



Intel-Ericsson Webinar: Service Enablement at the Edge with Ericsson and Intel

February 8th, 2022

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Agenda

- Introduction
- Intel® Smart Edge Open
- Ericsson Cloud Container Distribution (CCD)

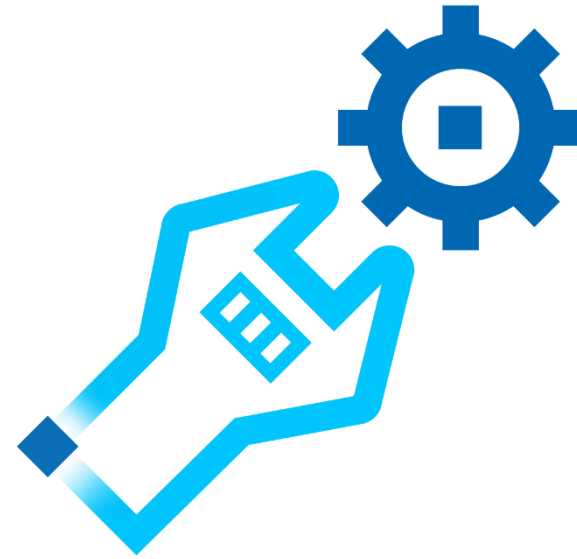
Introduction

Edge Services Opportunity and Challenge

Edge software solutions benefit from the existing cloud-native frameworks, open opportunities for new services, and allow meeting ultra real-time needs

BUT No One Solution Can Fit All

Challenges emerge due to the diverse capabilities of the edge platforms, seamless data ingestion at the edge, real-time communication from/between edge platforms, and AI workload optimization at the edge



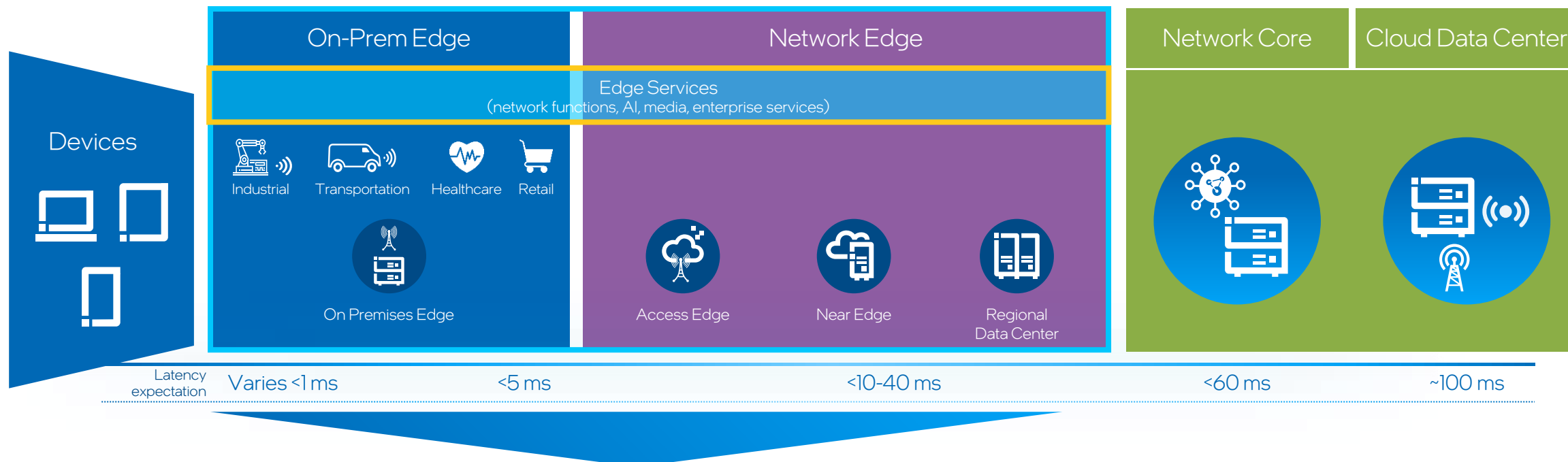
Intel offers a comprehensive set of tools that developers and edge solution providers can use to build their solutions, bridging the gaps from Cloud to Edge, easing the developers' experience, and abstracting the complexity of the underlying hardware

Ericsson offers a Telco grade Kubernetes distribution with functionality supporting edge deployments

Intel® Smart Edge Open

Cloud Native Edge with 5G

Delivering Cloud Native Services for the Edge



Key challenges to overcome

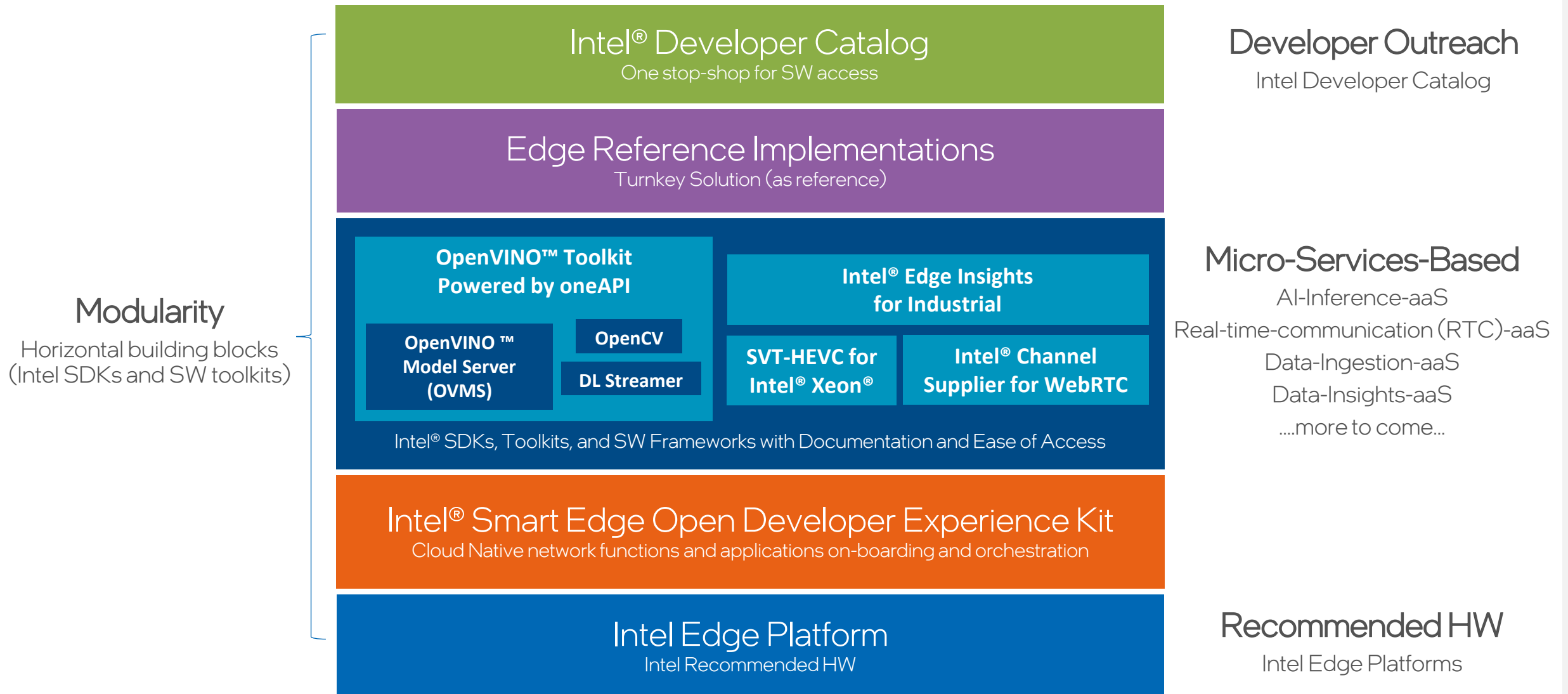
Edge SW solutions consistent and scalable across diverse edge platforms and location requirements

Optimize cloud native frameworks to meet stringent edge KPIs and network complexity

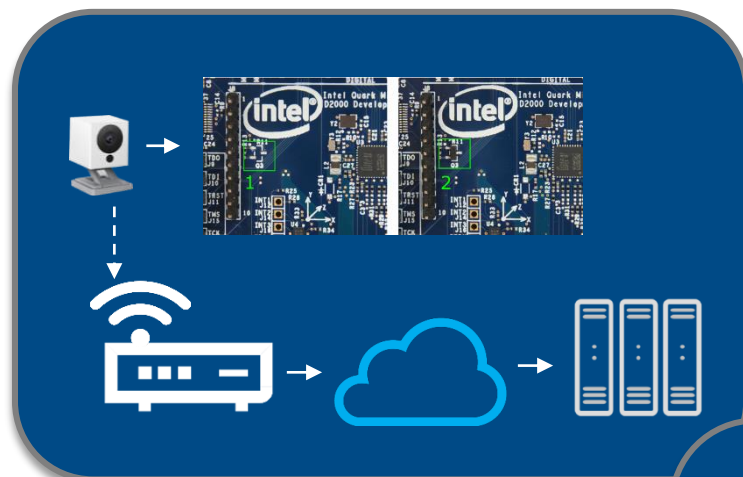
Leverage a broad SW building blocks from Intel, optimized for IA, to build edge services for diverse edge deployment

Cloud-Native Microservices

Modular Approach to Build Edge Services

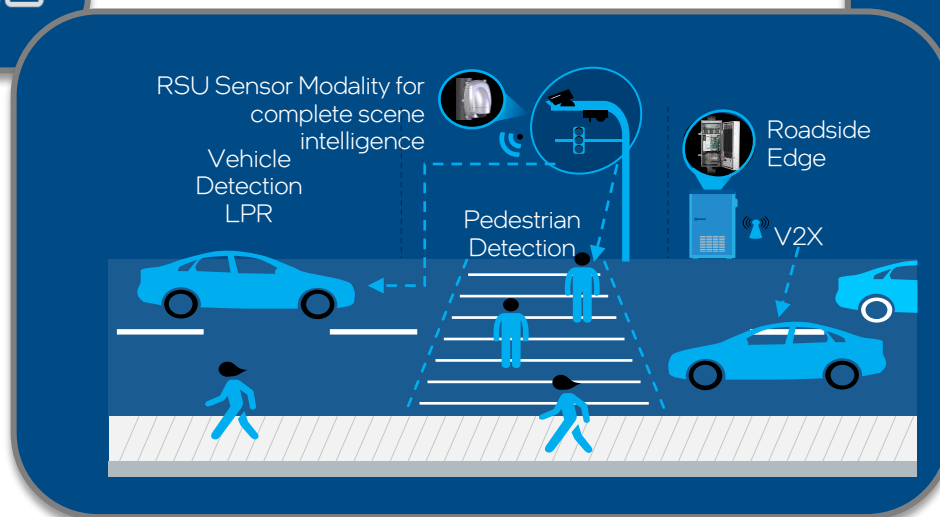


Reference Implementations for Edge Services



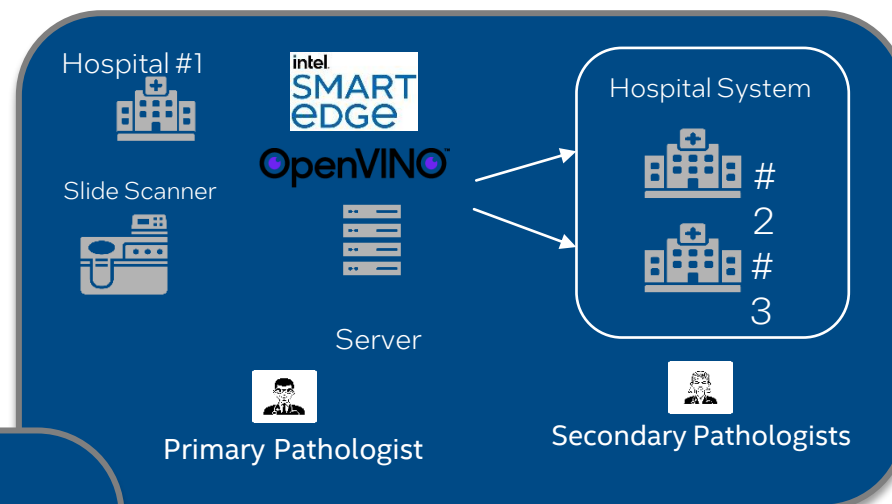
PRINTED CIRCUIT BOARDS DEFECT DETECTION

Optimized video streams
ingestion, edge AI inference,
optimized apps on-boarding



INTELLIGENT TRAFFIC MANAGEMENT

Reduced TCO, Edge AI Inference, AI models
Optimization, optimized apps on-boarding



TELE-PATHOLOGY

AI inference, Inference scaling, reduce
large storage needs for medical images,
optimized apps on-boarding

Intel® Smart Edge Open Building Blocks Leveraged by CCD

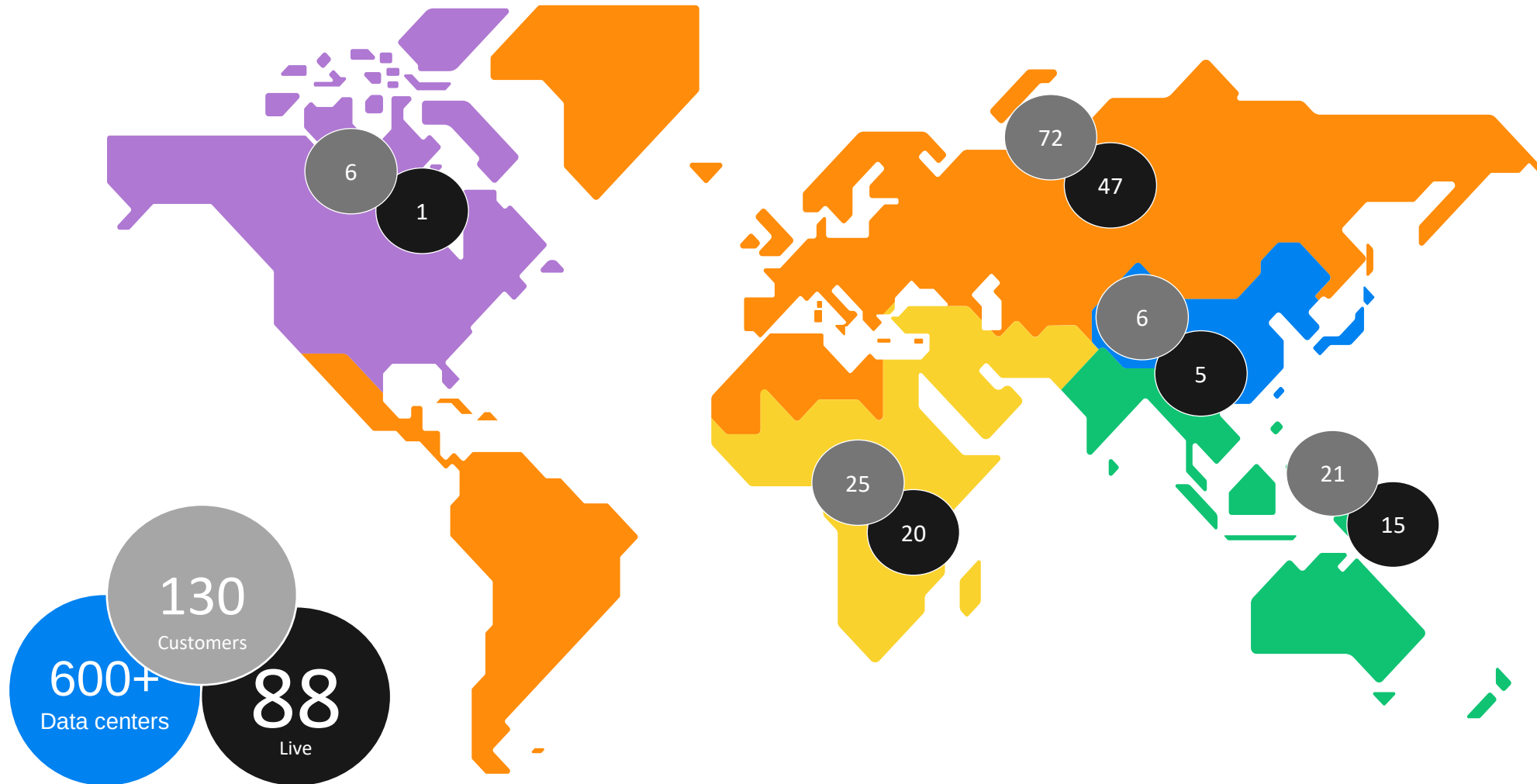
Building Blocks (microservices)	Description
Resource Management	• <u>Node Feature Discovery (NFD)</u>: to detect needed resources in CCD edge nodes before Pod deployment • <u>Topology Manager</u>: to admit Pods in CCD based on resources availability to match each Pod requirement • <u>NUMA Awareness</u>: allocate resources to Pods in CCD based on NUMA allocation
SRIOV & CNIs	• Enable CCD to have <u>Intel SR-IOV</u> device • Enable CCD Pods to use <u>SR-IOV VFs</u> • Enable CCD to use <u>DPDK with SR-IOV</u> • Enable CCD with <u>Kubevirt using SR-IOV CNI</u> • Enable CCD with <u>Optimized CNI through Multus</u> • Enable performance improvement in CCD through <u>Calico eBFP</u>
AI Workload Optimization	• <u>OpenVINO™ Model Server (OVMS)</u>: enable CCD to deploy inference as a service through with multiple inference models that can be updated without service interruption
Reference Implementations	• <u>Digital Pathology with OVMS</u>: enable CCD to demonstrate the digital pathology solution leveraging OVMS capabilities • <u>Defect Detection with EII</u>: enable CCD to demonstrate the defect detection solution leveraging EII capabilities • <u>Intelligent Traffic Management (ITM)</u>: enable CCD to demonstrate the smart city intelligent traffic management application leveraging OpenVINO™

Ericsson Cloud Container Distribution (CCD) Overview



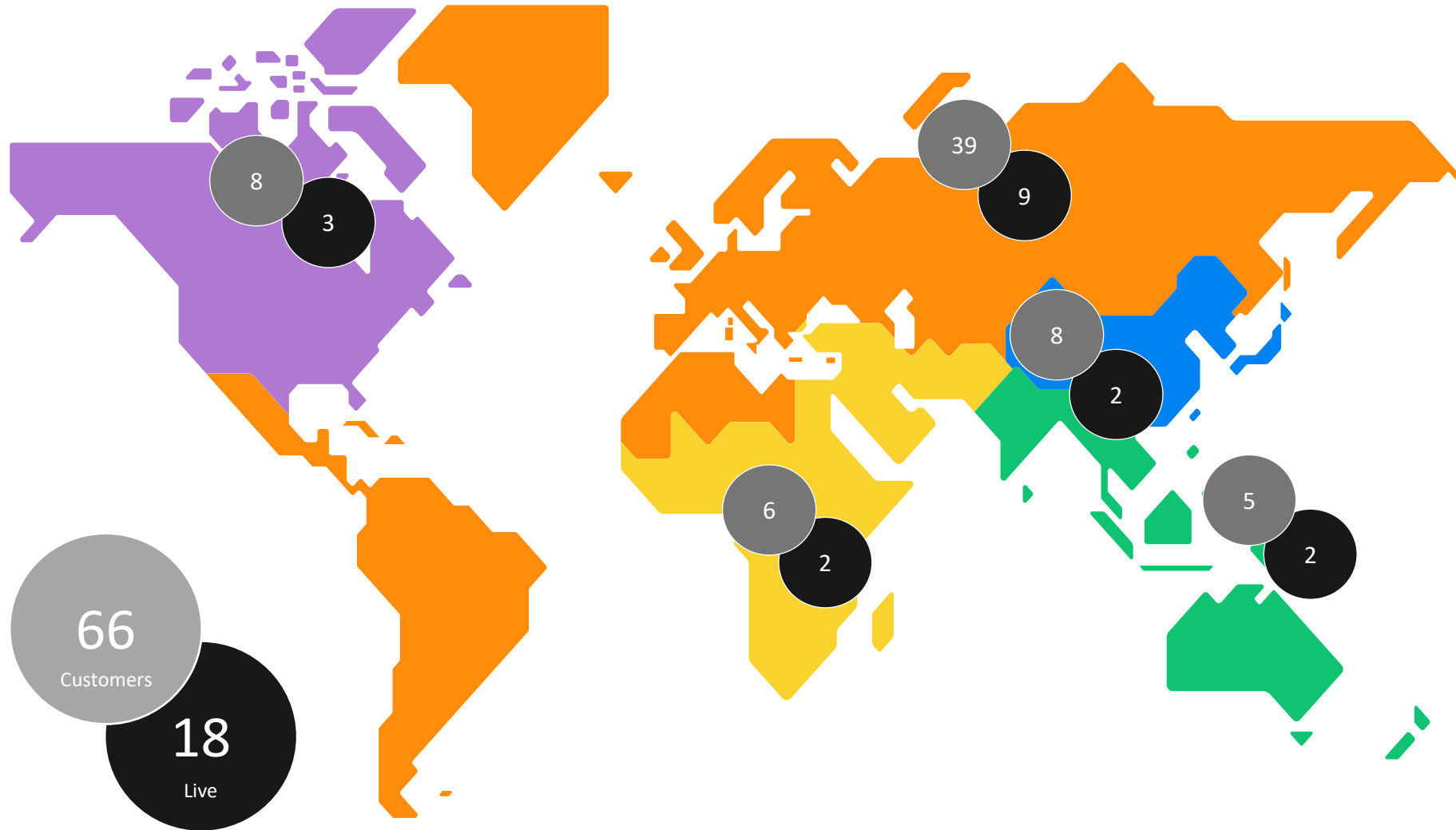
Ericsson NFVI customers

December 2021

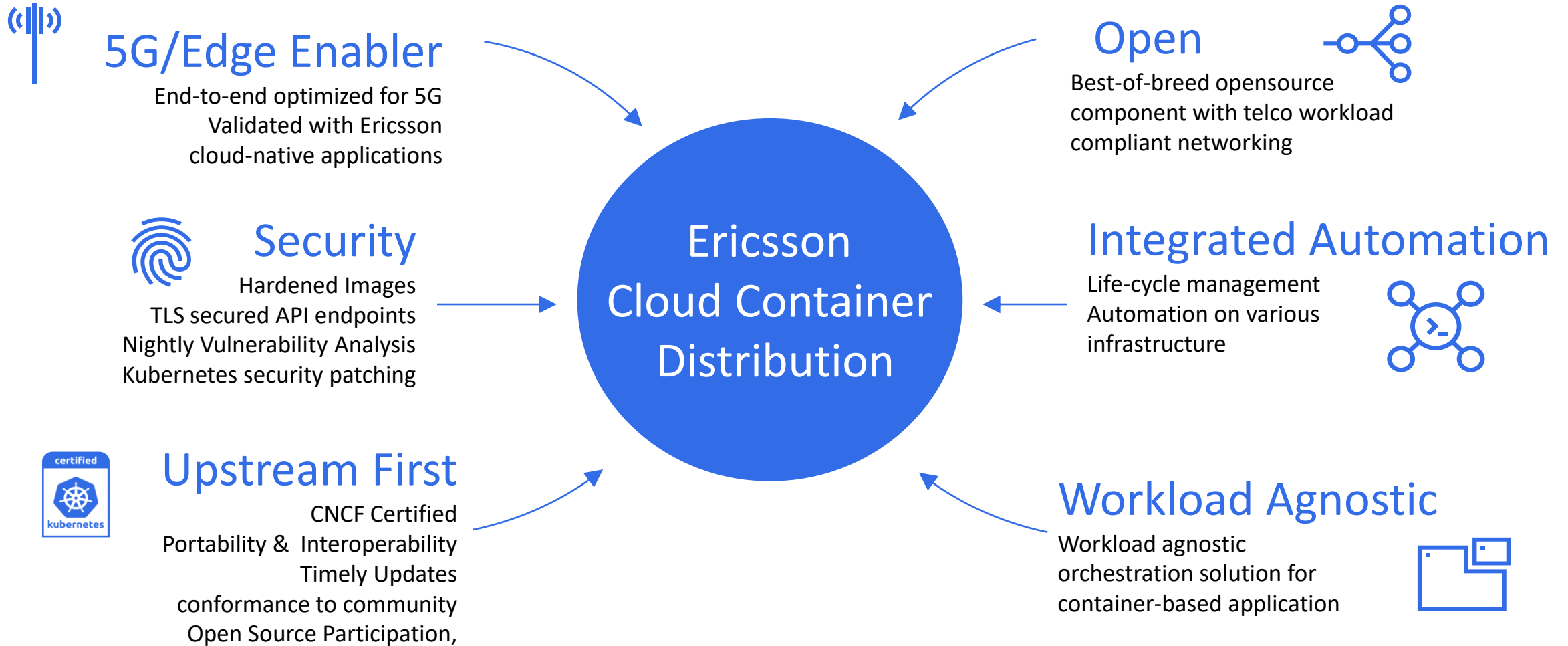


Ericsson CCD references

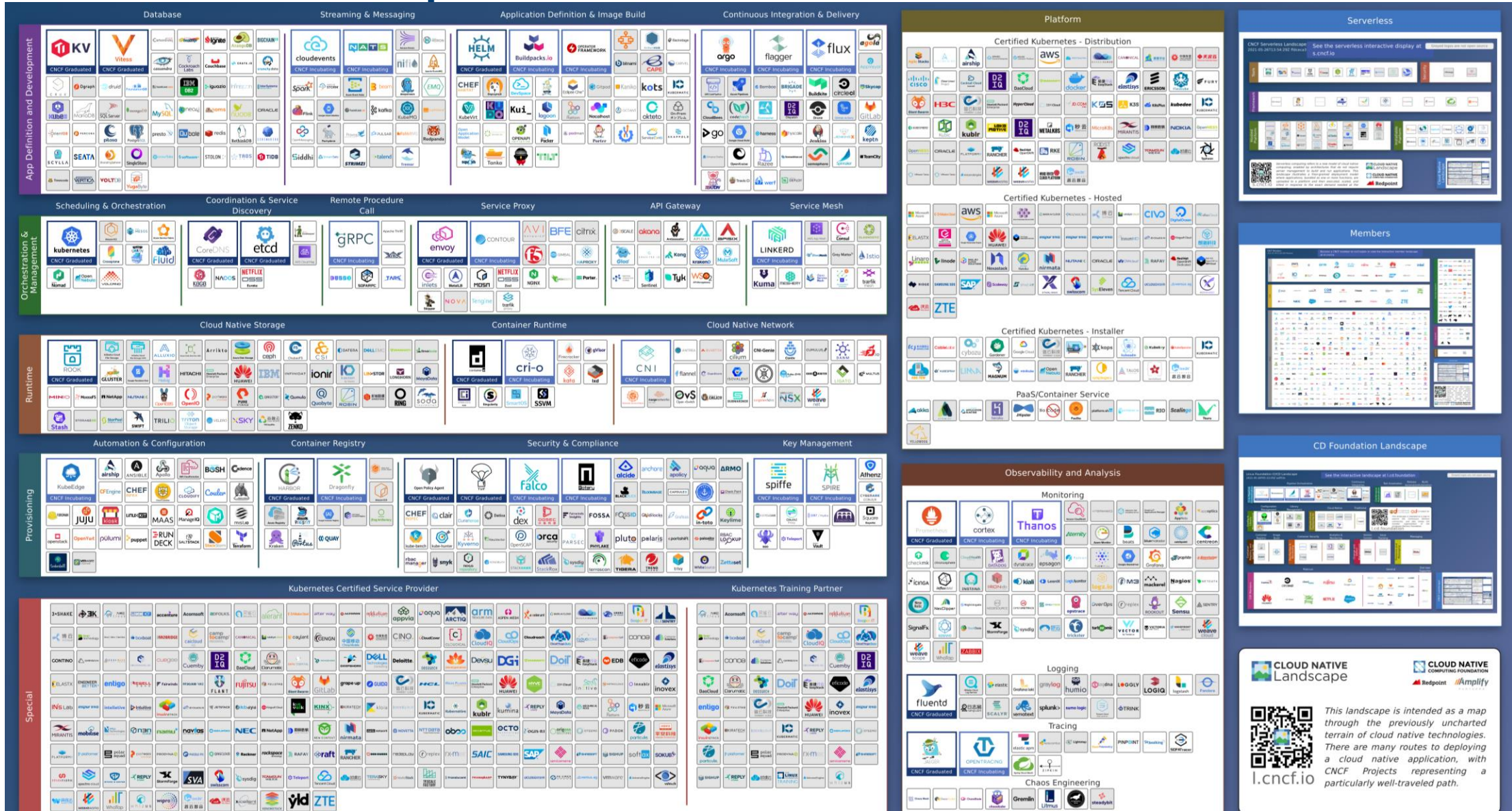
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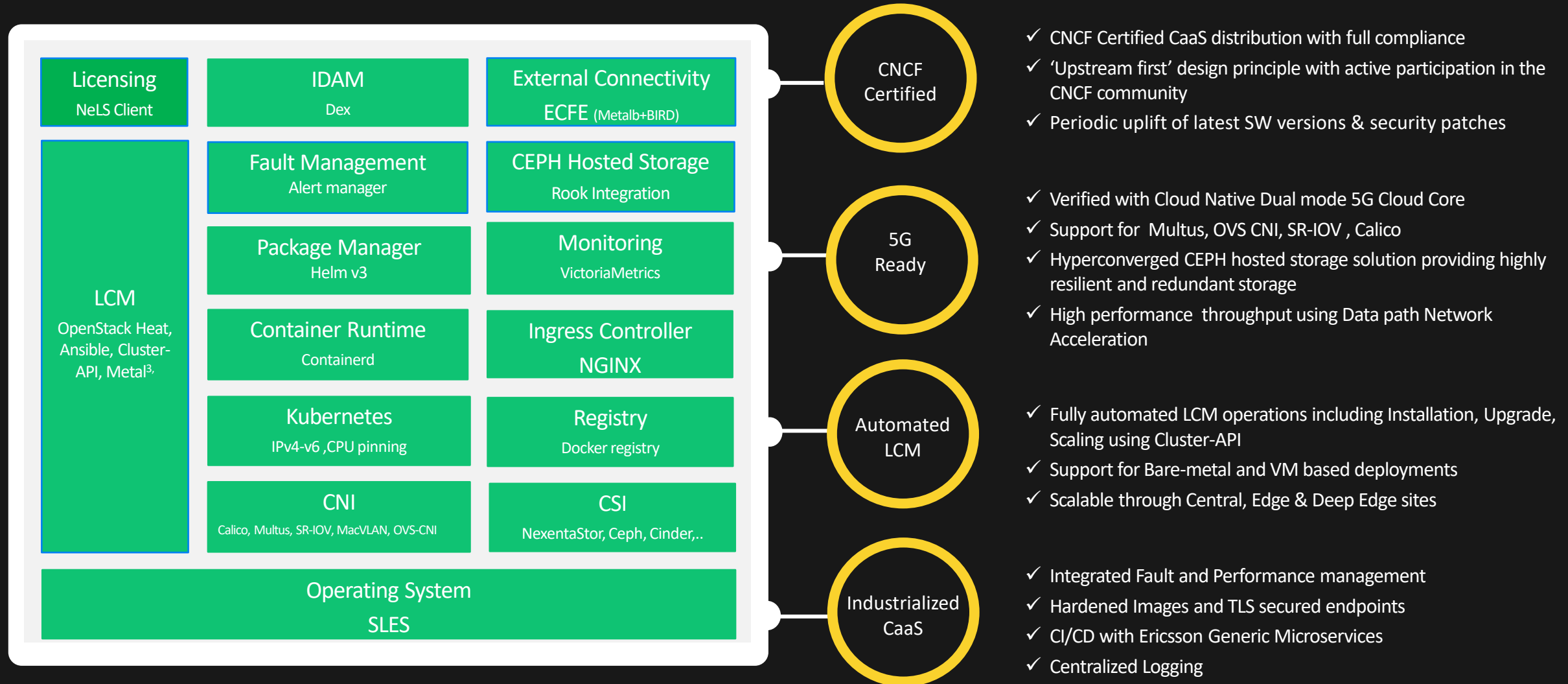
Design Principles For Ericsson Infrastructure

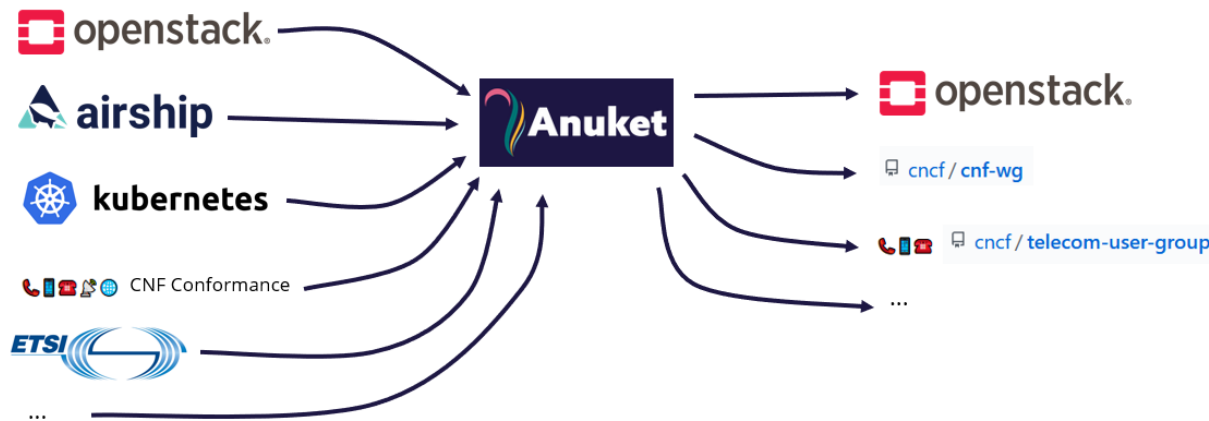
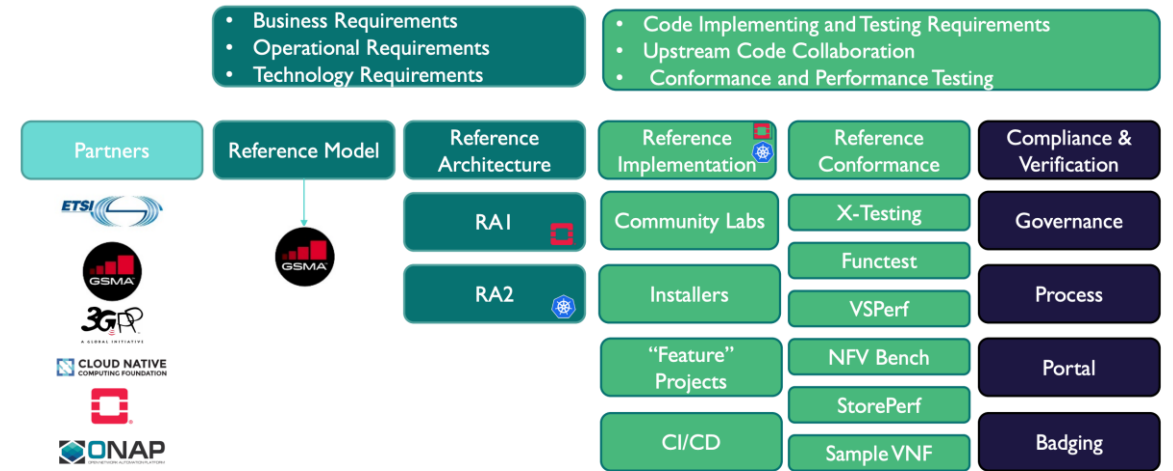
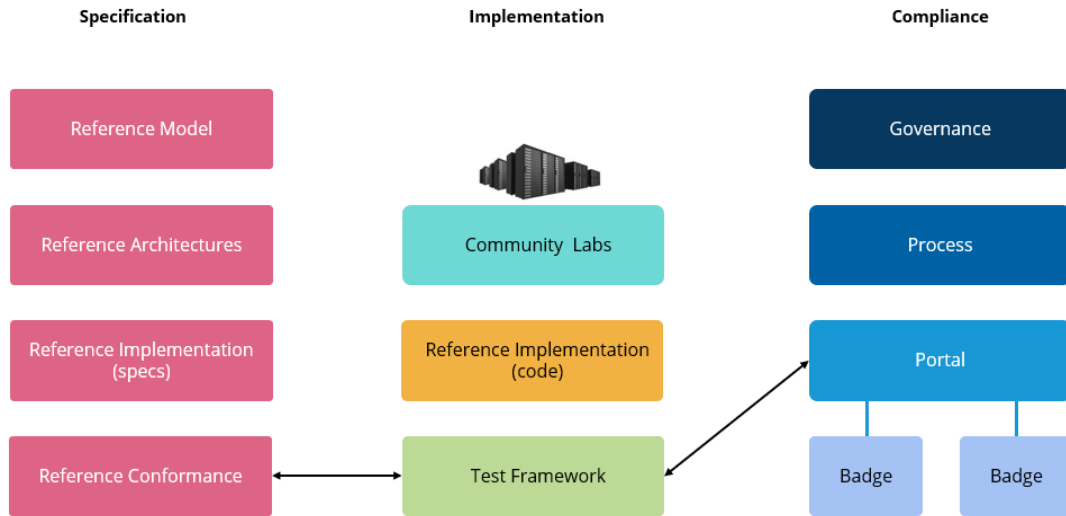


CNCF Landscape



Ericsson Cloud Container Distribution





- Anuket is a merger of CNTT and OPNFV
- Input from standardization bodies, operators and vendors
- Align architecture and requirement work with engineering work
- Intel and Ericsson are both active members in Anuket

Links to More Information

- Ericsson pages
 - [Ericsson Cloud Container Distribution \(CCD\)](#)
 - [Ericsson Cloud Infrastructure](#)
 - [Ericsson dual-mode 5G Core](#)
 - [Edge computing - a must for 5G success](#)
 - [Cloud native is happening now](#)
- Intel pages
 - [Intel® Smart Edge Open Developer Experience Kit](#)
 - [Intel® Smart Edge Open Private Wireless Experience Kit](#)
 - [Intel® Smart Edge Open Building Blocks](#)
 - Reference Implementations
 - [Defect Detection](#)
 - [Intelligent Traffic Management](#)
 - [Telepathology](#)

Services Enablement at the Edge

Intel & Ericsson Collaboration Summary

- Ericsson CCD is the leading Kubernetes distribution in the Telco community including bare metal deployments.
- Ericsson drives a number of initiatives to standardize the Kubernetes infrastructure to enable full vendor mix and match for CSPs.
- Ericsson CCD supports required resource management, AI Workload optimization and connectivity throughput that has been verified in reference implementation demonstrations.
- The strategic collaboration between Ericsson CCD and Intel® Smart Edge Open enables an accelerated path for edge innovations by simplifying and optimizing application development for several players from ISVs to CSPs.

Questions?

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