CPE as a marketplace: Review of key edge cloud business use-cases

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The Landscape

Edge Systems

Flexible Networks

Network-as-a-Service (NaaS)
Service chaining

Edge Computing

Verticals

Cloud Systems

Public Cloud Computing

amazon web services™ Azure Google Cloud

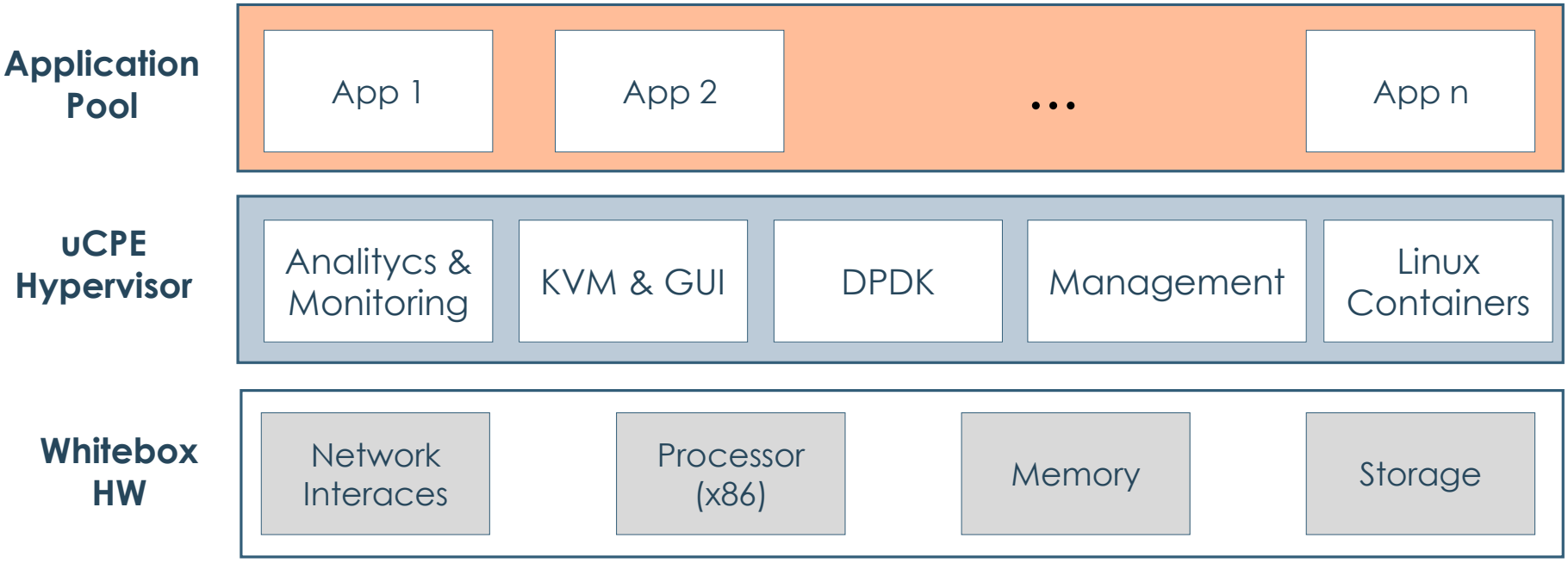
Data Centers & Corporate Clouds

Microsoft Hyper-V vmware

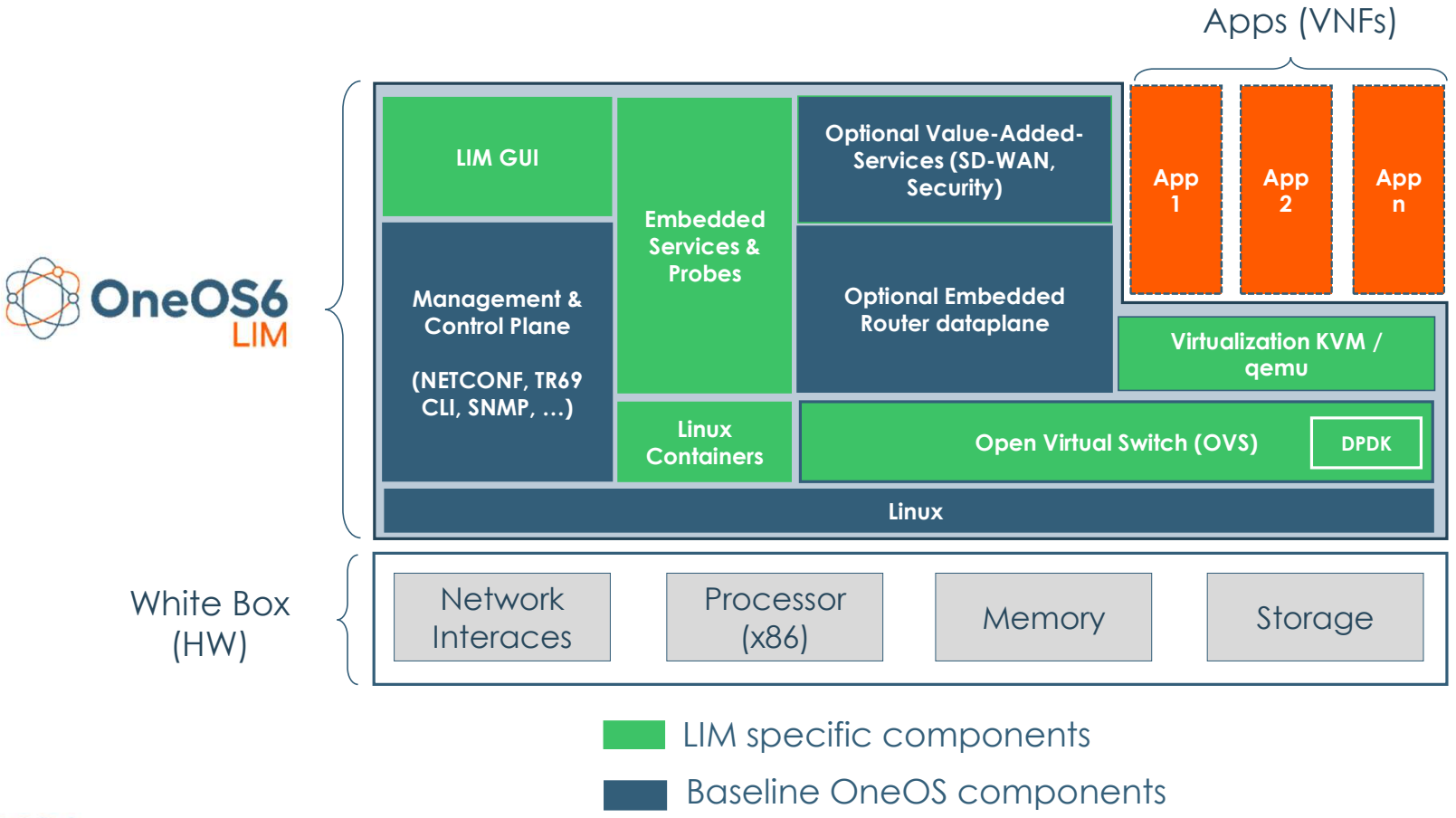
What is an uCPE?

It is device at the customer premises (CPE) but not a Blackbox

Is should be:
- hardware-agnostic
- application-agnostic



uCPE Middleware (Hypervisor)



What is an App?

Format

1 or more container(s)*

or

A Virtual Machine**

Source

Own App

or

App from 3rd party

or

App Vendor

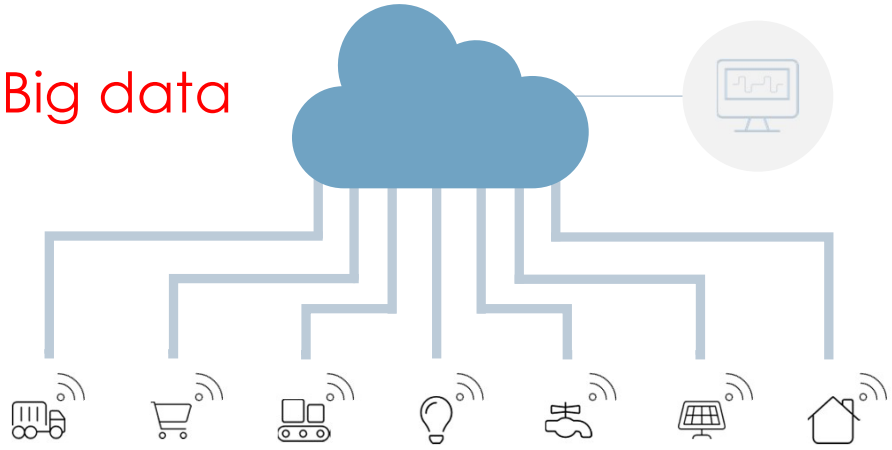
**Docker, Docker Swarm or Kubernetes*
***Running inside a container*

Why is the Edge the solution?

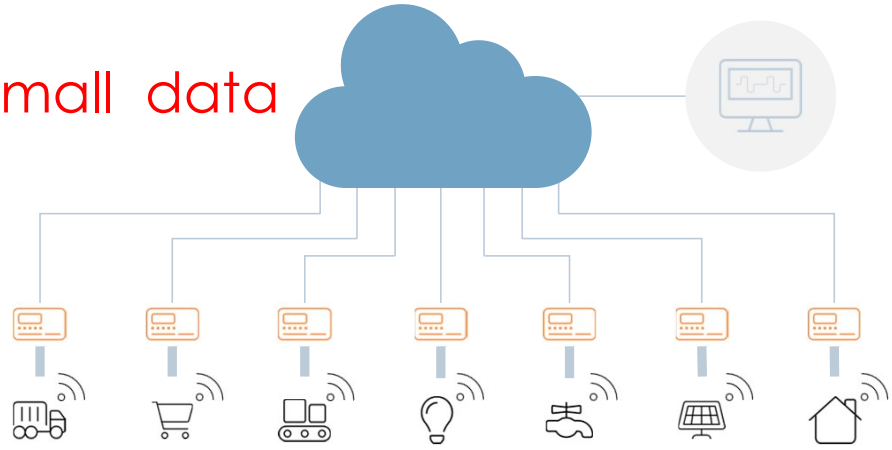
IoT straight to Cloud... A bad idea	Potential privacy instrusion
High cloud costs	Exposed to jitter
High latency	At scale... This will fail !!

IoT @ Edge	No privacy instrusion
Low network costs	Work semi-autonomously
Low latency	At scale... This rock !!

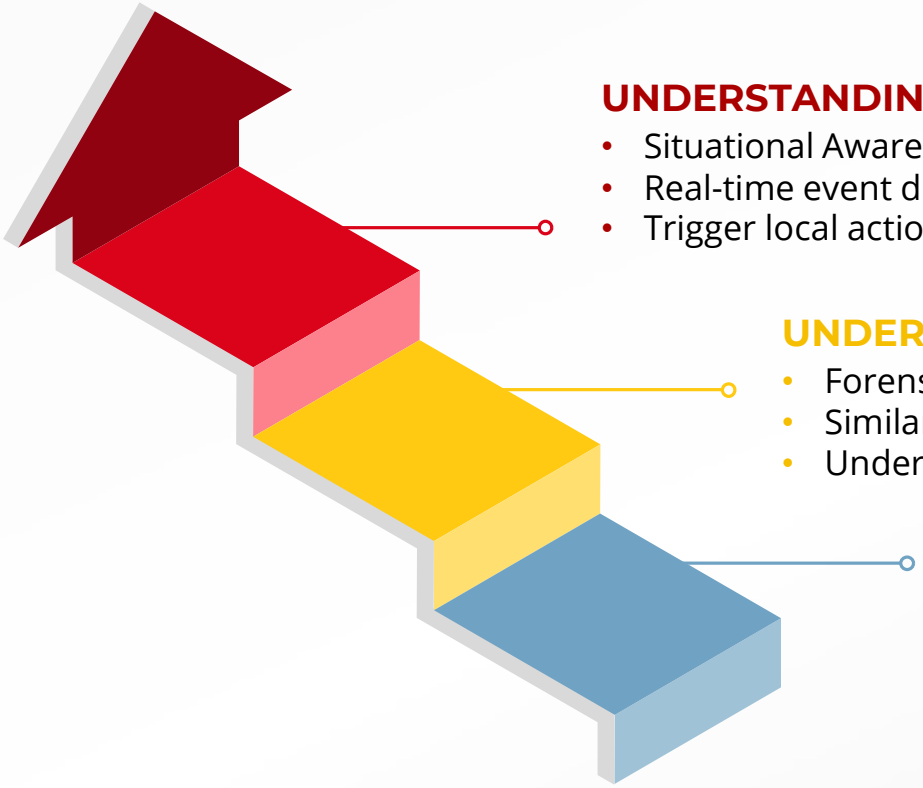
Big data



Small data



Common Edge computing drives



UNDERSTANDING THE PRESENT

- Situational Awareness
- Real-time event detection
- Trigger local actions

UNDERSTANDING THE PAST

- Forensic analysis
- Similar to an airplane Blackbox after crash
- Understand failures, malfunctions, accidents, etc.

PREDICTING THE FUTURE

- Predictive maintenance
- Change in standard behaviour
- Detect probability for failures, malfunctions, accidents, etc.

Common Edge Insights, Powered by AI

DETECT DEFECTS

PROTECT PASSENGERS

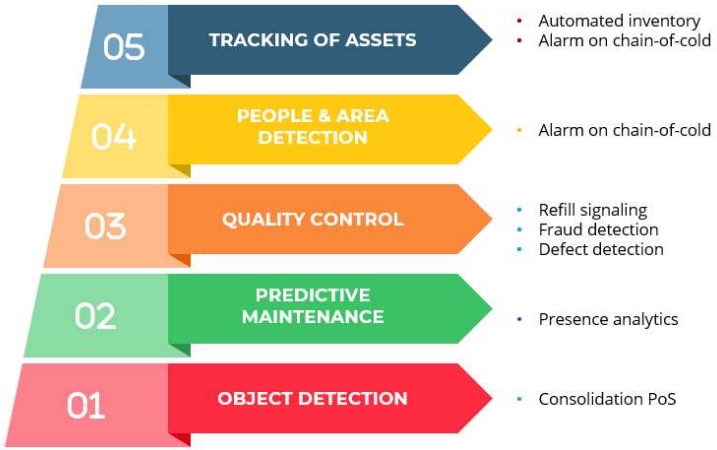
DETECT LOW PRODUCTS

Needs in Verticals

Retail

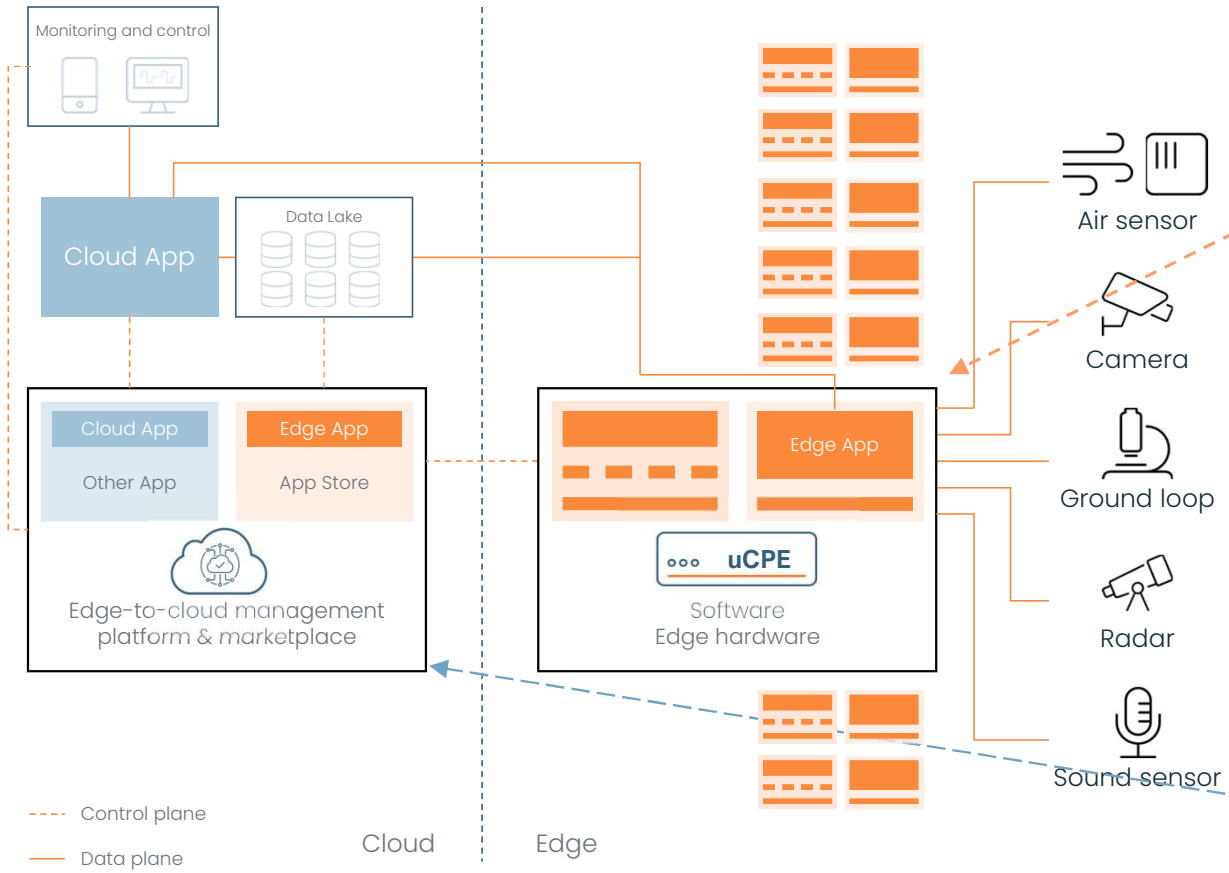
Manufacturing

Transport



Telecom

Our Architecture Example



Any hardware

Hardware agnostic software:

- Turns any computer into a smart edge device
- Hardware agnostic
- Connects securely to the uCPE hosted VNF for control

NuvlaEdge

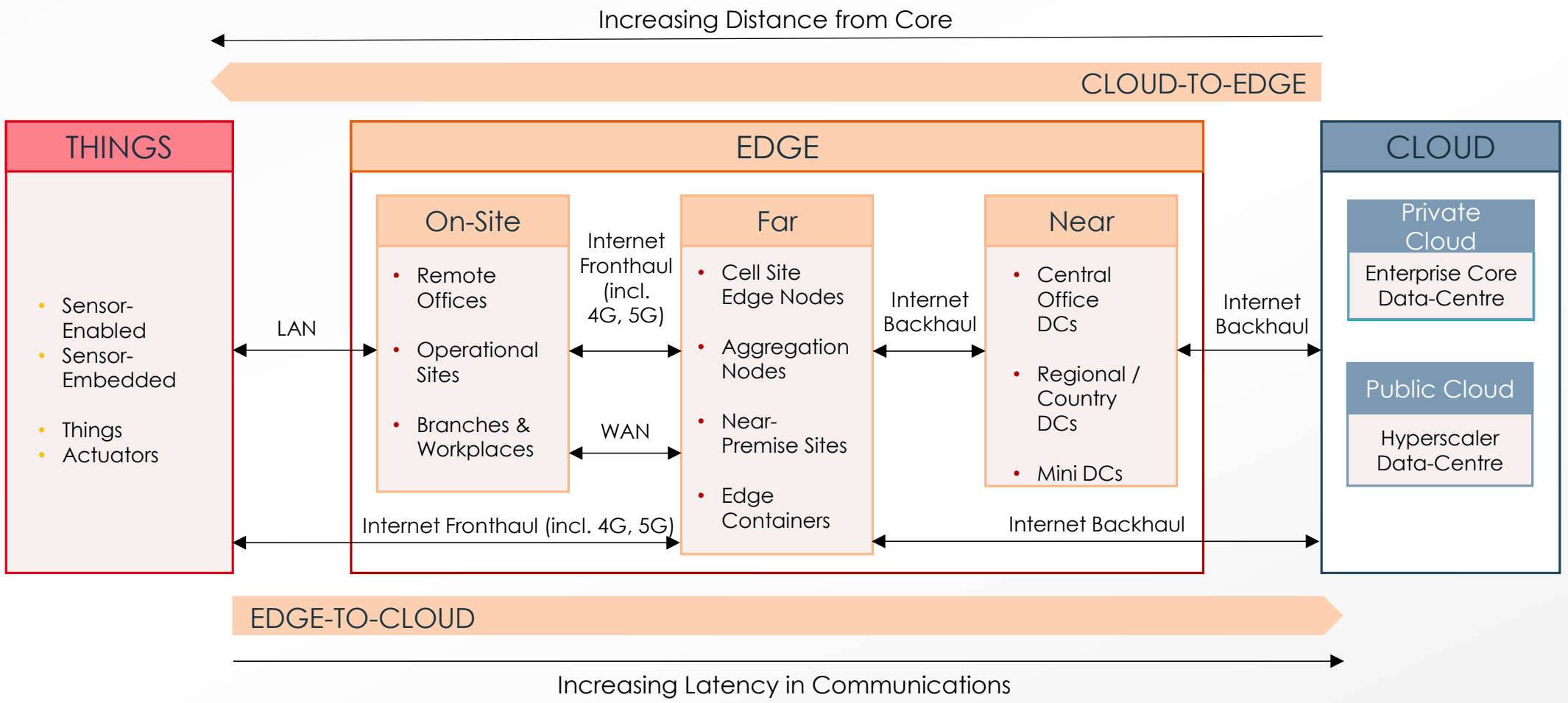
SaaS B2B platform

Open Cloud platform:

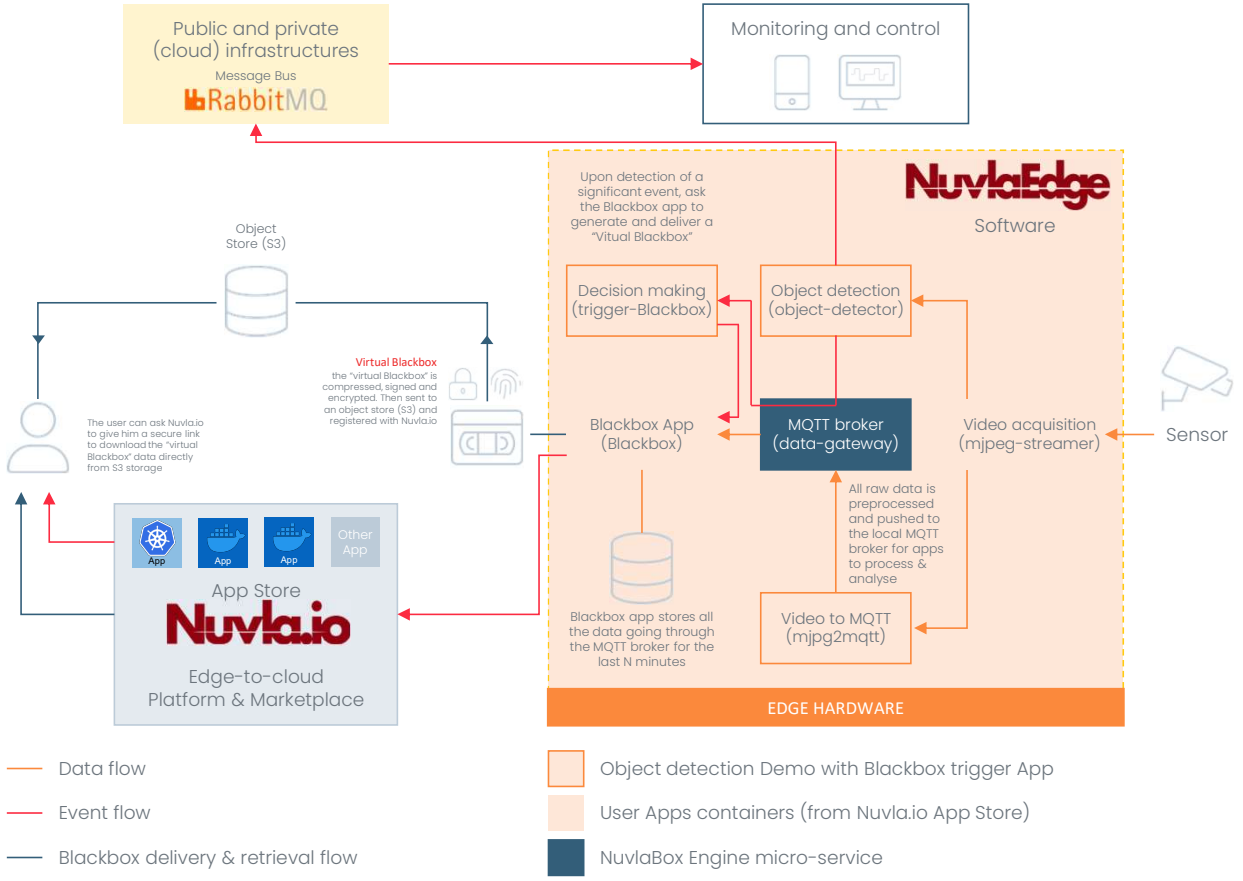
- Application centric
- Cloud neutral
- Container native
- Open, secure & agile

Nuvla.io

The Cloud-to-Thing Continuum



Anatomy of an Edge App



Thank you

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