



# arm

## Let's Start your Cloud Journey

Arm Developer  
Experience,  
Spanning Cloud,  
5G, IoT



# Speakers



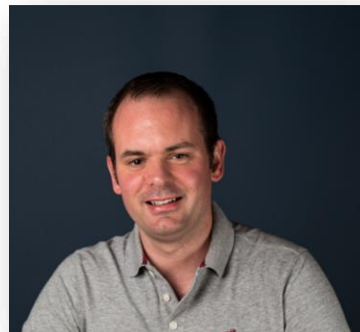
## Marc Meunier, ARM

- Sr. Manager, SW Ecosystem Development - Infrastructure team
- Manage projects that expand cloud native development on Arm
- Promoting engagement with PARSEC, a CNCF sandbox project
- Working with ISVs at the crossroad of uCPE and Containers



## Darragh Grealish, 56K.Cloud

- Co-Founder of 56K.Cloud an AWS Partner
- Part of the “Arm Innovator Program”
- DevOps Focused Engineer (culture and process)
- Networking and Cloud Applications
- Background in Telco Infra Automation and Testing
- Embedded Systems and Software Engineering Background



# Who is Arm and what do we do?

- Develops chip architecture and licenses IP cores to Silicon companies.
- Can be found everywhere from Datacenters, 5G, IoT, personal computer, mobile devices and embedded devices.

#1 Super Computer  
2020 from Fugaku is  
based on Arm

# Cloud Native Disruption

4.7 million

CLOUD NATIVE  
DEVELOPERS  
GLOBALLY

60%

DEVELOPERS  
ARE USING



## Cloud Deployment Choice



# Arm promotes standards and OSS

- Focus on Security



# PARSEC: Platform Abstraction For Security

Any Workload, Any Programming Language, Any Container Runtime, Any Packaging



PARSEC



CLOUD NATIVE  
SANDBOX

Sandbox  
Projects

Incubating  
Projects

Graduated  
Projects

EARLY STAGE

Any Platform, Any Architecture, Any Hardware

Discrete TPM

Firmware TPM

Local HSM

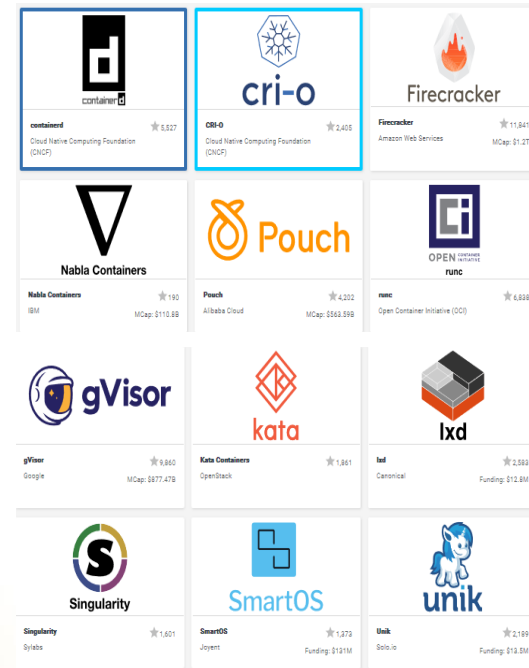
Remote HSM

Trusted Apps

Custom

# Container Runtime Environments

- Arm and Partners contributing to major container runtimes
  - Support community efforts for continuous integration on Arm
  - Engage with developer community and upstream reviews
  - Assess performance on Arm platforms
- Participate in CNCF [SIG Runtime](#)
  - Roadmap discussions and engaging with new projects





# Cloud connection.

- Storage mechanism:
  - Projects to highlight.
- Ceph. - Linux foundation related.
- Promote Ceph page: infrastructure under workloads....



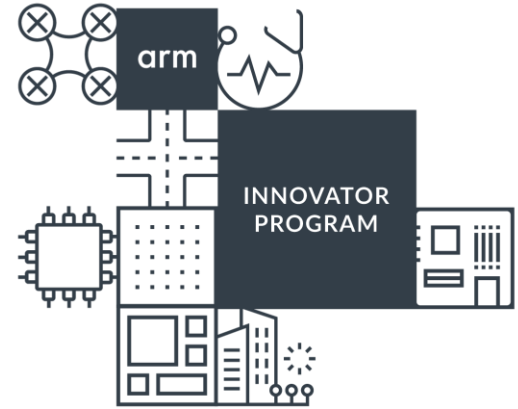
# Kubernetes? Anything else.

- We have a Kubernetes page. Under containers and Virtualization.
- Project Cassini and working groups.

# Arm Innovator program...

- Identify and Promote key Developers
- Unique access to Arm roadmap & development environments
- Identify and fill gaps in the Arm ecosystem
- Arm Innovation Coffee (live stream) : [bit.ly/armswdev-youtube](https://bit.ly/armswdev-youtube)
- Check out the Community Discord server: <https://discord.gg/deveco>

<https://www.arm.com/why-arm/innovation/innovator-program>

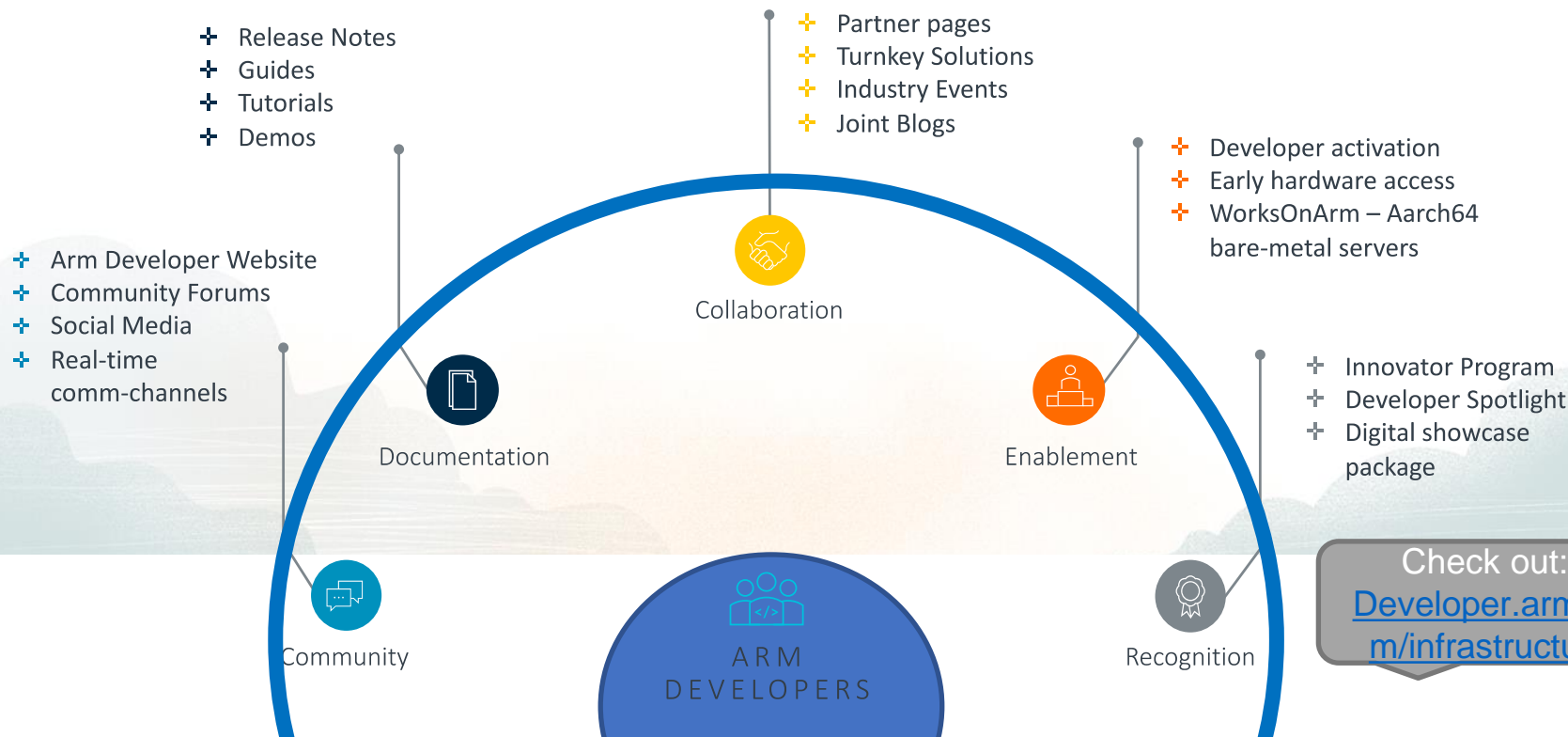




# Arm Developer Program



Grow Arm Ecosystem, Strengthen Relationships, Unite Arm Developer Communities



# Use Case: Multi-Vendor Implementation

- You build services that has applications across Sensors and Hosted in the cloud,
- Edge edge application requires security,
- You use Parsec client, as a way implement once across your array of devices the security features,
- E.g user data and data stored is encrypted per PSA requirements, but only once by the developer using Parsec client library
- Demo: Example in RUST using the WIRE Protocol



# Parsec Demo



- Explain Setup
- Explain Objective

# What problem do we need solved?

- A Single Developer Experience; across “5G Edge Cloud, Edge and IoT”
- Develop new interfaces, tools and abstractions to define and manage heterogeneous, distributed 5G applications
  - Native Workloads will be programmed across, on IoT device, with near-real time functions offloaded to an “edge compute”
  - Slice Management must become dynamic and demand based
- Enable true “Edge compute” to be accessible, and **reduce barrier** to entry (**developer onboarding**)
- Set a standard in provisioning , declaring infrastructure (compute, slice etc..).
- Support Platform to build “parsec providers” such as, Rpi, Jetson, Linardo



Consumers of  
Edge Cloud  
Applications

<<- New Developer Experience ->>



5G Edge Developer

## Use Case: IoT Edge Machine Learning

ARM based 5G edge  
platform



Real Time 5G IoT  
Application

©Thundercomm

1 KM

Open Edge Cloud

AWS Edge Cloud



**AWS Wavelength**  
Application  
Consume  
Edge Workload

400 KM



AWS Cloud



Existing Application  
Developers



VPC

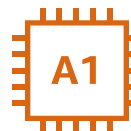
Auto Scaling group

SageMaker  
Model Gen



Auto Scaling group

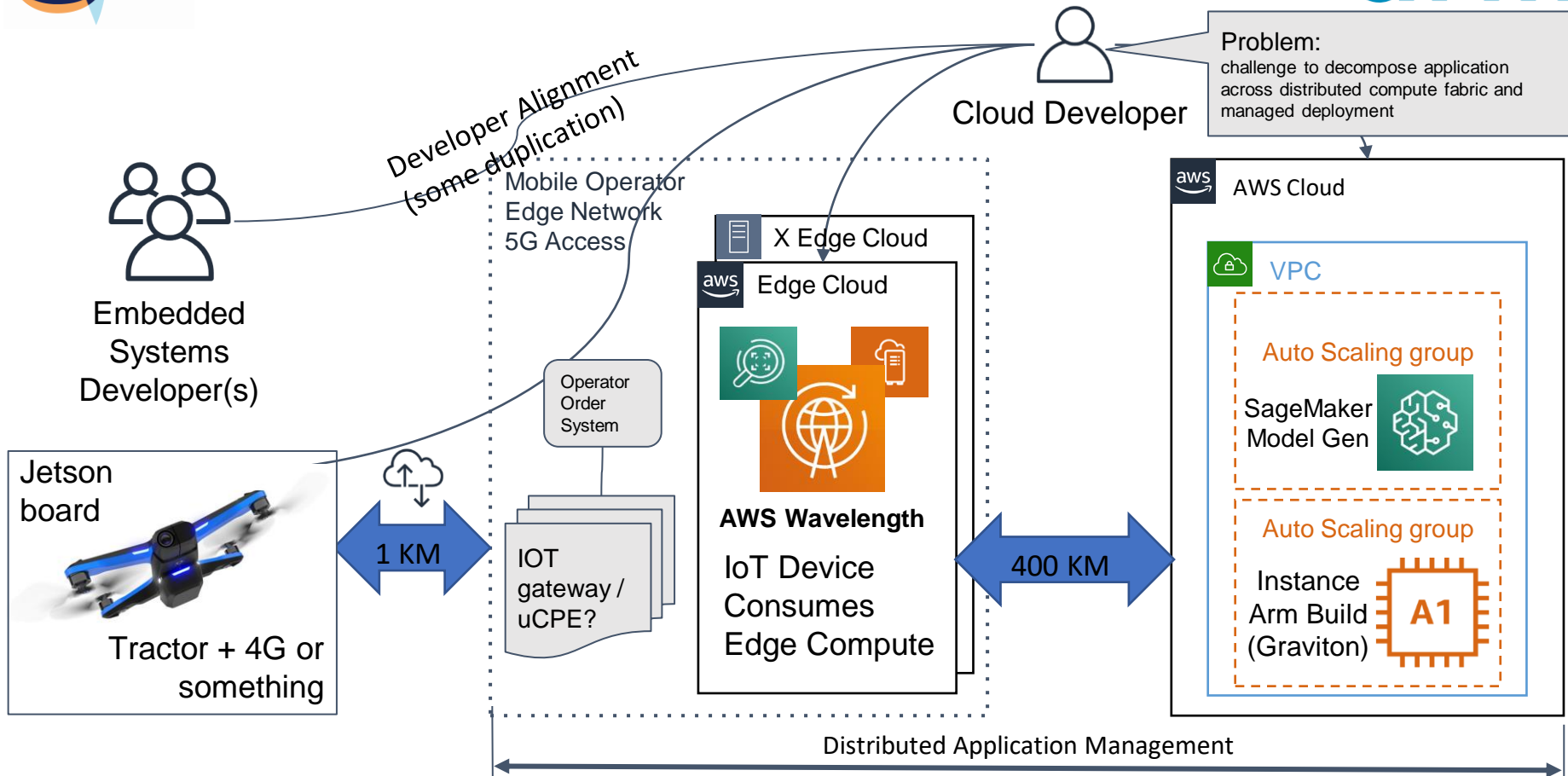
Instance  
ARM  
Build  
(Graviton)





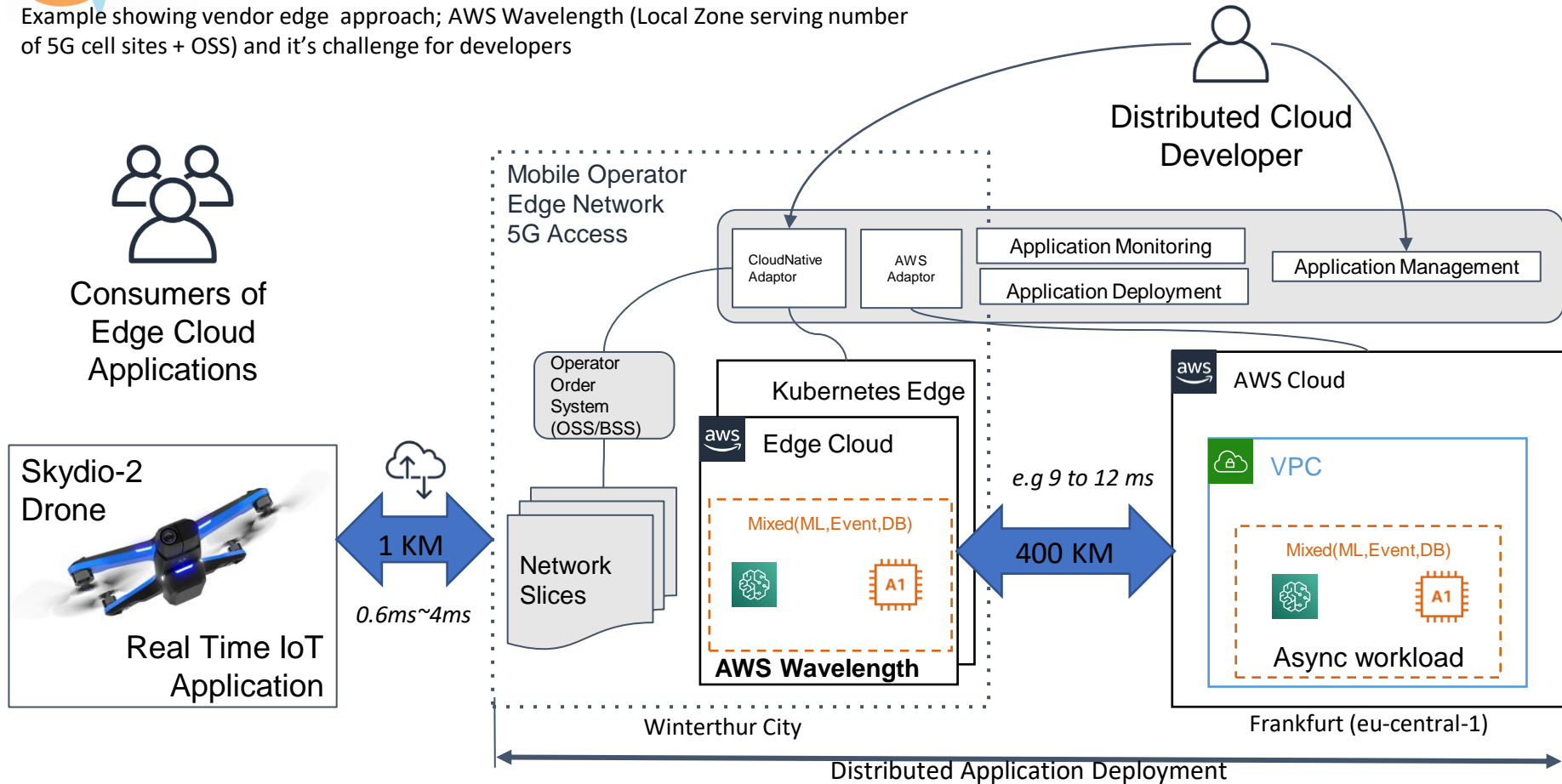


# Problem: Application Management and Deployment



# deep-dive Application Management and Deployment

Example showing vendor edge approach; AWS Wavelength (Local Zone serving number of 5G cell sites + OSS) and it's challenge for developers

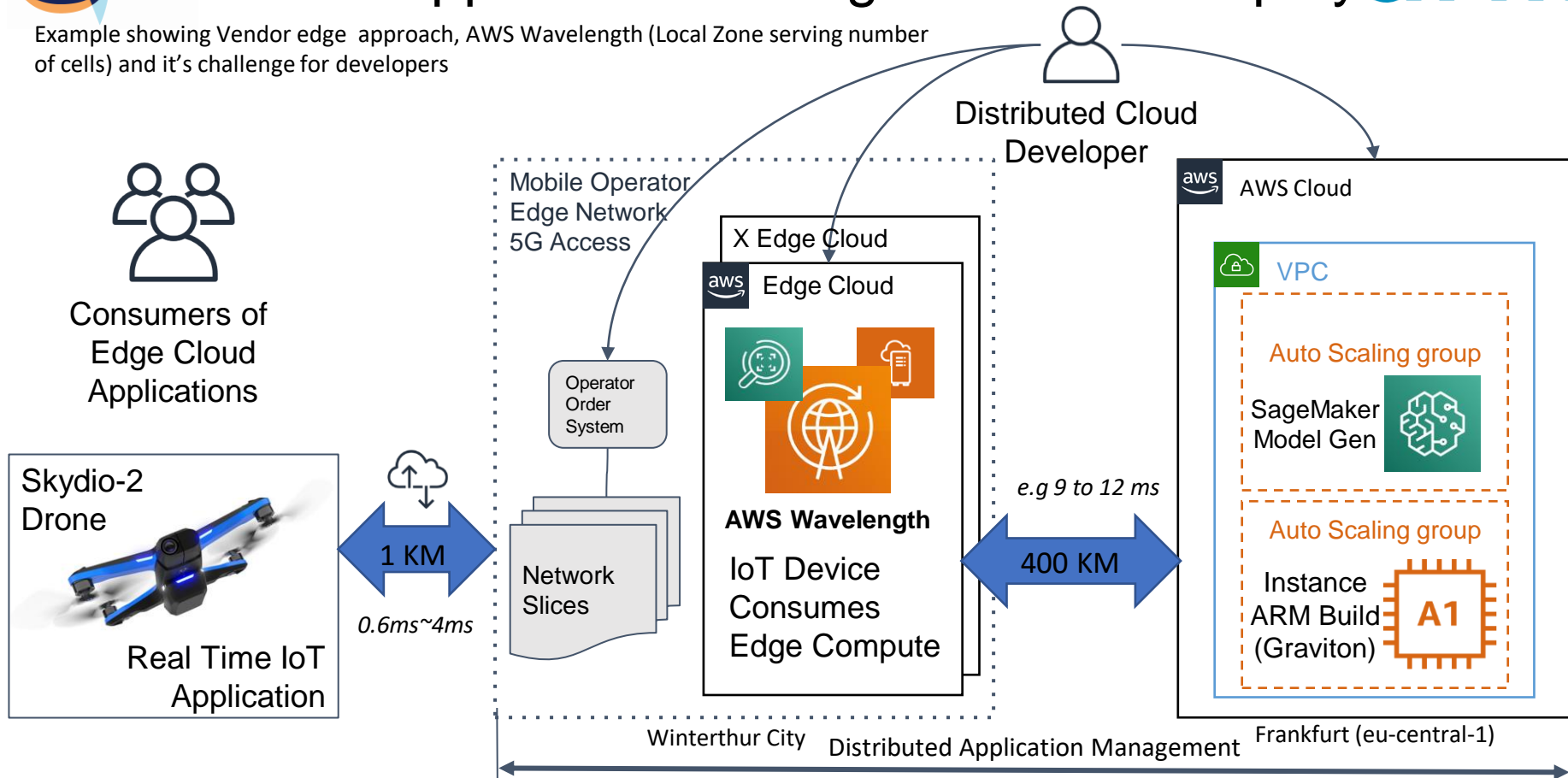




# SPIRITUS Application Management and Deployment



Example showing Vendor edge approach, AWS Wavelength (Local Zone serving number of cells) and it's challenge for developers





# Key Take Aways



Dev Summit Sign-up Here:



# Q&A



- Ask us questions...

