



## IETF-124 I2ICF Side Meeting

# Interface to In-Network Computing Functions For Physical AI and On-Device AI

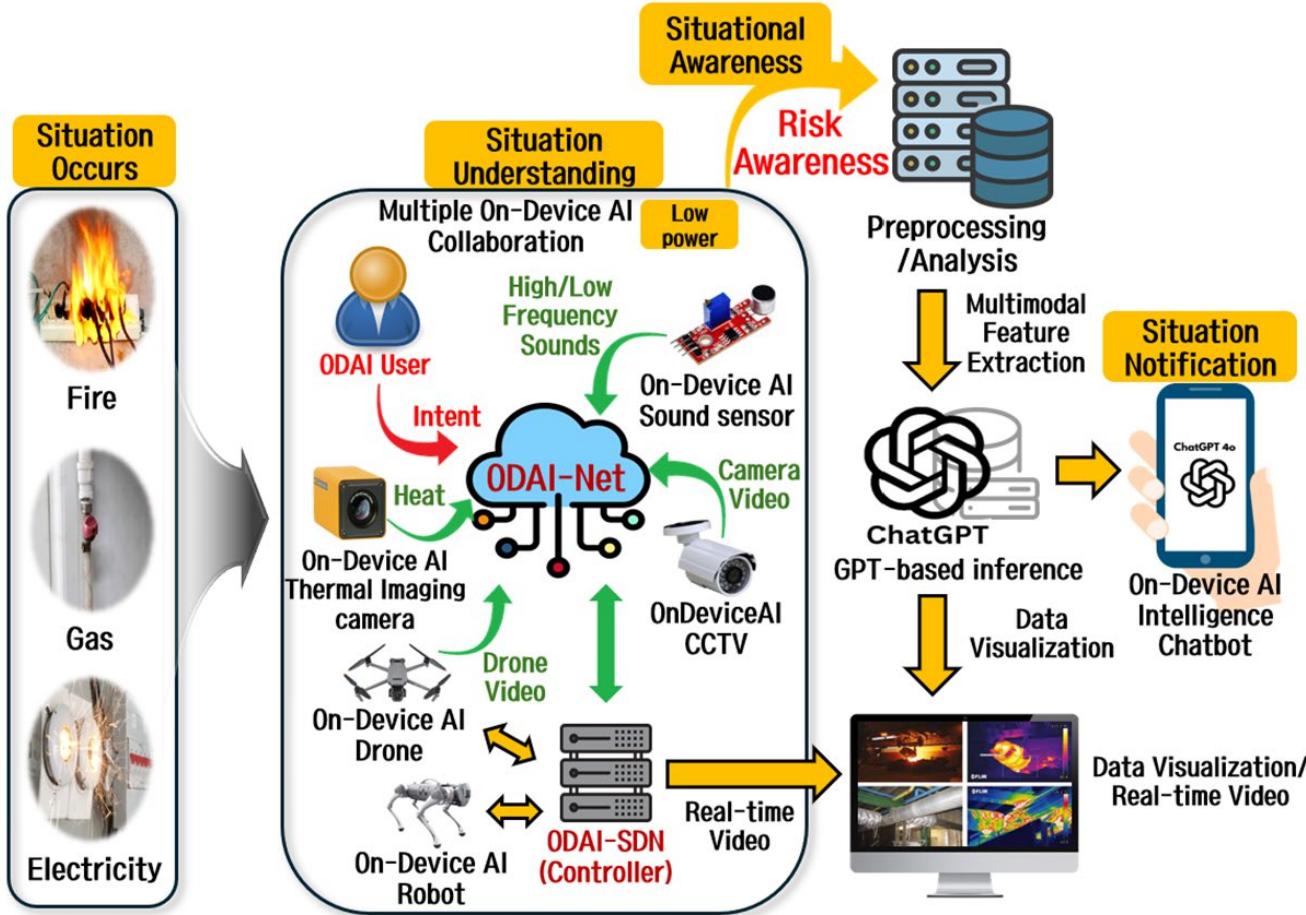
Montreal in Canada

November 6, 2025

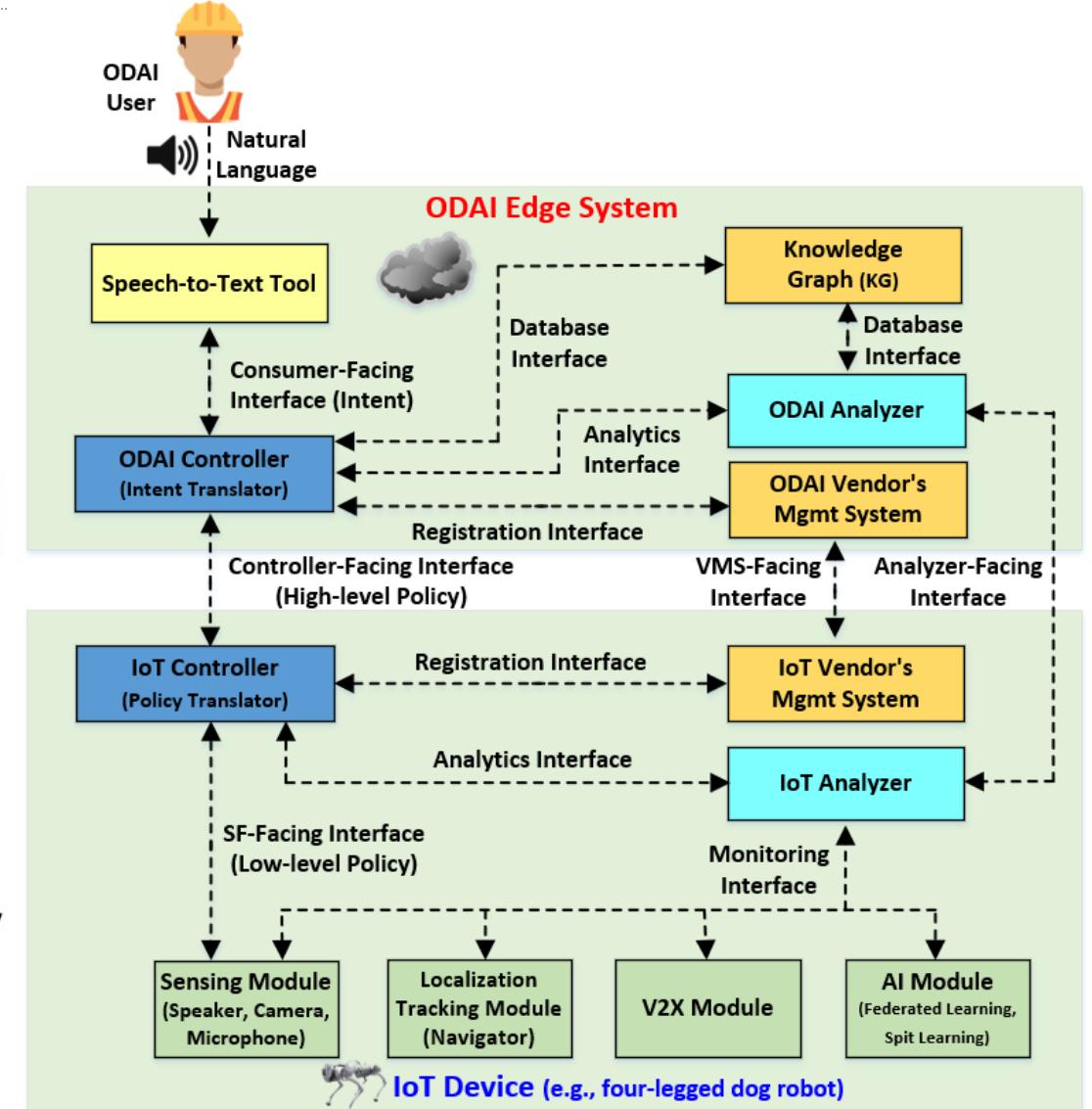
Jaehoon Paul Jeong

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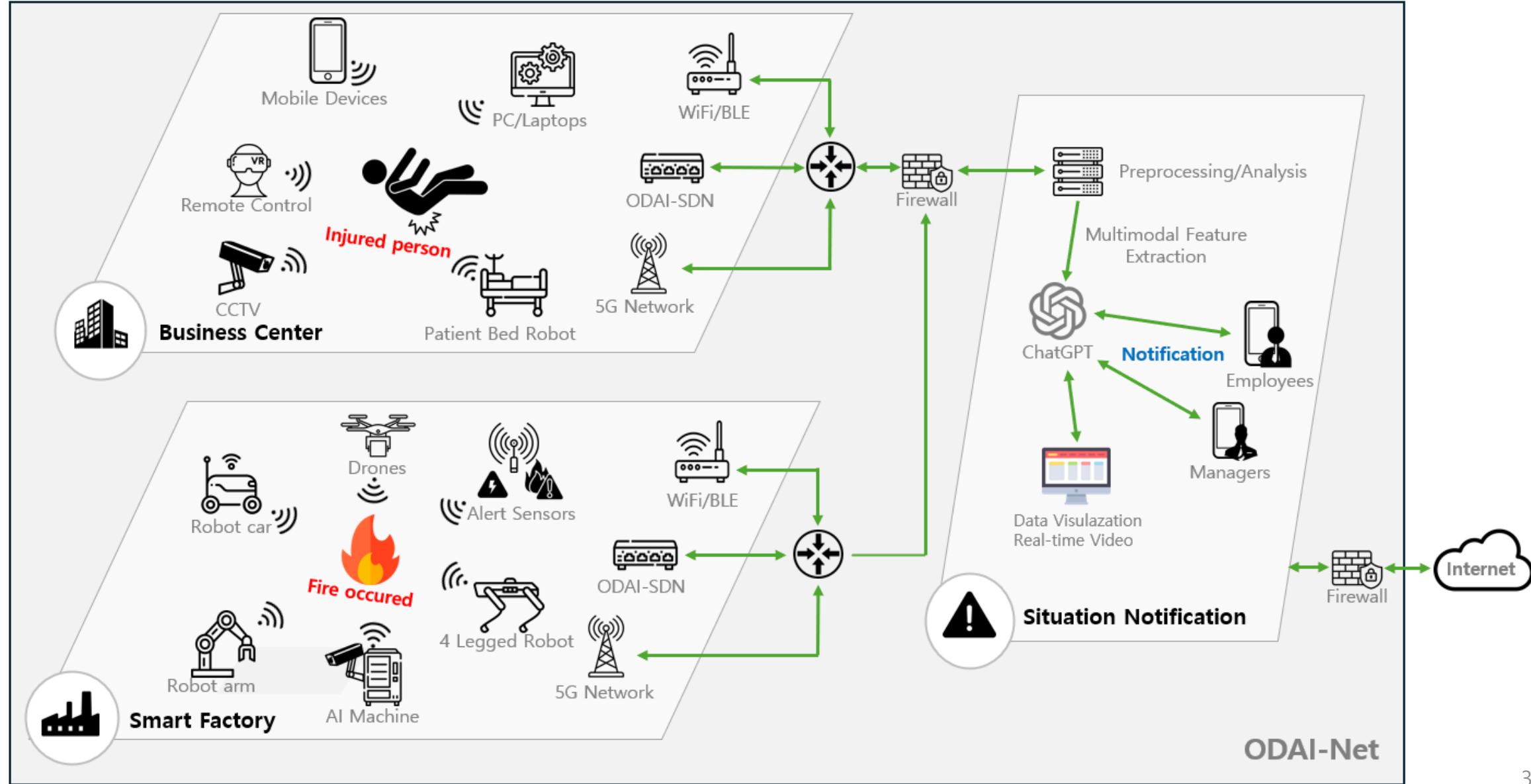
# Interface to In-Network Computing Functions for On-Device AI



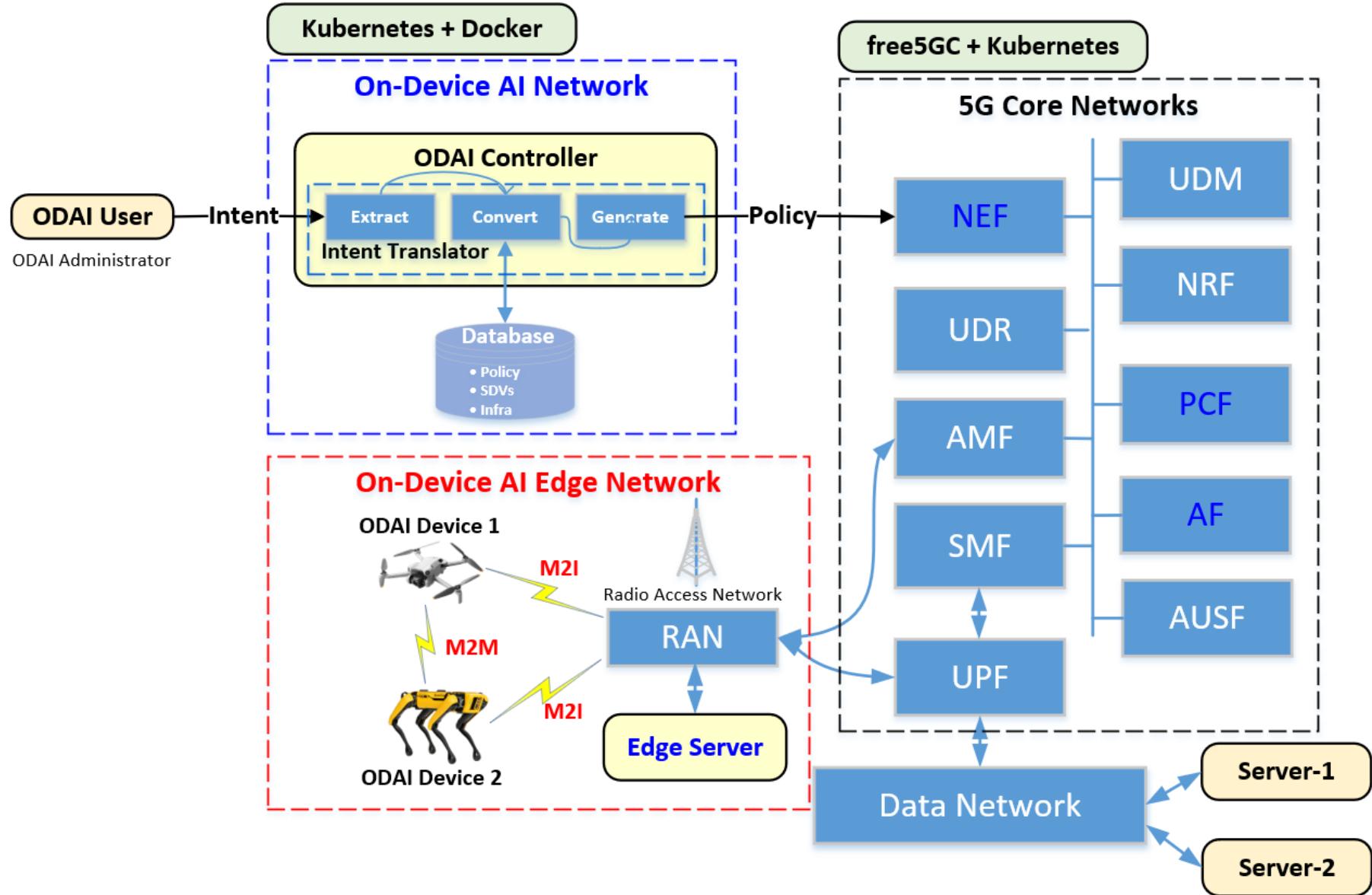
Smart Factory Safety with On-Device AI



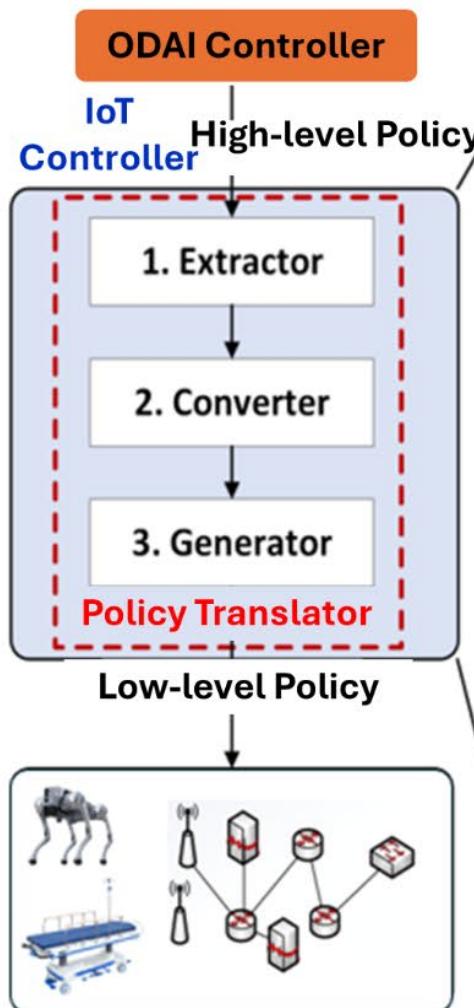
# Overall System Architecture for Physical AI via I2ICF



# Testbed for I2ICF-Based On-Device AI Service System



# Policy Translator for I2ICF-Based On-Device AI Service System



## Policy Translation

### 1. Extractor

**Intent:** Extinguish fires in hazardous areas

#### Word Extraction

Action: Extinguish

Src: Fire area

Dst: Robot

### 3. Generator

Action: Stop

Src: 69.63.176.13

Dst: 192.0.1.0/24

#### Policy Generator

```
<security-policy  
xmlns="urn:ietf:params:xml:ns:yang:example-security-policy">  
<policy-name>Fire Extinguishing</policy-name>  
<rules>  
<name>Extinguish fires in hazardous areas</name>  
<condition><ipv4>  
<source-ipv4-network>69.63.176.13/32</source-ipv4-network>  
<destination-ipv4-network>192.0.1.0/24</destination-ipv4-network>  
</ipv4></condition>  
<action>  
<packet-action>stop</packet-action>  
</action>  
</rules>  
</security-policy>
```

### 2. Converter

Action: Extinguish

Src: Fire area

Dst: Robot

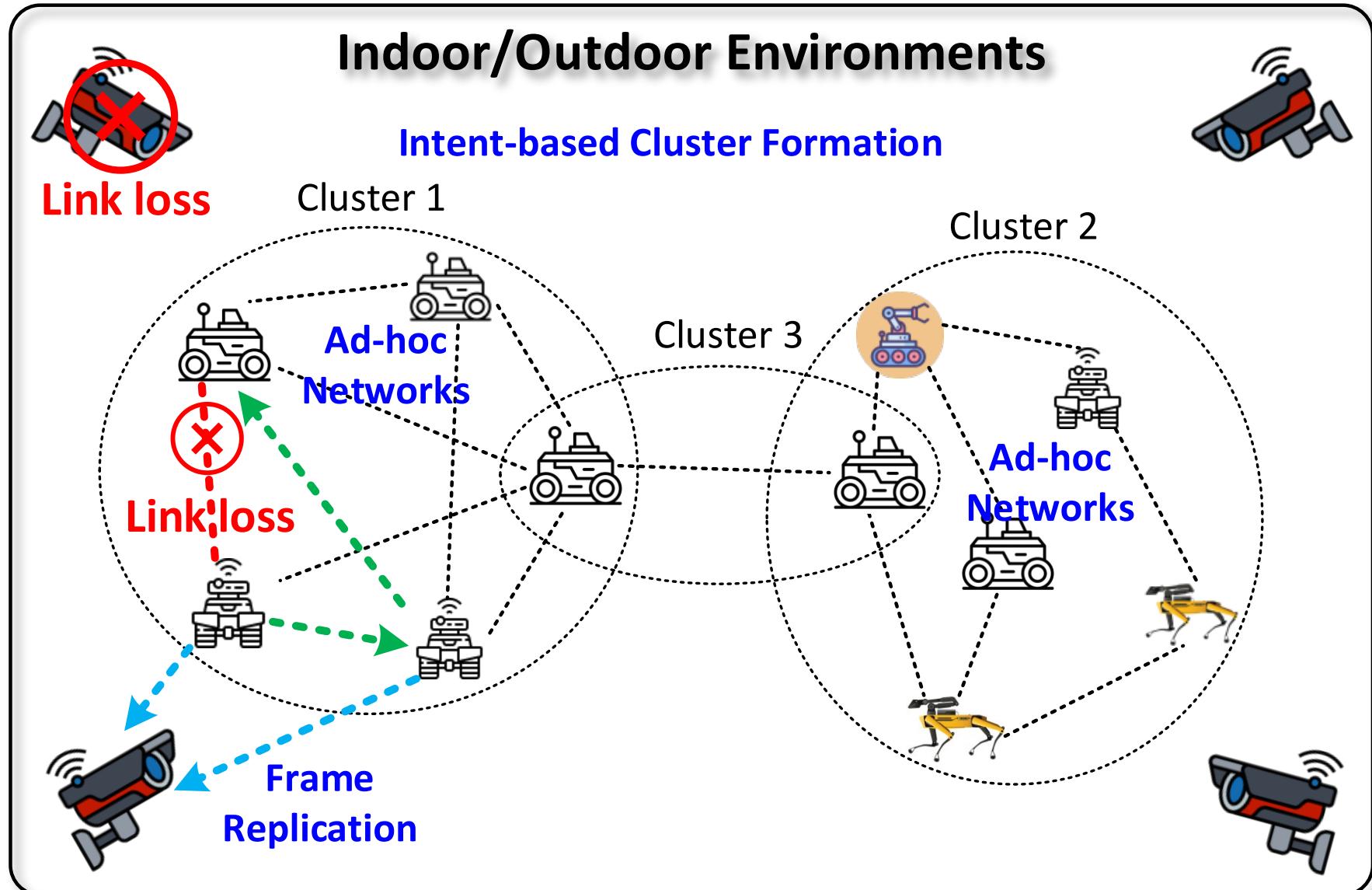
#### Database

Action: Stop

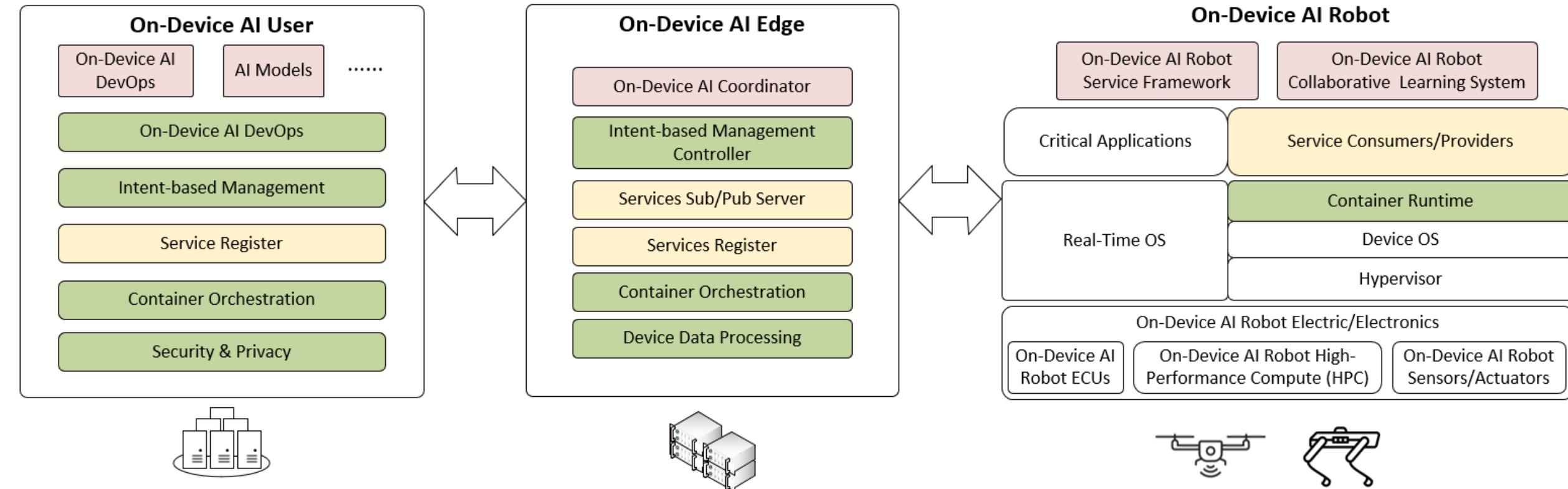
Dst: 69.63.176.13

Src: 192.0.1.0/24

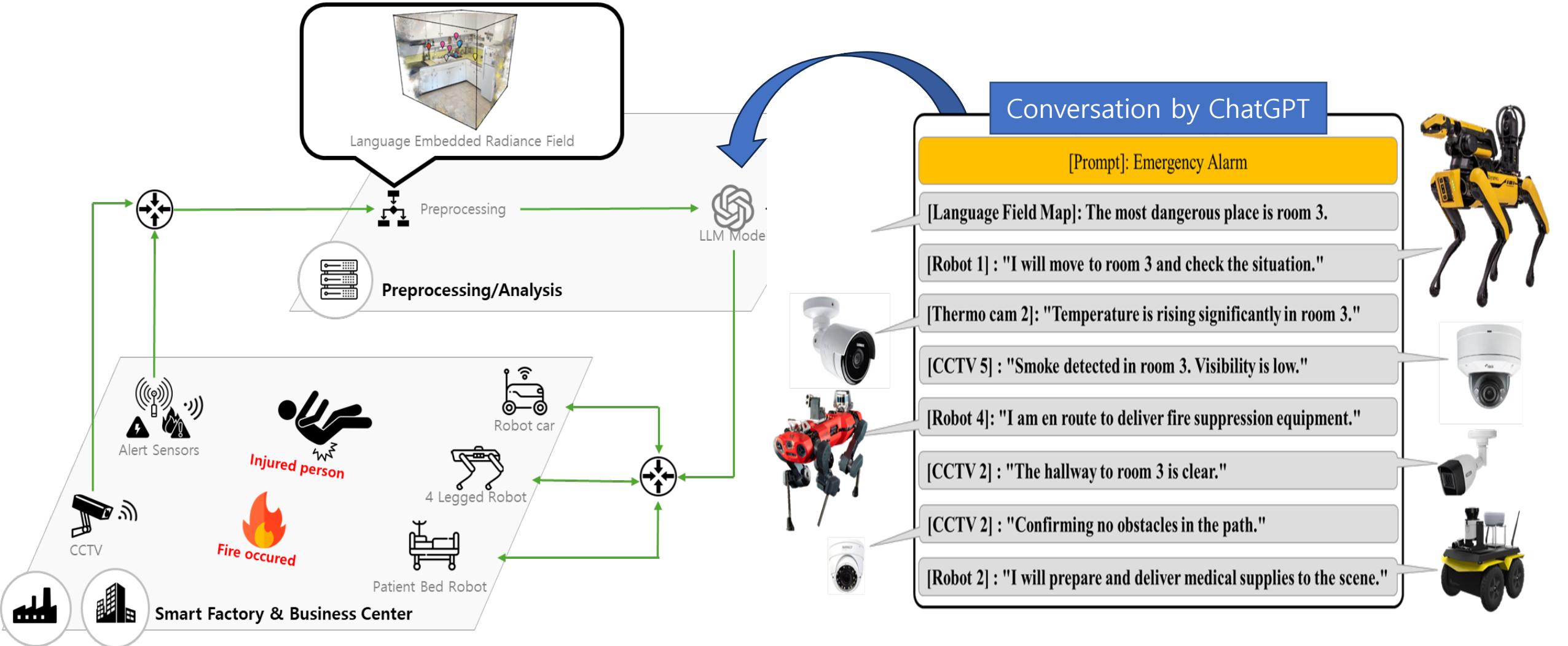
# On-Device AI Interaction with Agent-to-Agent Protocol



# A2A System Architecture for On-Device AI via I2ICF Interfaces



# Smart Factory Safety Service with Physical AI via I2ICF



# Discussion

**Any Questions and Comments?**

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