KubeEdge Demo Session
Jun Du Huawei Cloud

Cloud To Edge

Low Latency
- AR/VR: ms level
- Industrial Control: us level

High Availability
- Availability: > 99.999%
- Response Time: Predictable
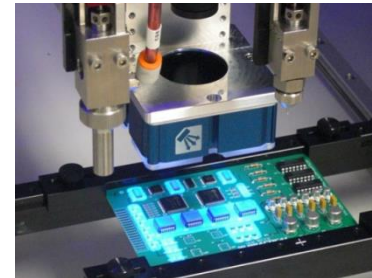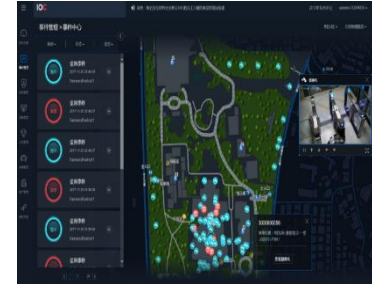- Result: Repeatable

Self-government
- Local self-government
- Tolerate network

Bandwidth/data volume
- Data volume exceeds bandwidth
- Most of the data have no global value

Information Security
- Business-sensitive data
- Privacy data

Challenges: Bring K8S To Edge

- Resources constraints

- Network instability (self managed when offline)

- Edge to edge communication

- Manage multi-tenant edge resources from cloud

- No serverless@edge support

Kubernetes IoT Edge WG

A working group focus on improving Kubernetes IoT and Edge deployments!

Organizers:
- Cindy Xing (@cindyxing), Huawei
- Dejan Bosanac (@dejanb), Red Hat
- Preston Holmes (@ptone), Google
- Steve Wong (@cantbewong), VMWare

Goals:
- Provide reference architectures for various IoT/Edge environments.
- Build end-to-end PoCs to validate overall design and provide examples to system integrators.
- Evaluate and possibly extend k8s federation and network infrastructure to better suite IoT/Edge use cases over bandwidth constrained and unreliable WAN interconnects.
- Evaluate and possibly improve connectivity and data ingestion options to better support various field protocols.
- Evaluate and extend existing CLI tools to manage K8S clusters running in remote edge locations.

KubeEdge

A Kubernetes Native Edge Computing Management Framework.

Mission: Let Cloud manages edge nodes and devices EASILY.

- **Built on K8S, 100% Compatible With K8S API**

- **Customize Runtime**

- **Reliable Message Channel**

- **Self-government**

- **Abundant Applications/Protocols Support**

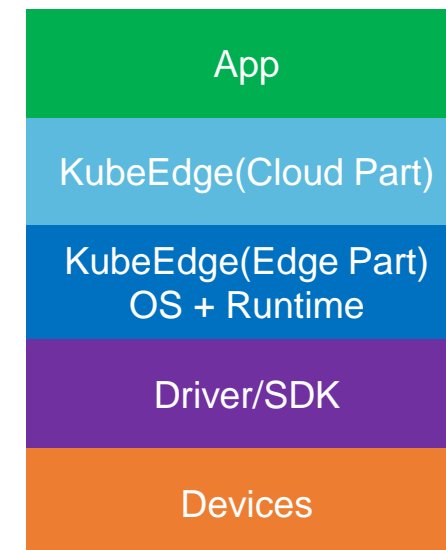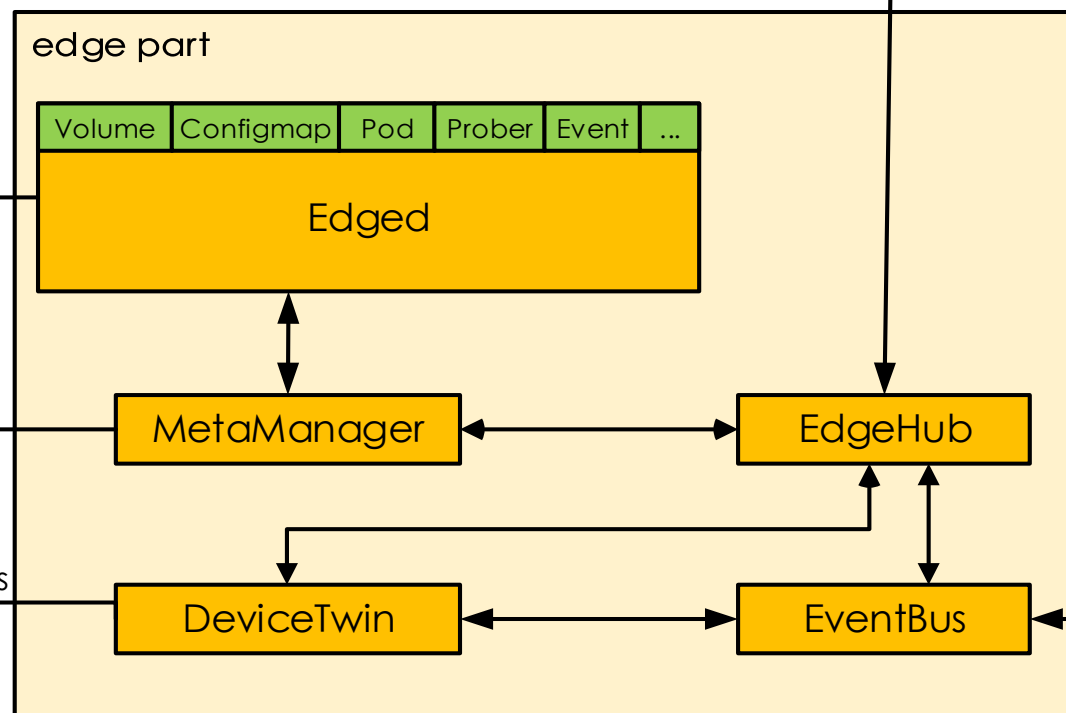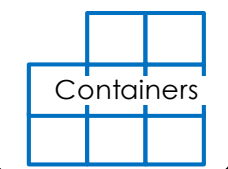- **Simplify Device Access**
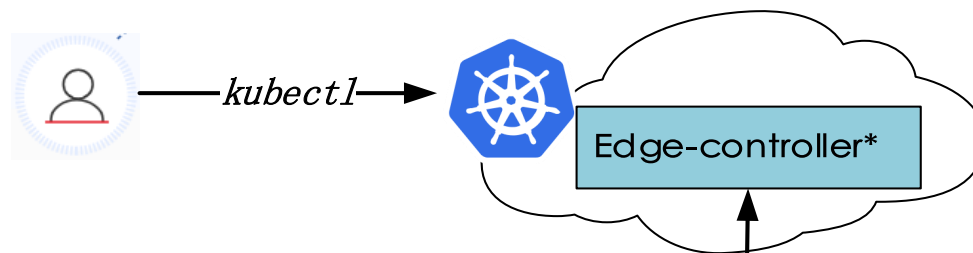
KubeEdge Architecture Overview

KubeEdge: Open Source Now!

Code Base: https://github.com/kubeedge/

Show Case: Smart Park Face Recognition
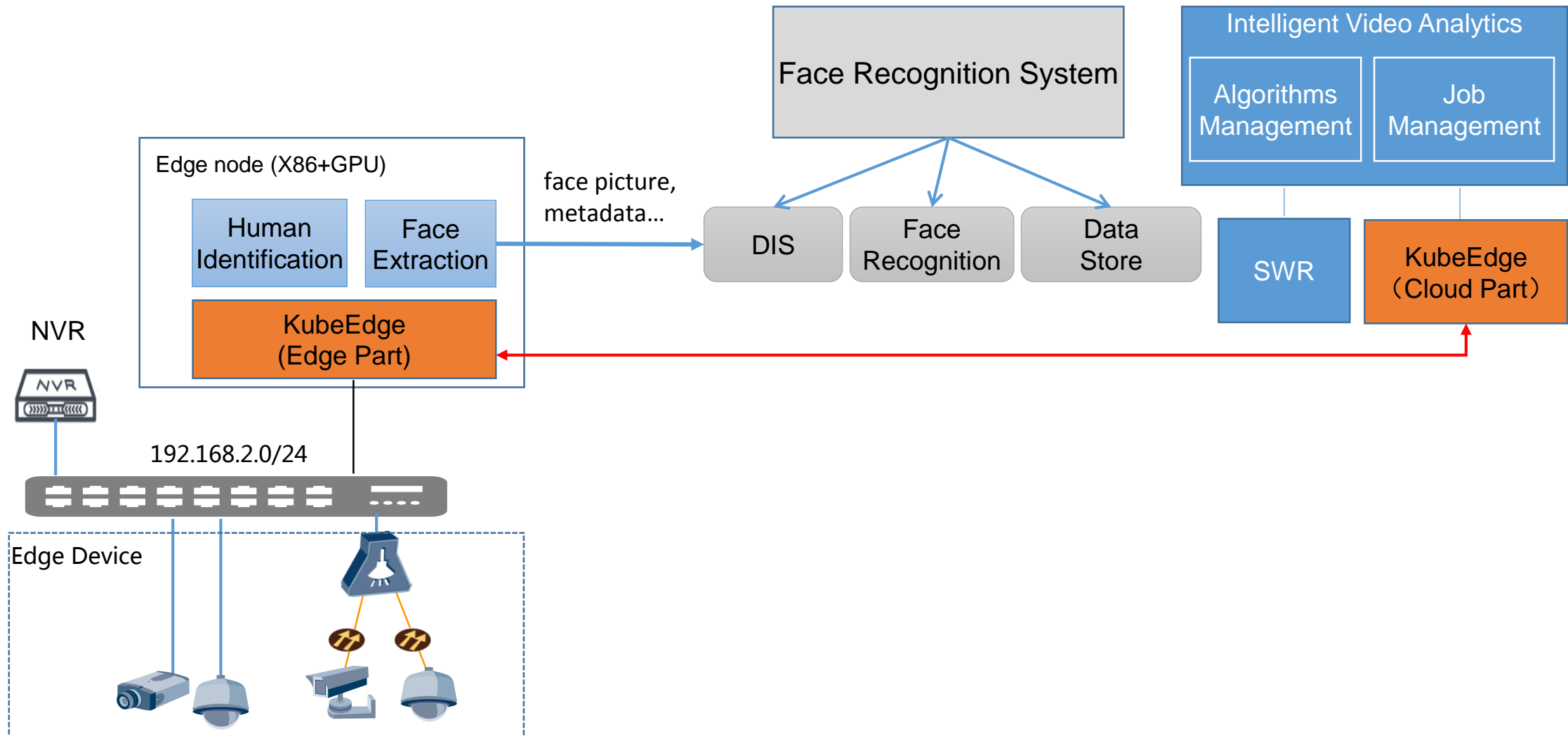
Demo

KubeCon | CloudNativeCon

China 2018