Demo: Task Offloading with Multi-cluster Collaboration for Computing and Network Convergence

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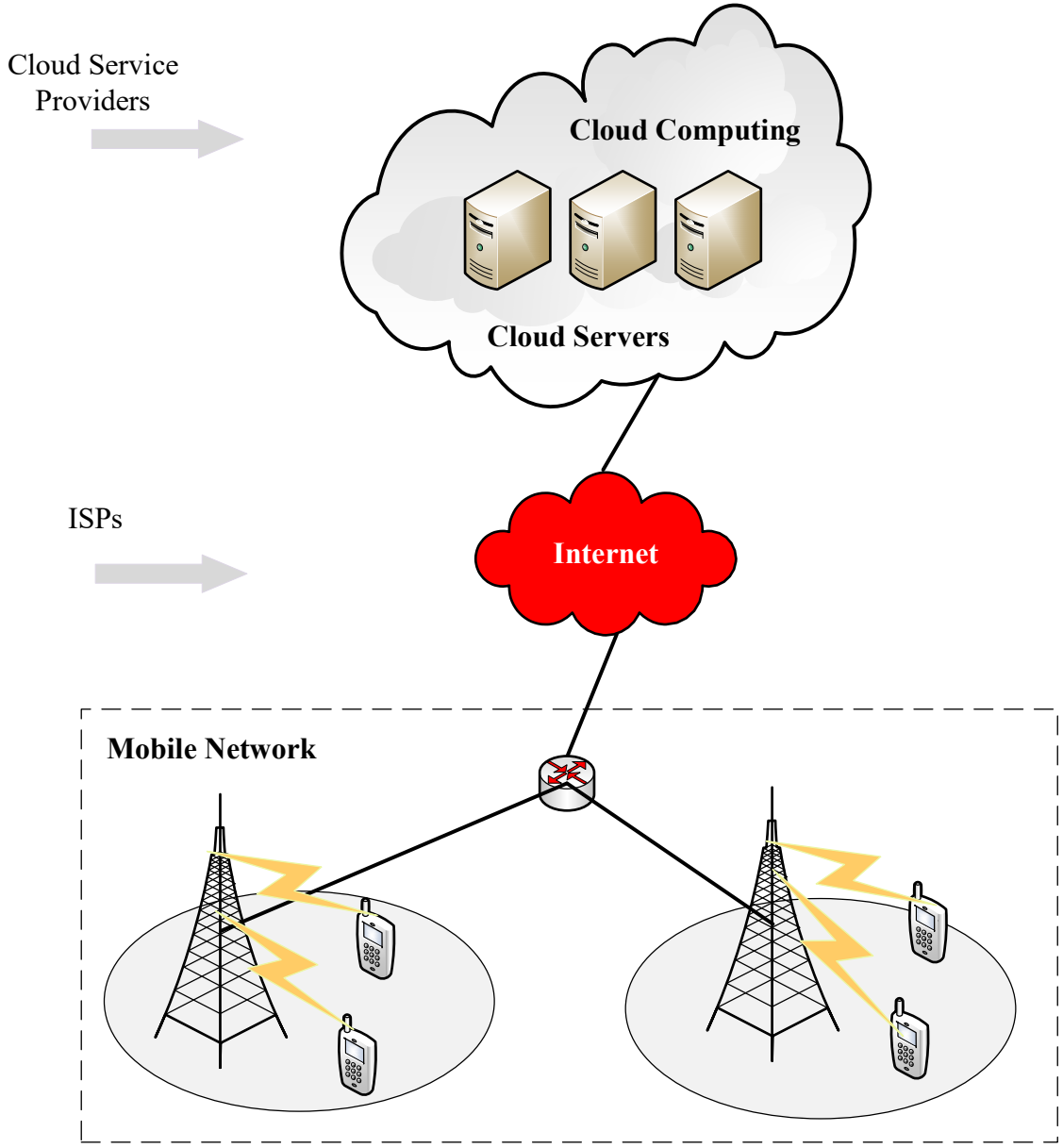
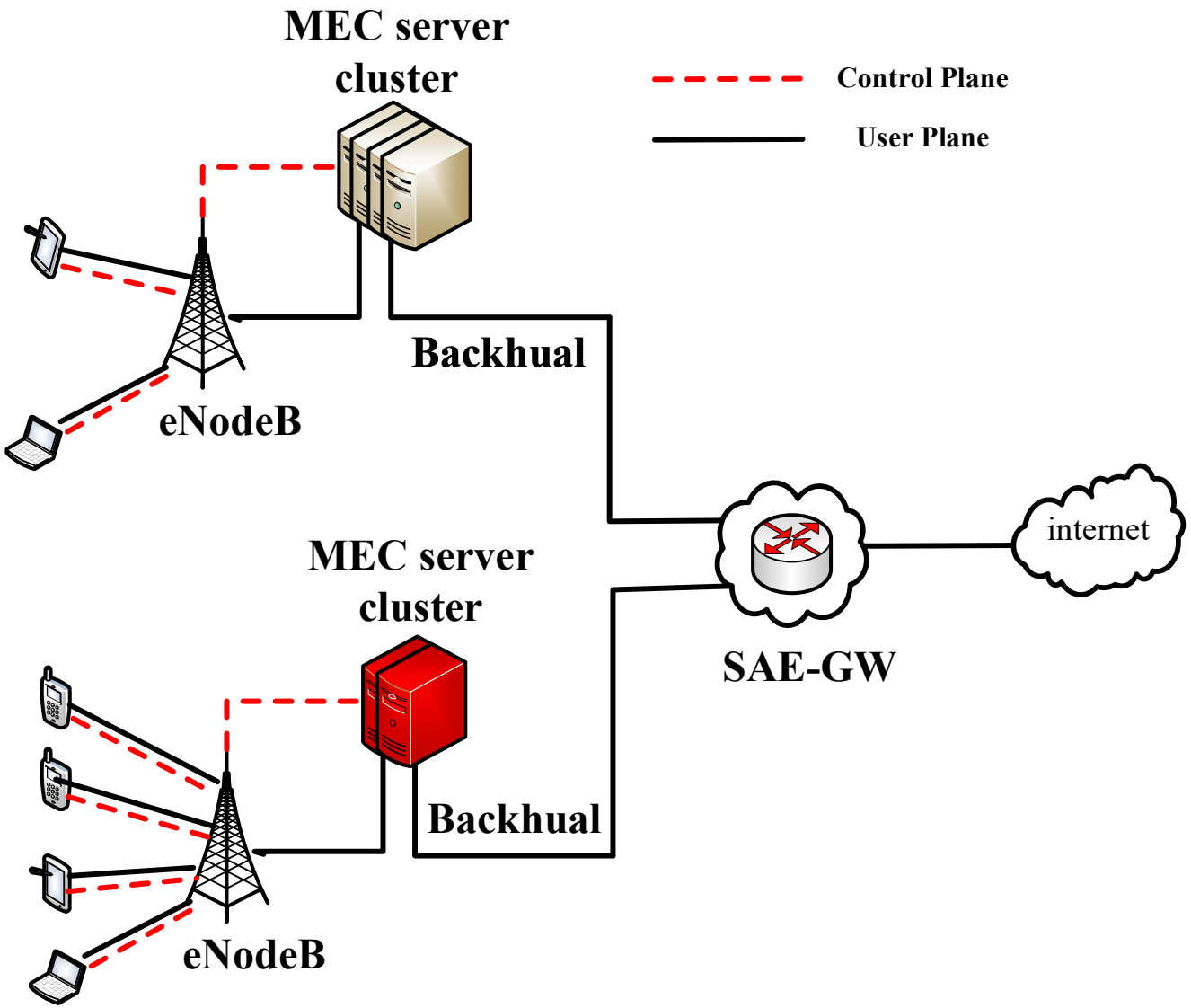
Catalog

INTRODUCTION



- Two-tier architecture
- Concentrated large computing power
- High communication delay
- Network traffic bottleneck

INTRODUCTION



- Three-tier architecture
- Low communication delay
- Computing power island effect
- Weak collaboration capabilities between edge clusters

INTRODUCTION

- A single edge computing cluster has limited resources that cannot fulfill the resource demands of numerous compute-intensive tasks.
- Cooperating with cloud computing may result in large backhaul delay.
- Due to the uneven distribution of service requests, certain edge clusters remain relatively idle, while others become overloaded.
- Collaboration among edge computing clusters can bring huge benefits.

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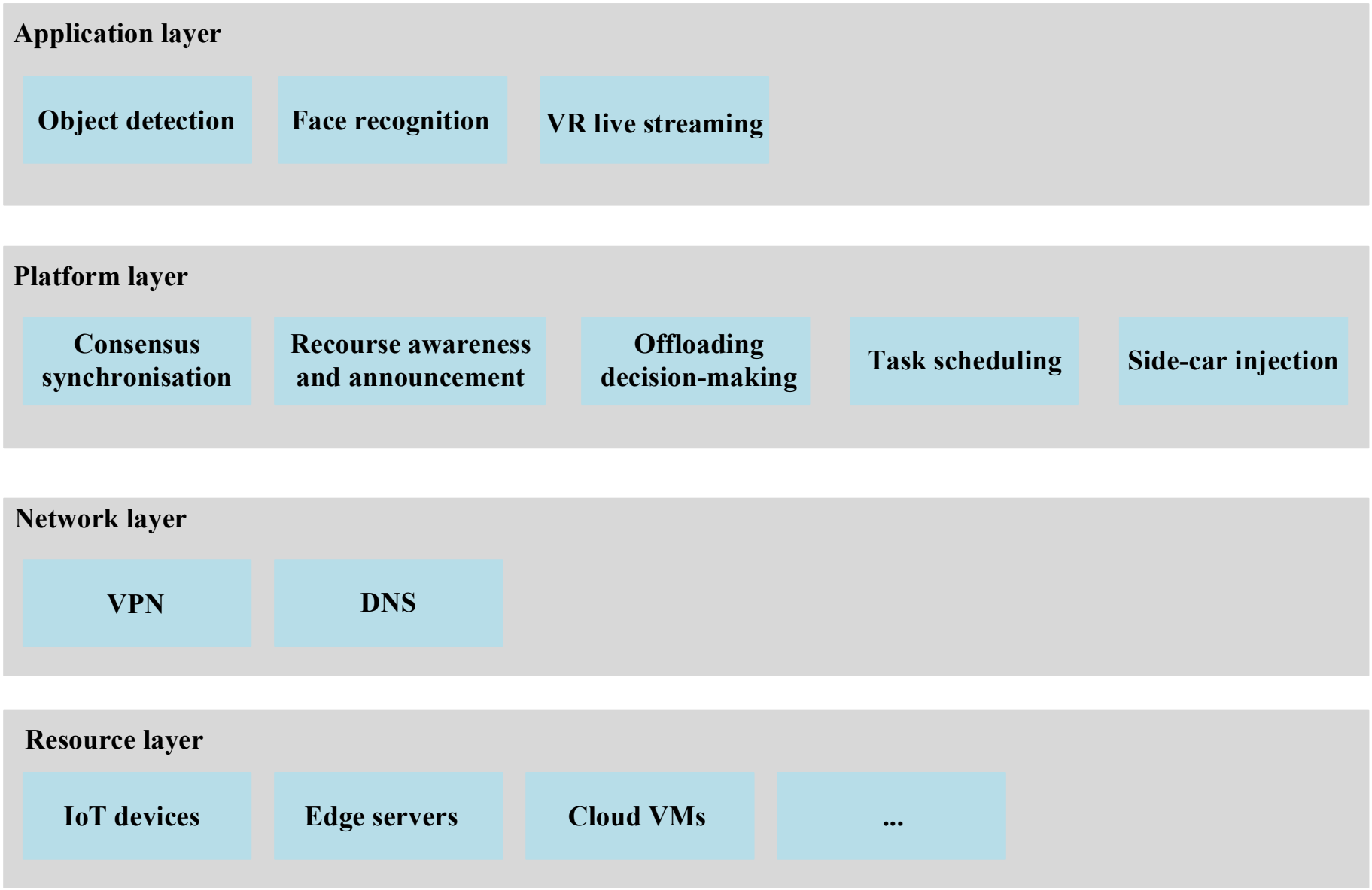
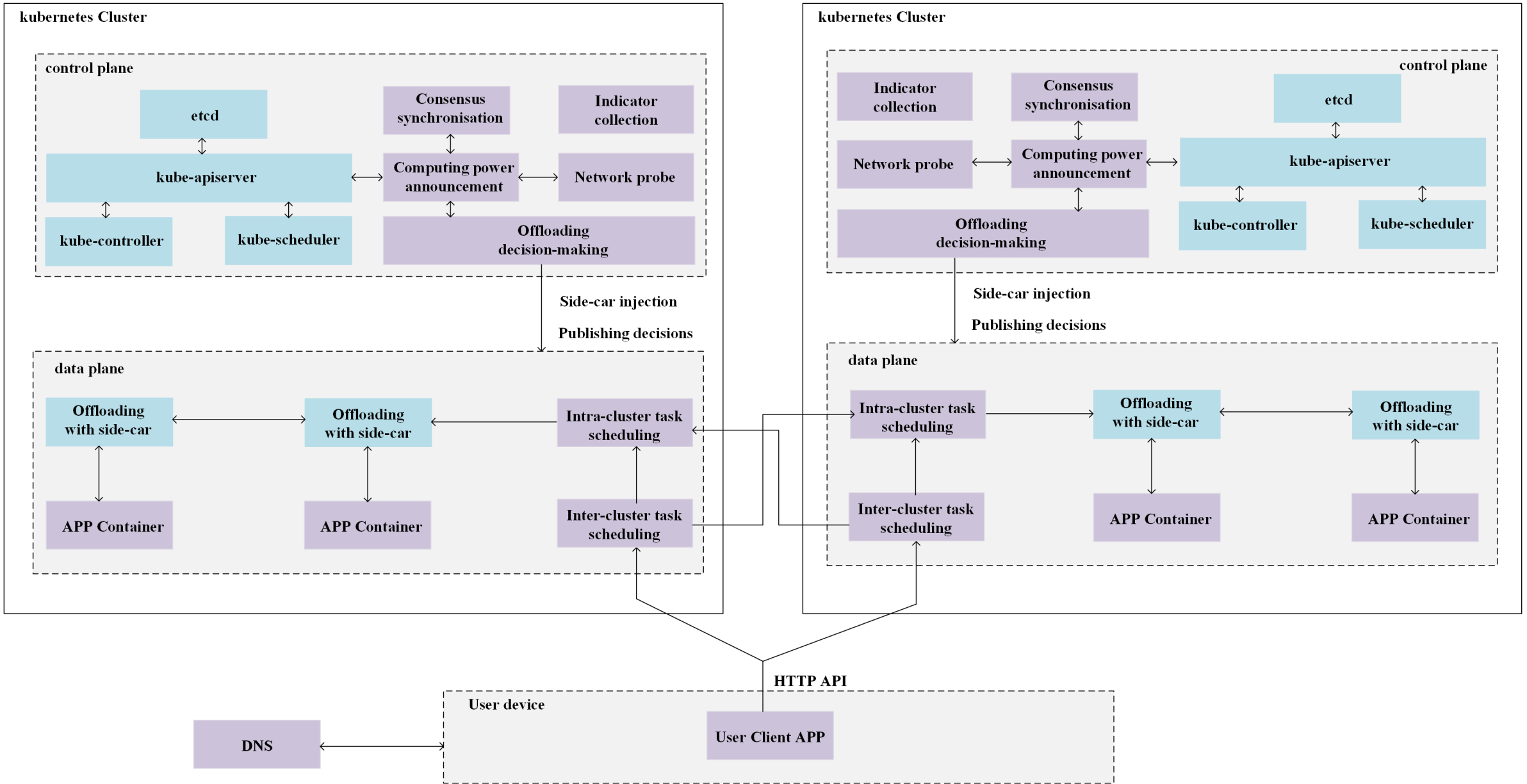
Technological System

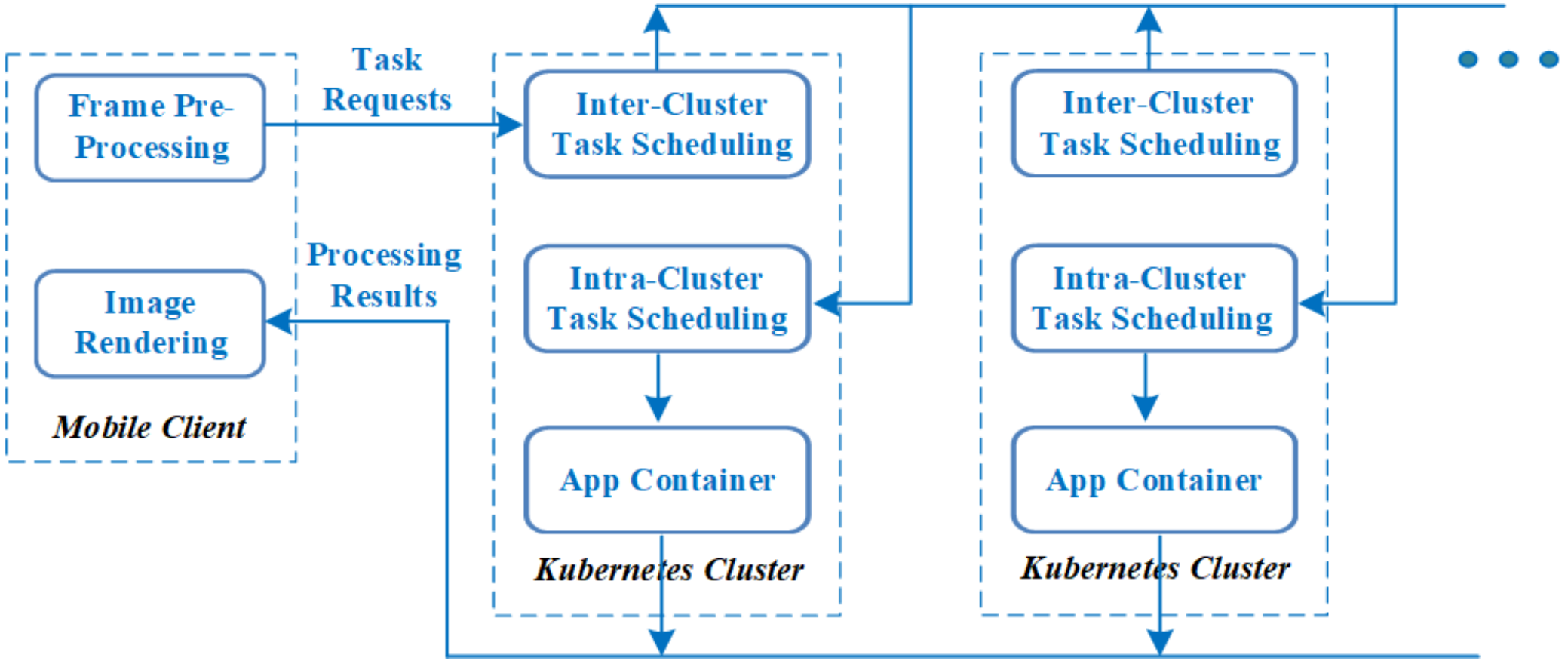


- Unified management and deployment of microservices
- Unified management of different computing nodes
- Provides intranet penetration and proximity access support
- Multiple types of devices co-provide and share arithmetic power

Architecture



Simplified Workflow



Critical Capabilities

- Decentralized Data Synchronization
- Distributed Recourse Awareness and Announcement
- Task Scheduling Decision and Execution
- Multi-lane Task Scheduling Decision

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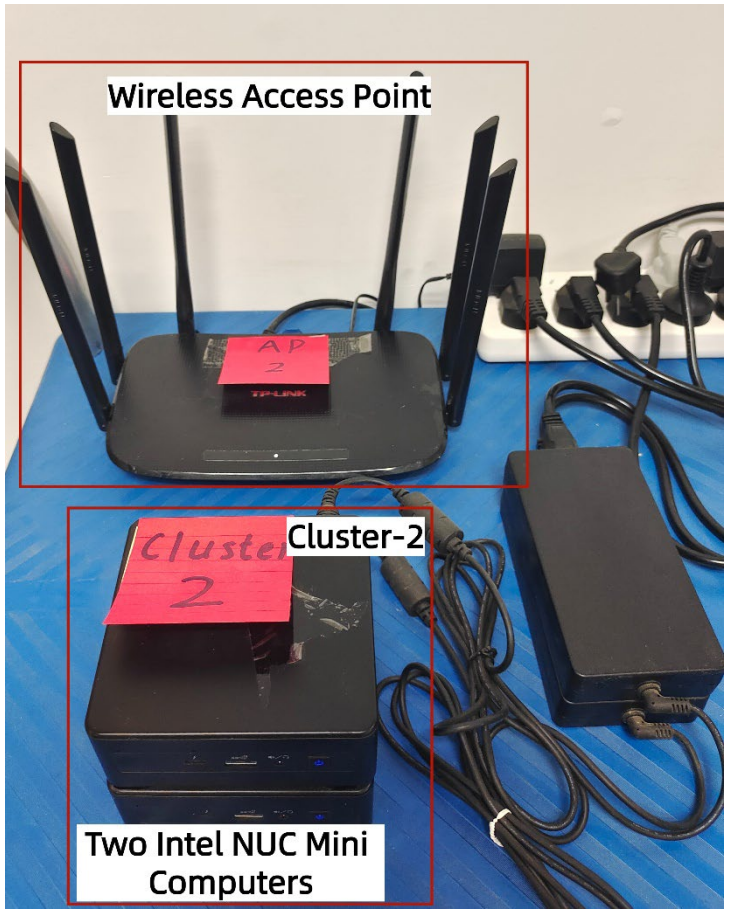

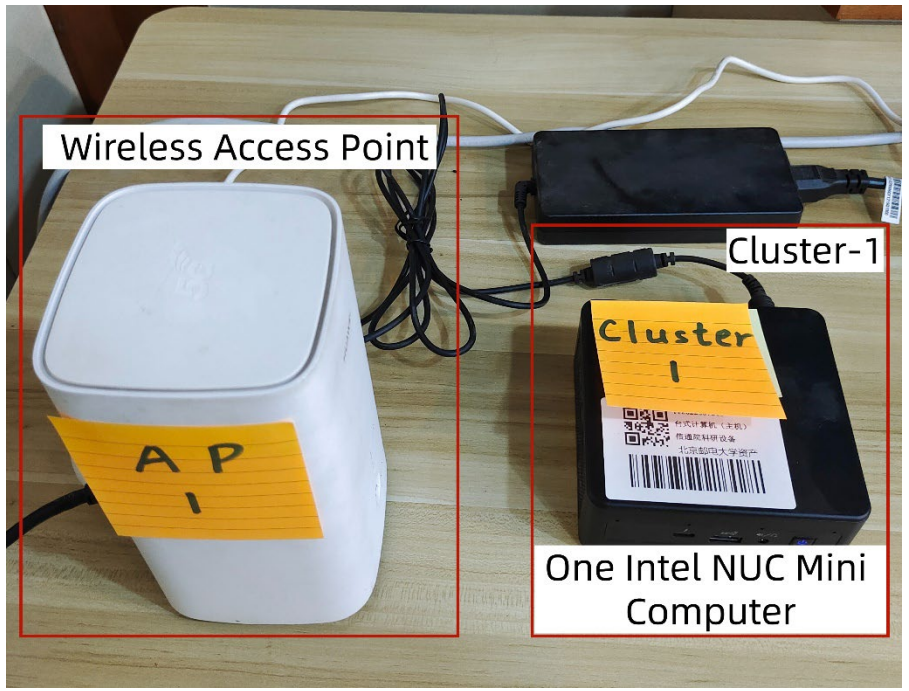

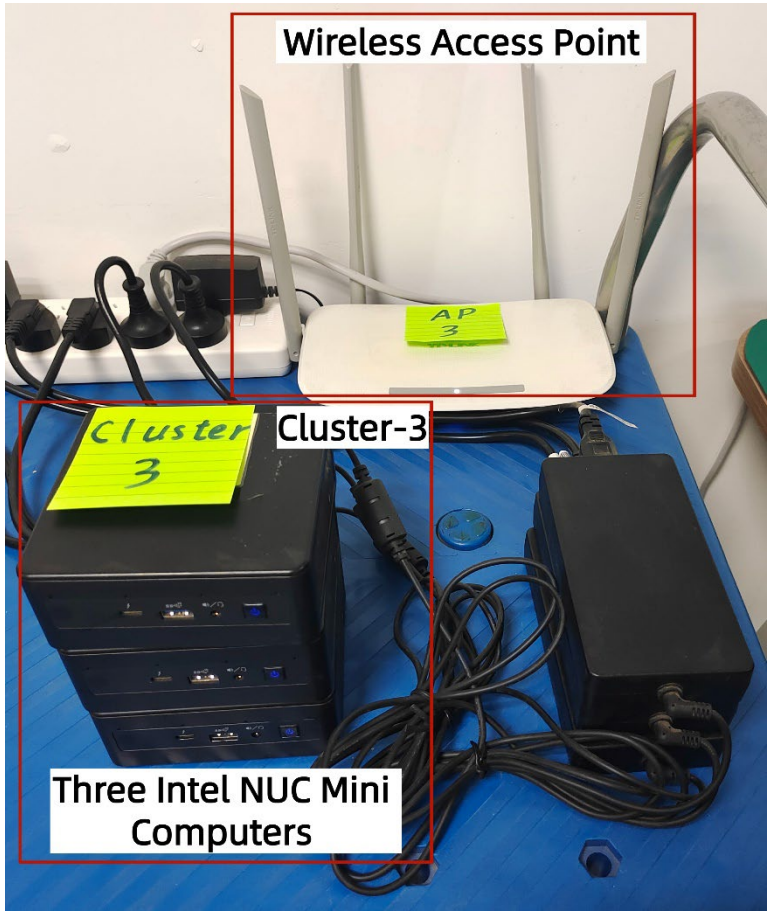

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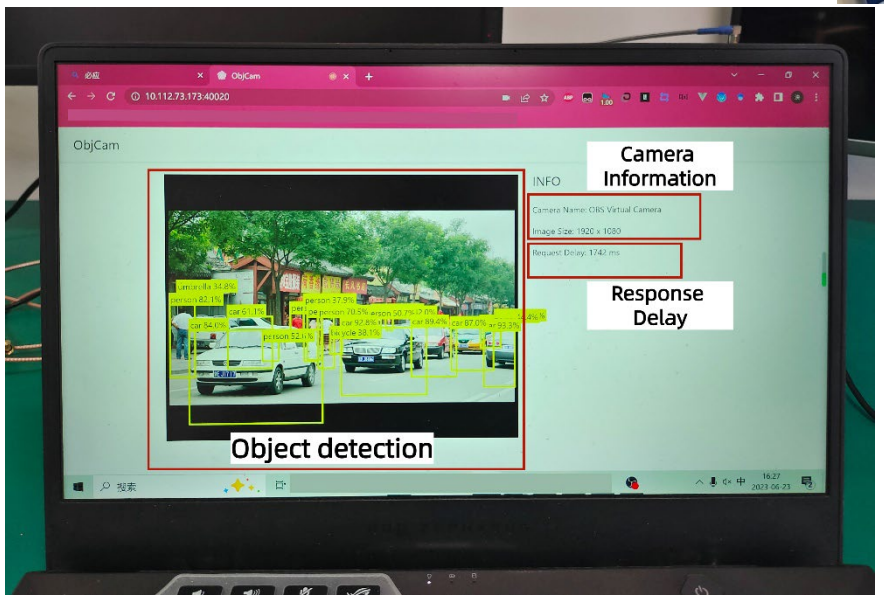

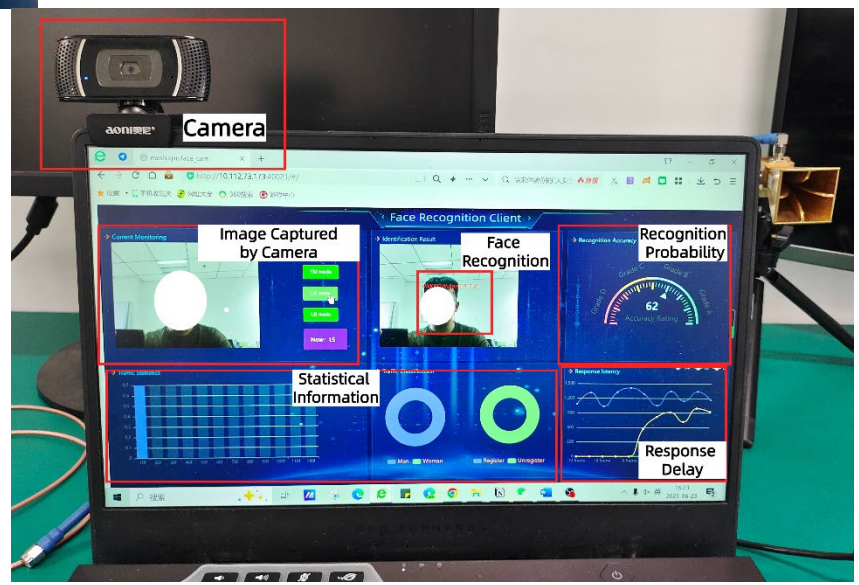

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Thank You for listening!