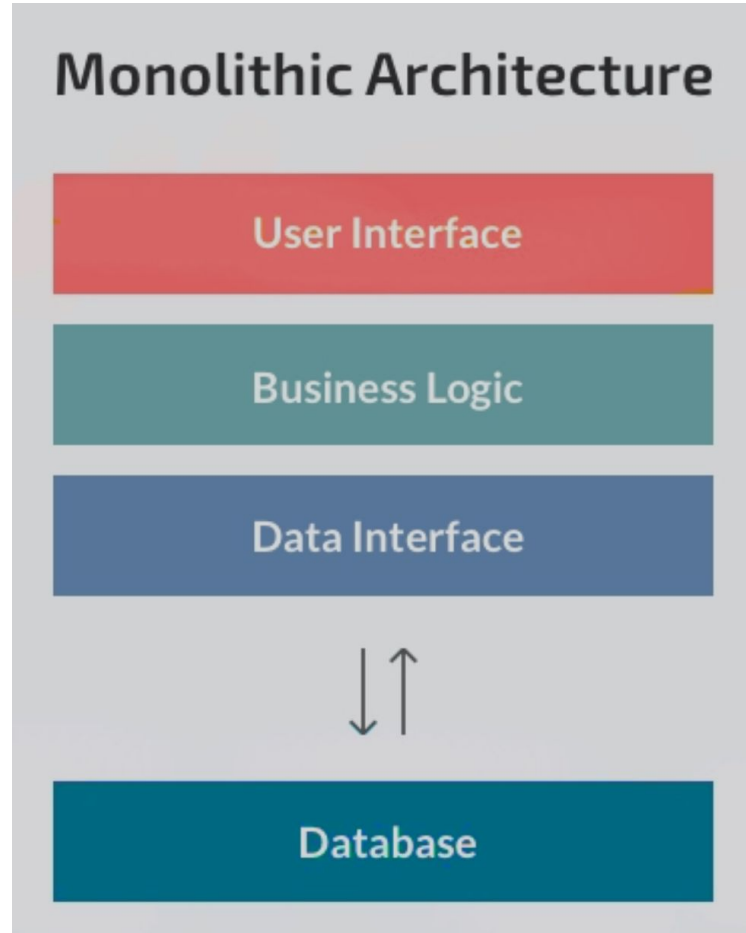# IOT Solutions

serverless iot system
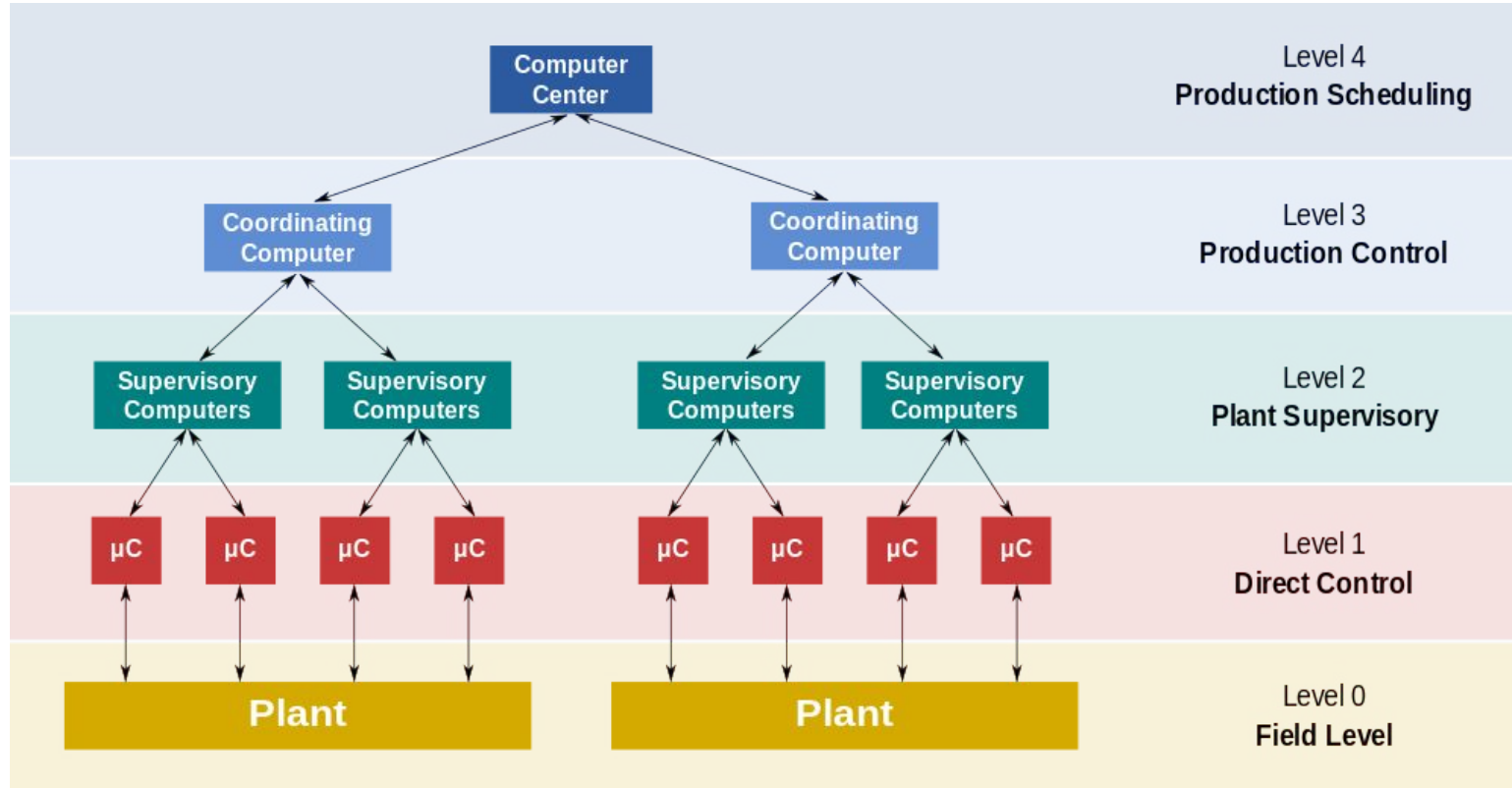
Functions of IOT

- stream data from device to database
- monitor device in real time with dashboard
- send data to device

Monolith Structure

Monolithic Architecture

User Interface

Business Logic

Data Interface

↓↑

Database

Old Solutions ------ the scada nightmare

Why is scada so bad

- Expensive investment → needs physical server
- Maintenance → every connection is a possible breakpoint
- Reliability → lowest reliability
- Security → major concern, outdated security design
- Scalability → horrible
- Obsolete infrastructure design, no one wants to develop it anymore so all the software use very old code

Kubernetes iot system → next best thing
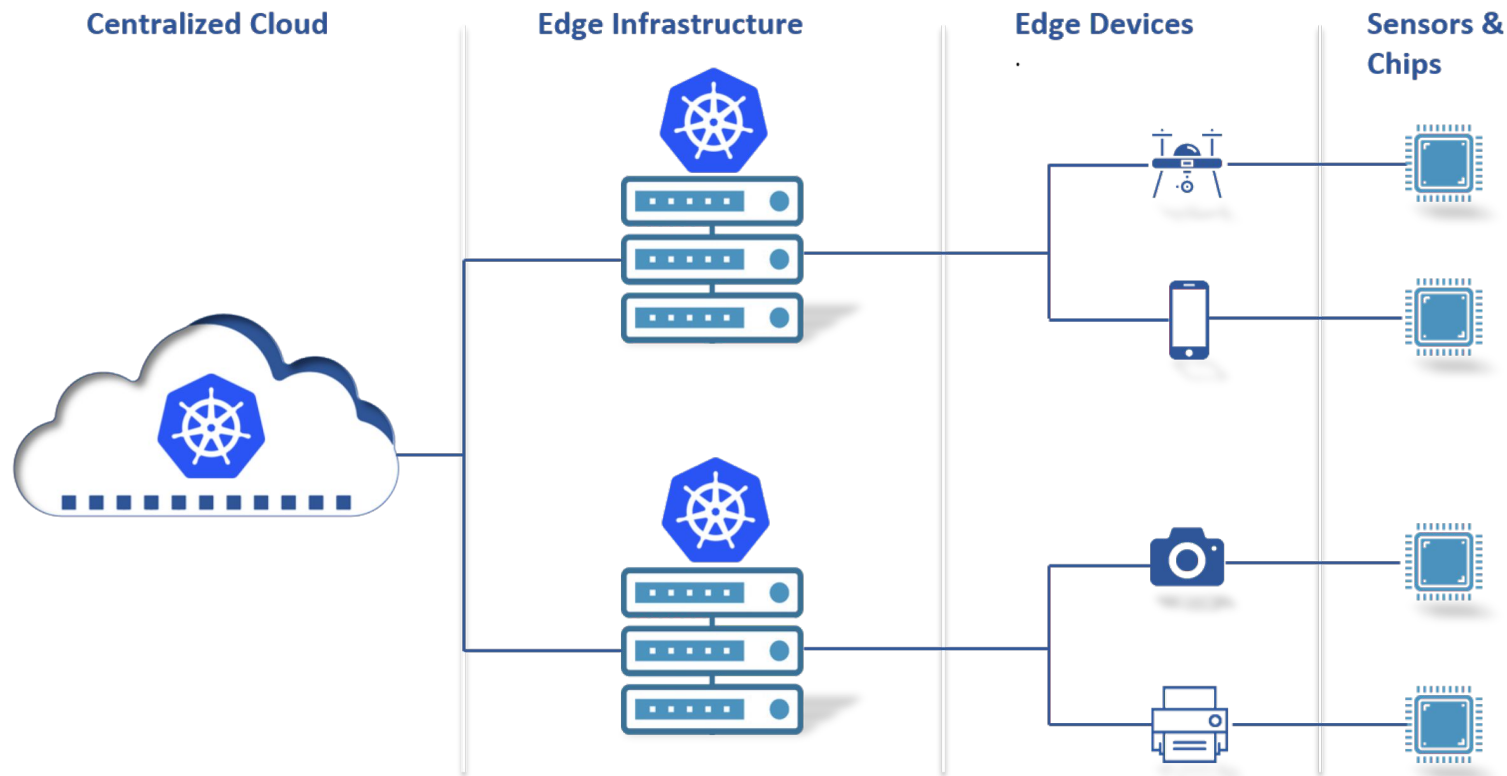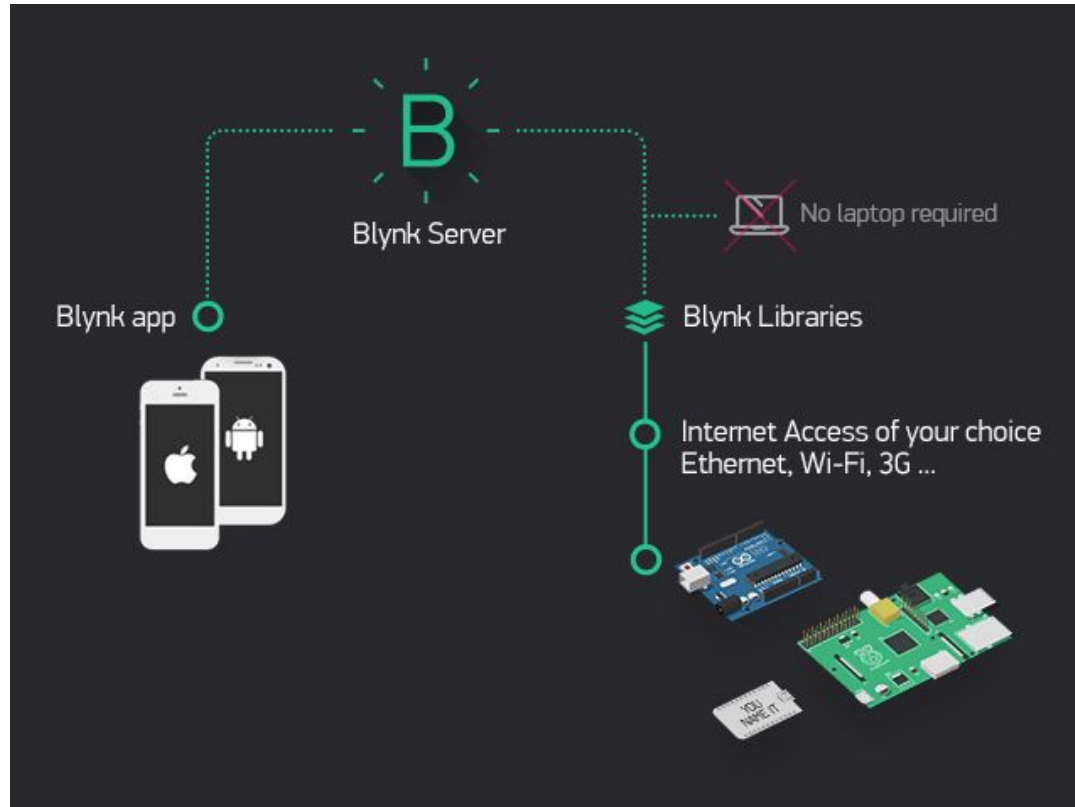
Why Kubernetes

Advantages

- Container is disposable, much more stable
- Scalable
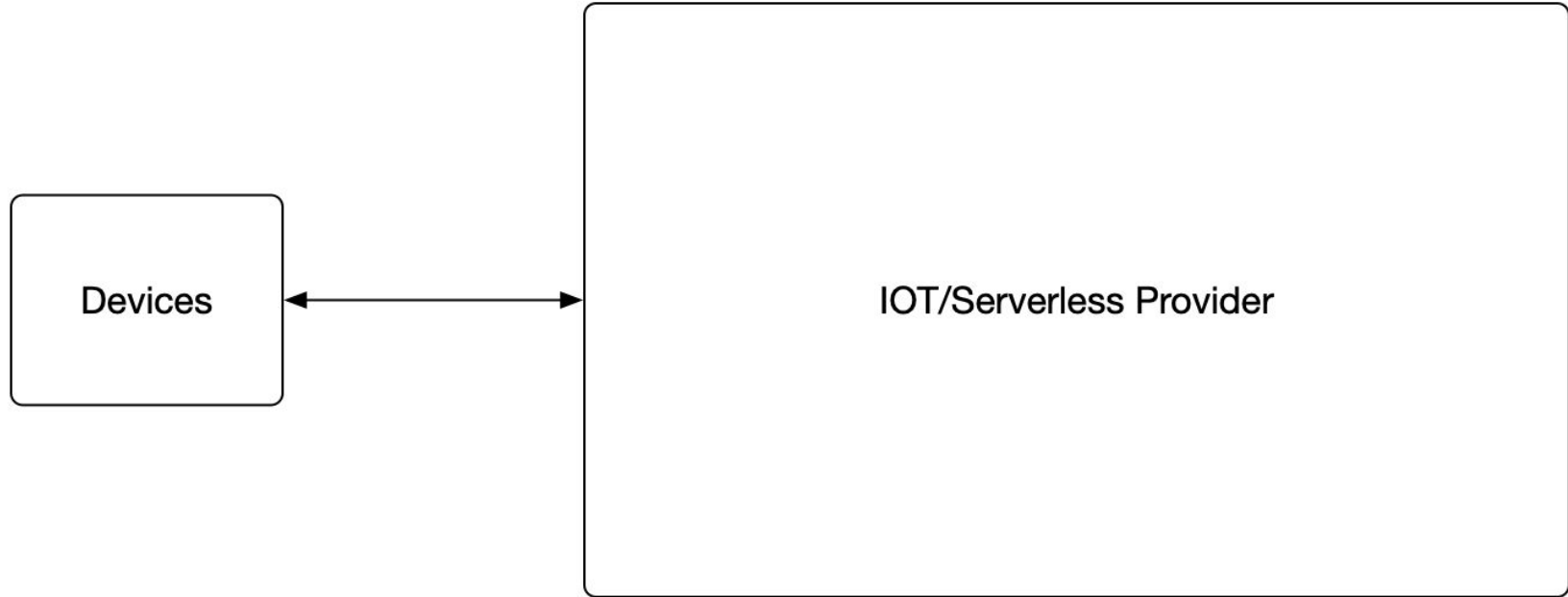- Can run on many cloud vendors eg AWS, Google, Azure

Disadvantage

- Need to hire Kubernetes engineers
- Some maintenance
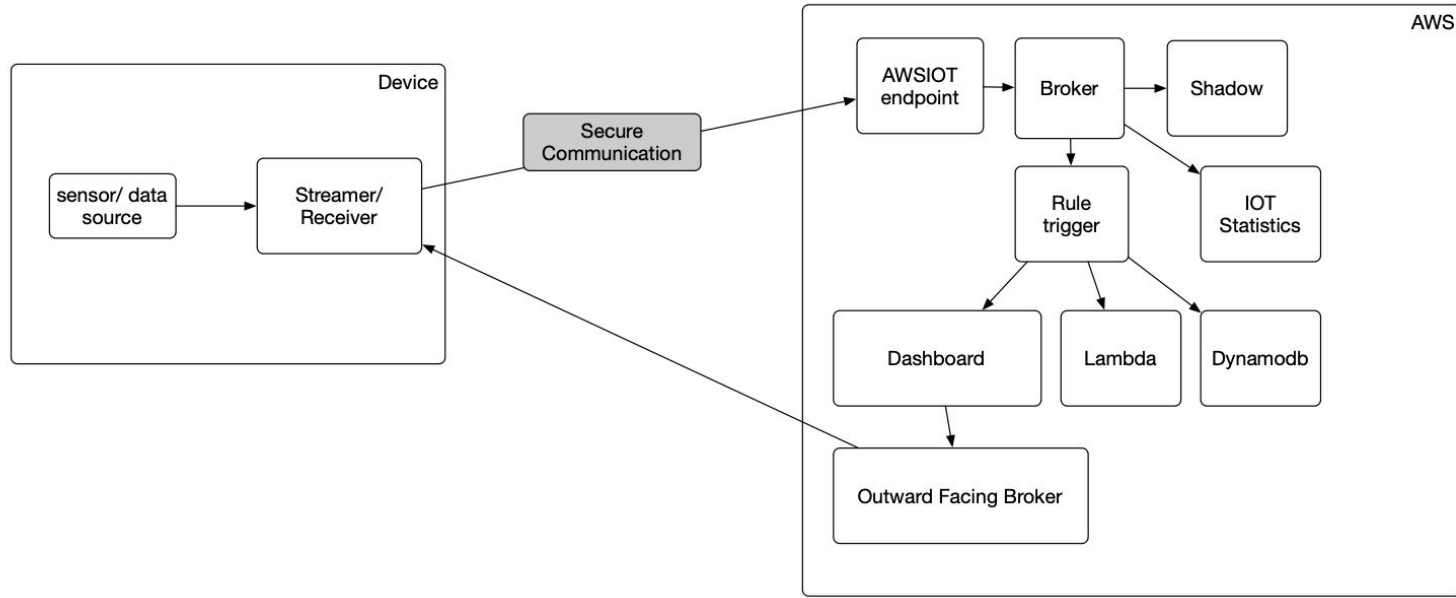- Cloud vendor not responsible for up time

Blynk Server

Fully managed service (serverless)

Devices

IOT/Serverless Provider

Why serverless

- Vendor takes care of downtime
- Vendor update software
- Vendor takes care of security
- No physical investment needed (except for internet)

AWS IOT Example design (by Nic)

Why AWS

- High security
- 32 % market share
- Cheap
- data is safe (if configured properly)
- infrastructure as a document
- no downtime (or very little)