# China Mobile Edge Computing Sharing for Akraino F2F event 2020

Hanyu Ding
dinghanyu@chinamobile.com

2020.09

中国移动 China Mobile

# Agenda

01 China Mobile Edge Computing Overview

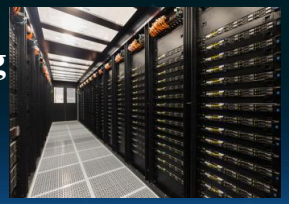
02 Activities in LF Edge Akraino and Technical Focus

# Edge Computing is the Core Capability of China Mobile 5G+ Strategy


- Edge Computing will **evolve in** the Infrastructures, platform services and innovation applications and act as a key driven of 5G+ development.
- China Mobile has **invested** in different directions around edge computing.

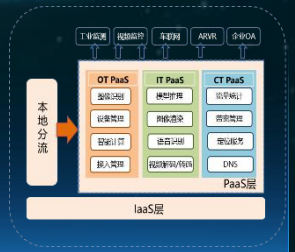
## Resource integration

Build a series of standardized infrastructure of edge computing that can be replicated in scale



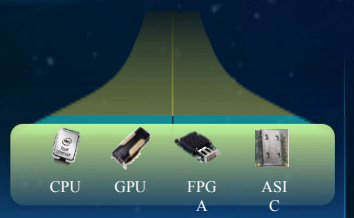
## Platform Integration

Build cloud network convergence edge computing open platform capability



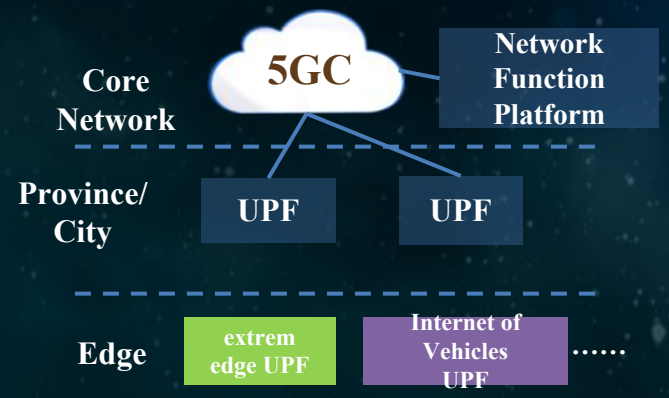

## Application Integration

Build an open and win-win industrial application ecology



# China Mobile Edge Computing Services Overview

## 5G Network Services




- **Edge traffic offload** services enabled by network slicing and uplink classifier
- **Open APIs of network capabilities** for vertical applications
- 5G SA (standalone) **private networking solutions** for enterprise

+

## Edge Computing Cloud Services


### Edge Computing PaaS

**API Gateway**

Registry | Load Balance | Authentication | Traffic flow

monitoring | User group | Access control | Network functions

**Network Capabilities**

Location awareness

Bandwidth management

Access control

**Generic Capabilities**

Database

Load balance

DNS

**Vertical Capabilities**

Video analytics

AI prediction

NLP

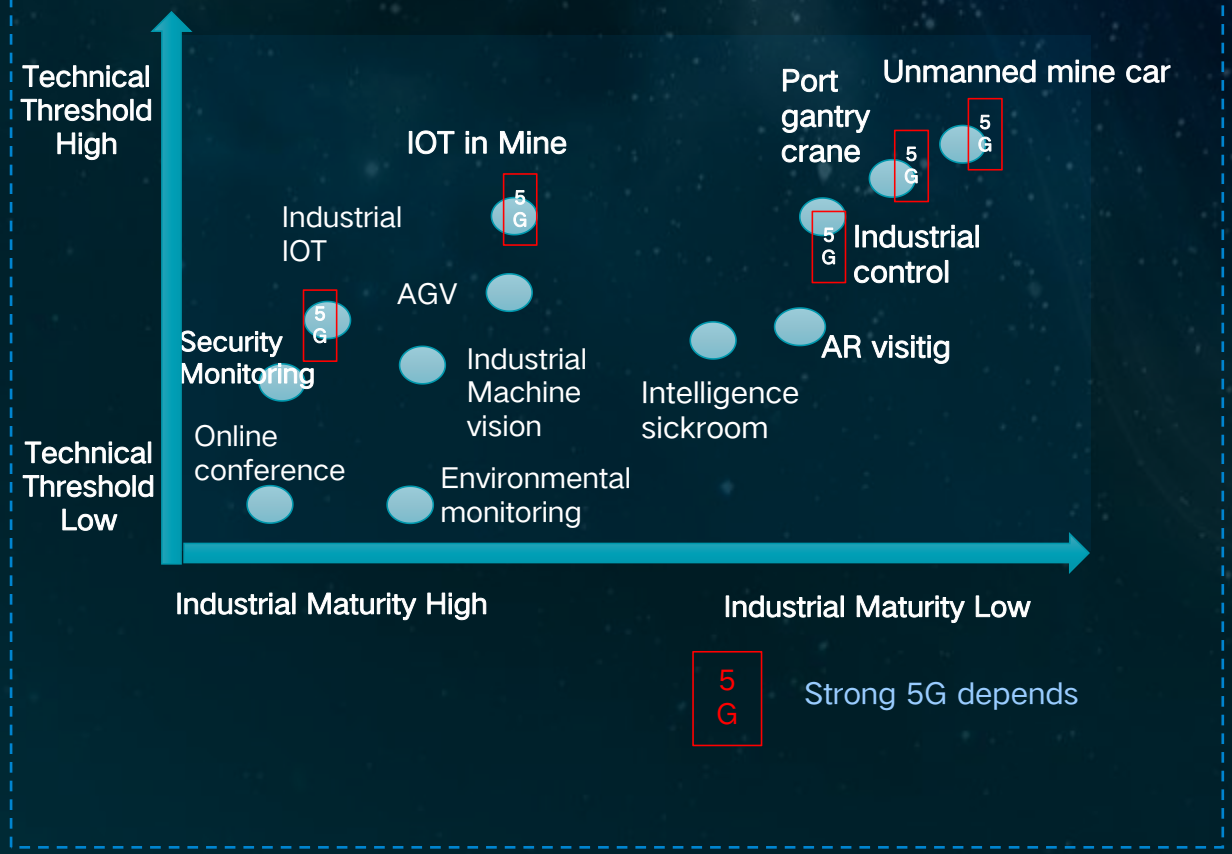
### Edge Computing IaaS

Virtual Machine | Container | Bare Metal

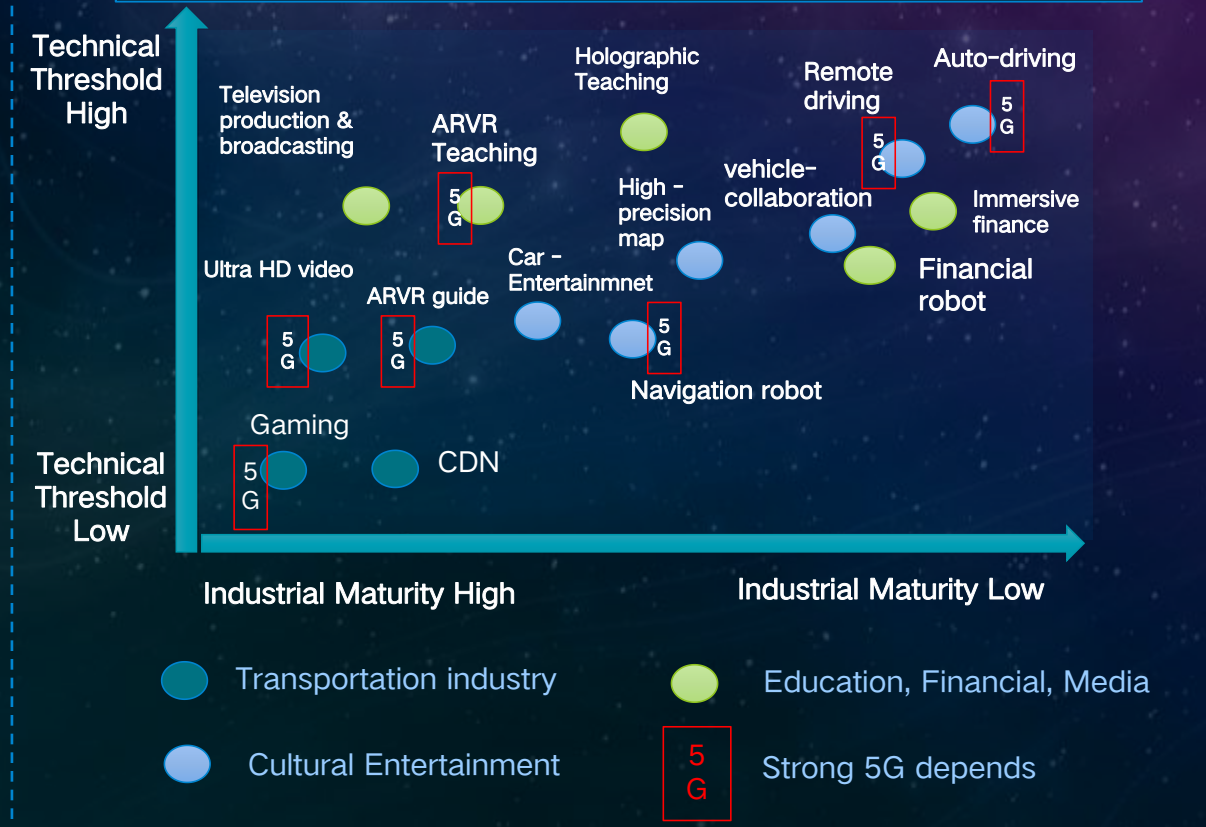
# Business Development Strategy

Edge computing applications are divided into Local and General categories, and the first priority can be given to services which have low technical entry threshold and high industrial maturity

## Local Business




## General Business



# Edge Computing Service Trials and Real Use Cases

## 90+ edge computing service trials locating in 12 provinces

### Education (5)

- Smart campus in Jiang Su
- Remote education, Beijing

…

### Government(2)

- AR guidance, Horticultural Expo 2019
- public security service, Nanjing

…

### Smart Energy (11)

- Underwater inspection, Sichuan
- Smart grid, Anhui
- Smart oil station

…

### Smart manufacturing(37)

- smart port, Zhejiang
- Auto guide vehicle control, Wu Xi, Jabil Group

…

### smart traffic(14)

- Autonomous drive, Shanghai
- Assistant drive, Zhejiang
- High quality map, Xiamen

…

### Healthcare(4)

- Smart healthcare, Sichuan
- Remote hospital consultation, Beijing

...

### entertainment(18)

- Cloud gaming, Guangzhou
- AR guide, Hubei
- Video acceleration, Zhejiang

…

中国移动 China Mobile

# Agenda

01 China Mobile Edge Computing Overview

02 Activities in LF Edge Akraino and technical focus

# MEC Key Technical Focus

China Mobile focuses on key technologies from three aspects: 5G Network Capability Exposure , Edge Computing node addressing and edge API ecological construction

## 5G Network Capability Exposure


AR/VR


Industrial Control


V2X


Gaming

**Empowering**

① UE Location

② UE ID

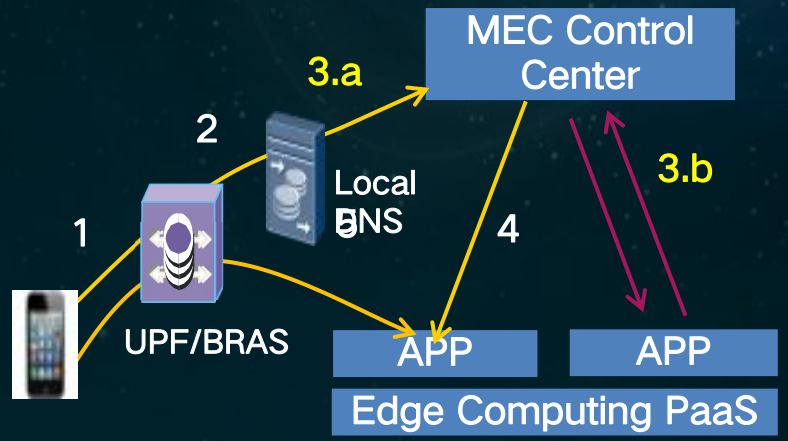
③ Bandwidth Management

④ RNI

Edge Computing PaaS

## Edge Computing node addressing

- Edge Computing node addressing is the key to enable edge computing services, and scheduling technology based on DNS resolution mechanism is usually adopted;

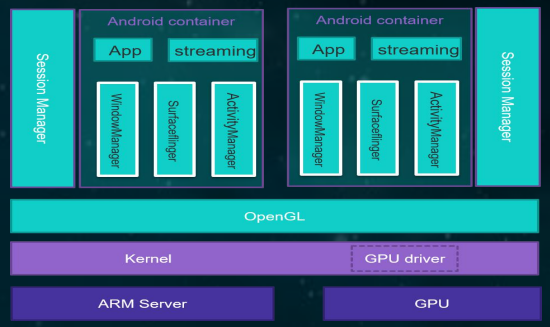



## Ecological construction of Edge API


- Build an edge capability mall: "one-point introduction and the whole network sharing"
- Integrate rich edge API: high-quality industry partners and integrate vertical industry capabilities to empower tripartite applications;

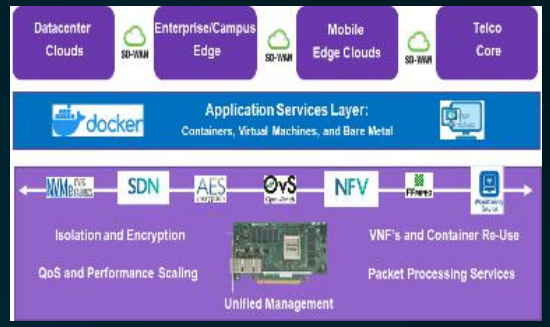
# China Mobile Practices in Akraino

China Mobile and vertical partners jointly launched two Akraino Integrated Edge Cloud BP projects and PTL and successfully released the R3 version of the community,




## IEC Type 3： Android cloud native applications on Arm servers in edge

Mainly through the deployment of game rendering, encoding and decoding, storage and distribution capabilities at edge computing working nodes, the user interaction delay is reduced, so that users can enjoy the perfect game experience without buying expensive game terminals.




## IEC Type 5： SmartNIC

The first published blueprint of integrated edge cloud type 5 is based on arm SoC architecture, and offloading OVS-DPDK to smart network card can enhance the throughput performance of edge network VPC, reduce the packet loss rate and enhance the management of network card resources, so as to save more computing resources.

**Welcome more partners to join our project !!**

中国移动
China Mobile

# Thank you!