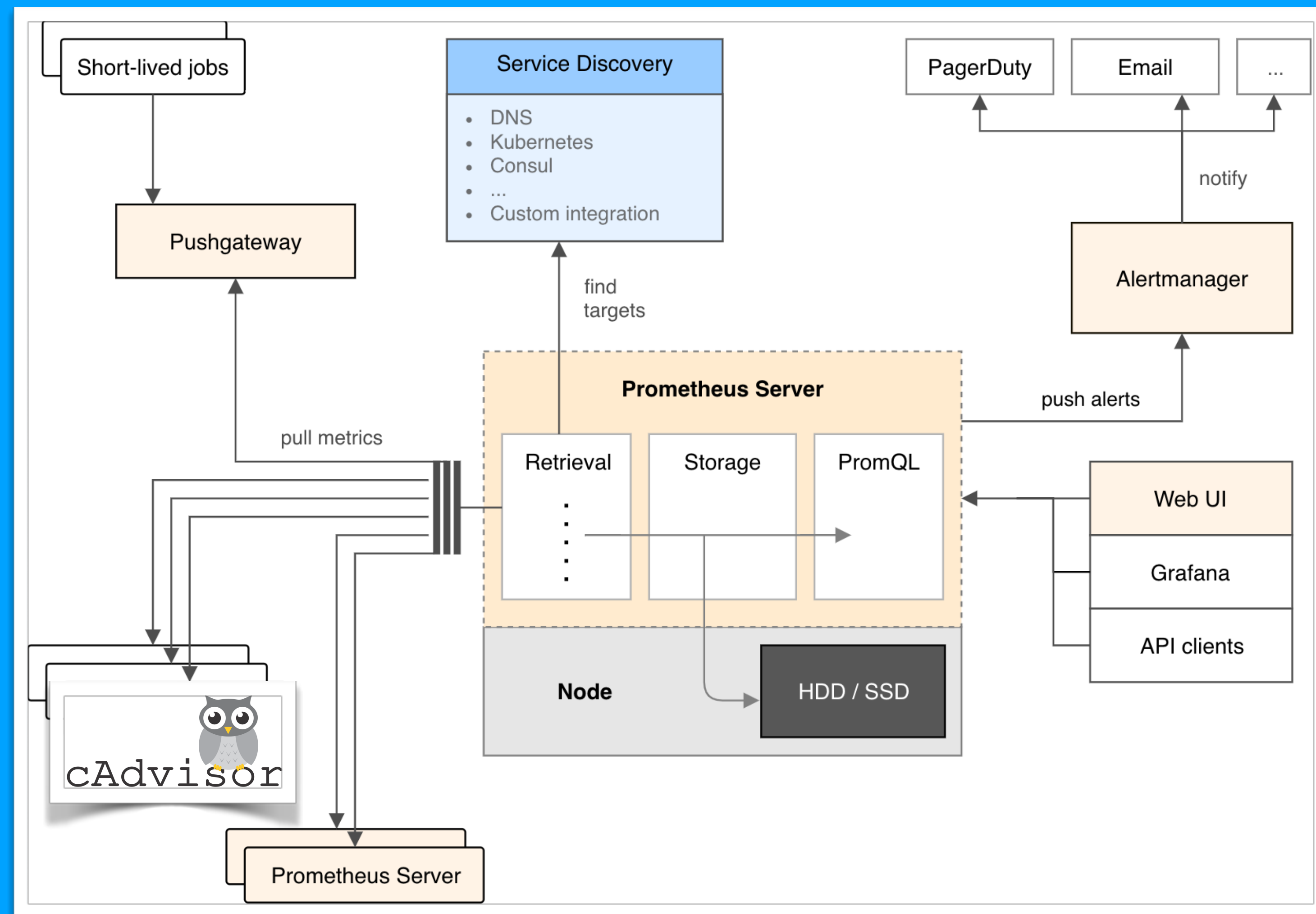
prometheus



architecture overview



prometheus



architecture overview

Scaling algorithm

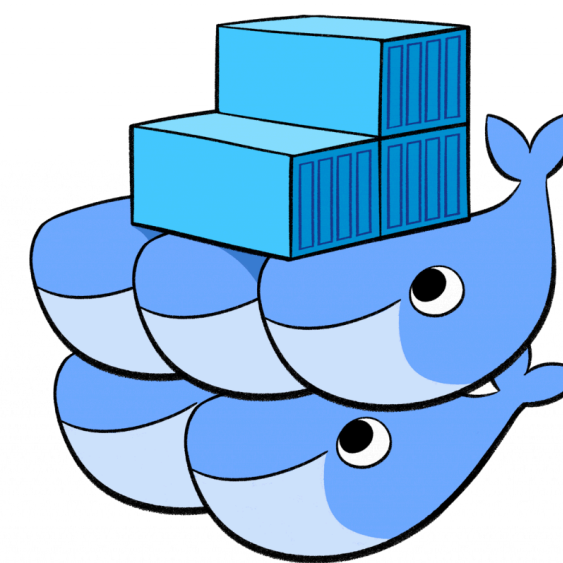
$$\text{target instances} = \text{ceil}\left(\frac{\text{sum}(\text{utilization})}{\text{target utilization}}\right)$$

$$\text{min} \leq \text{target instances} \leq \text{max}$$

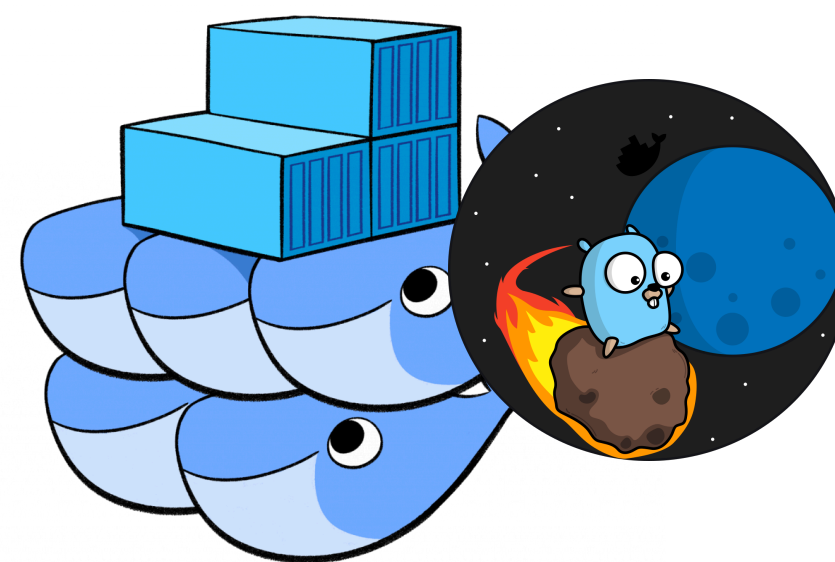
kubernetes' scaling
algorithm



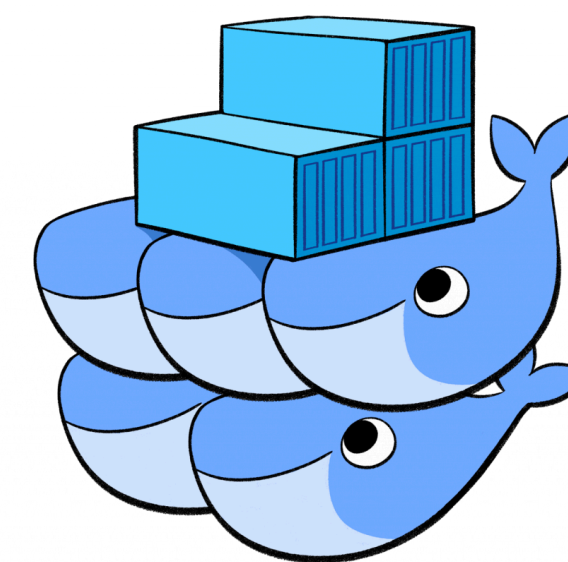
orbiter



worker



manager



worker



orbiter

+



prometheus



orbiter

+



+



prometheus

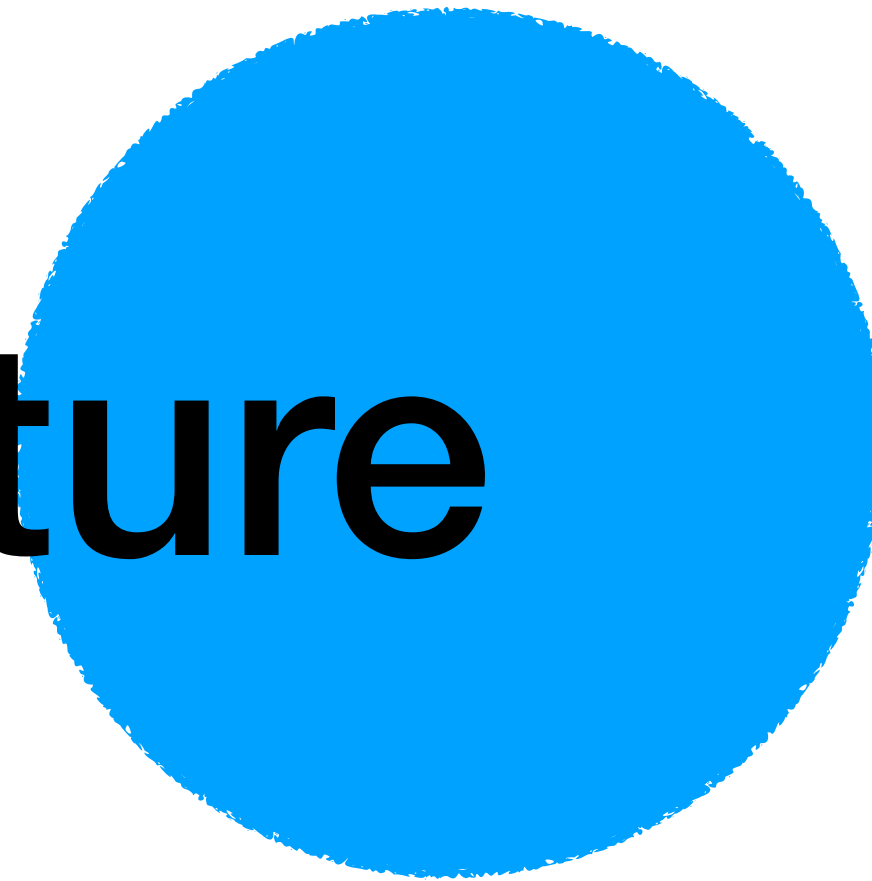
Satellite



Satellite

Satellite connects Orbiter and Prometheus Alertmanager to provide easy integration to make your Docker services autoscale in a Docker Swarm cluster.

Architecture





Scale



Monitoring



Scraping



Trigger Alert

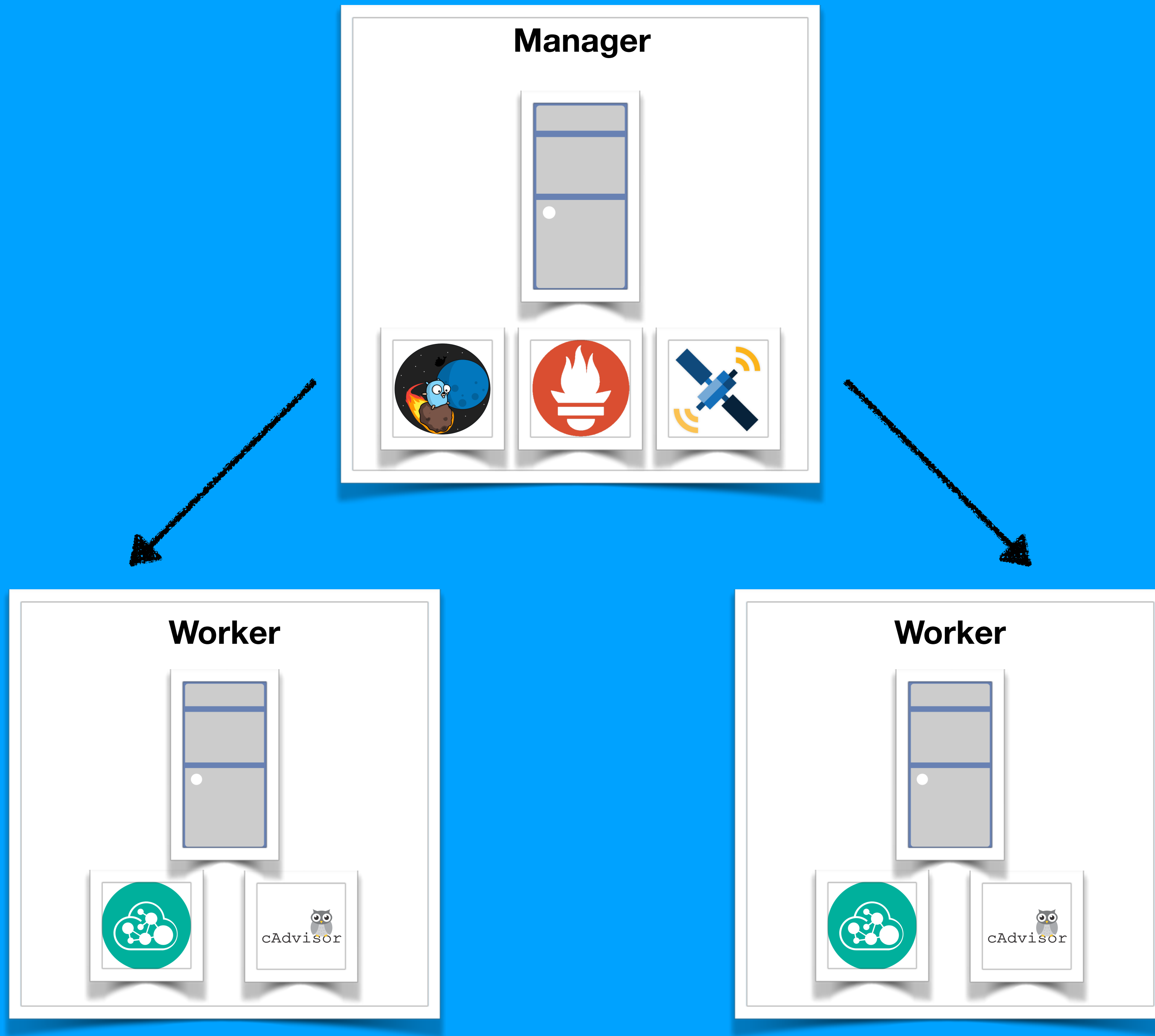


Webhook



Scale Request
(Up/Down)





Demo

