



Embracing Open RAN in a hyper-speed 5G evolution

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Telco Solution Department, QCT

5G

Cloud

IT

AI

Agenda

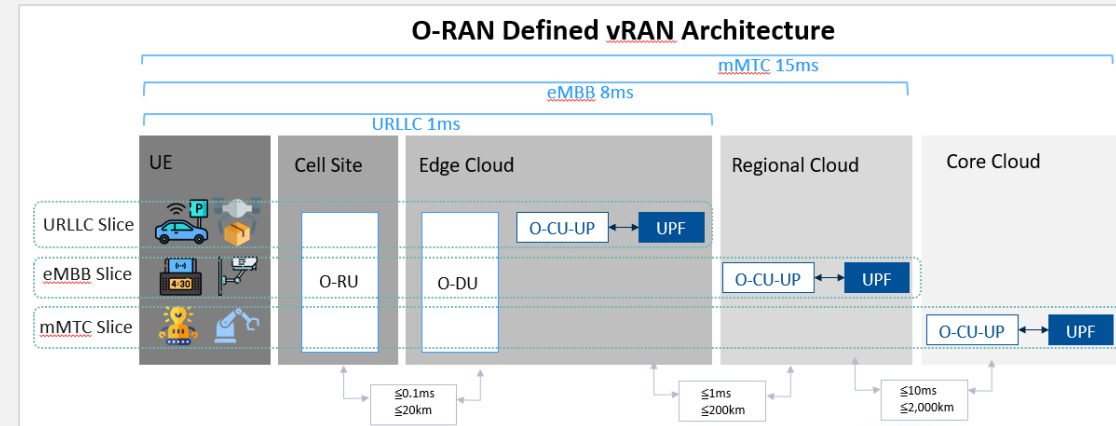


- Open RAN Evolvement
- vRAN on Cloud Solutions
- O-RAN Plugfest Participation

Open RAN Evolvment

Technology Evolvment

- vRAN on Baremetal to vRAN on Cloud
- RAN + Edge computing converge
- FPGA Accelerator to eASIC



Ecosystem Evolvment

Community drive the ecosystem

O-RAN Alliance membership

2018: 12 operators

2019: 22 operators, 105 contributors

2021: 30 operators, 277 contributors



10 working groups, 4 focus groups

- Define the specification
- Develop the software
- Test the interoperability



TELECOM INFRA
PROJECT

- Work with global ecosystem
- Accelerate commercialization
- Accelerate development and deployment



to promote policies
that will advance the
adoption of open and
interoperable solutions
in RAN

About Quanta Cloud Technology



Quanta Computer

Parent Company

ODM | ENGINEERING | SUPPLY CHAIN

- Established in 1988
- The world's largest laptop ODM manufacturer
- One out of every three laptop PCs in the world is manufactured by QUANTA
- Named one of the Derwent Top 100 Global Innovators in 2019, 2020, and 2021



Quanta Cloud Technology

Subsidiary

ENTERPRISE | CSP | TELCO

- No.1 vendor for CSPs

Switch



Server



Storage



Integrated
Rack



QCT Global Footprint



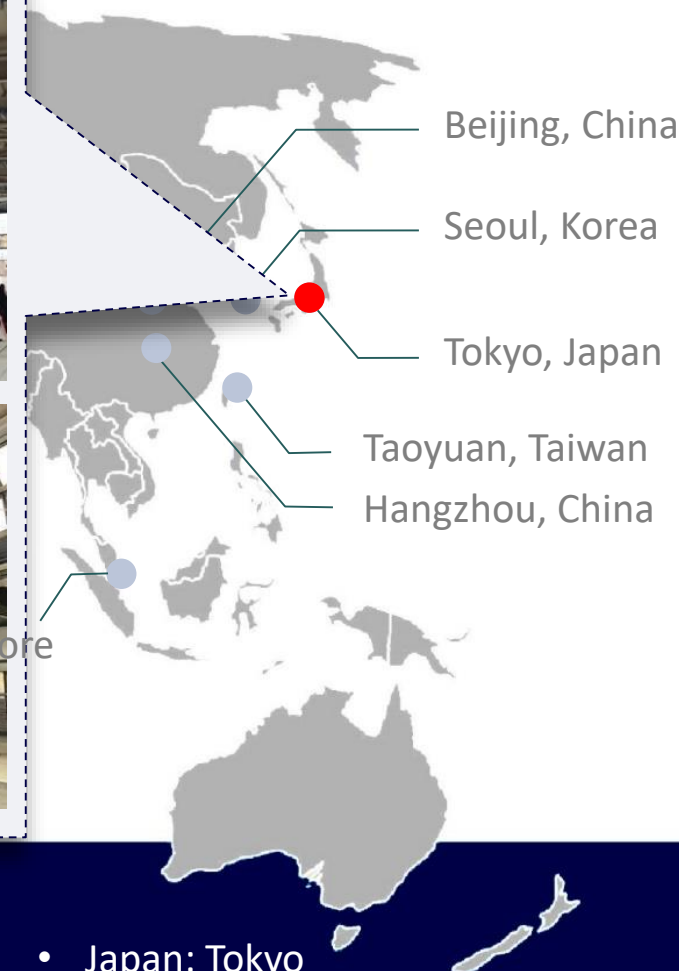
Quanta Cloud Technology

Japan 株式会社

東京都港区芝大門2-5-8

芝大門牧田ビル3F

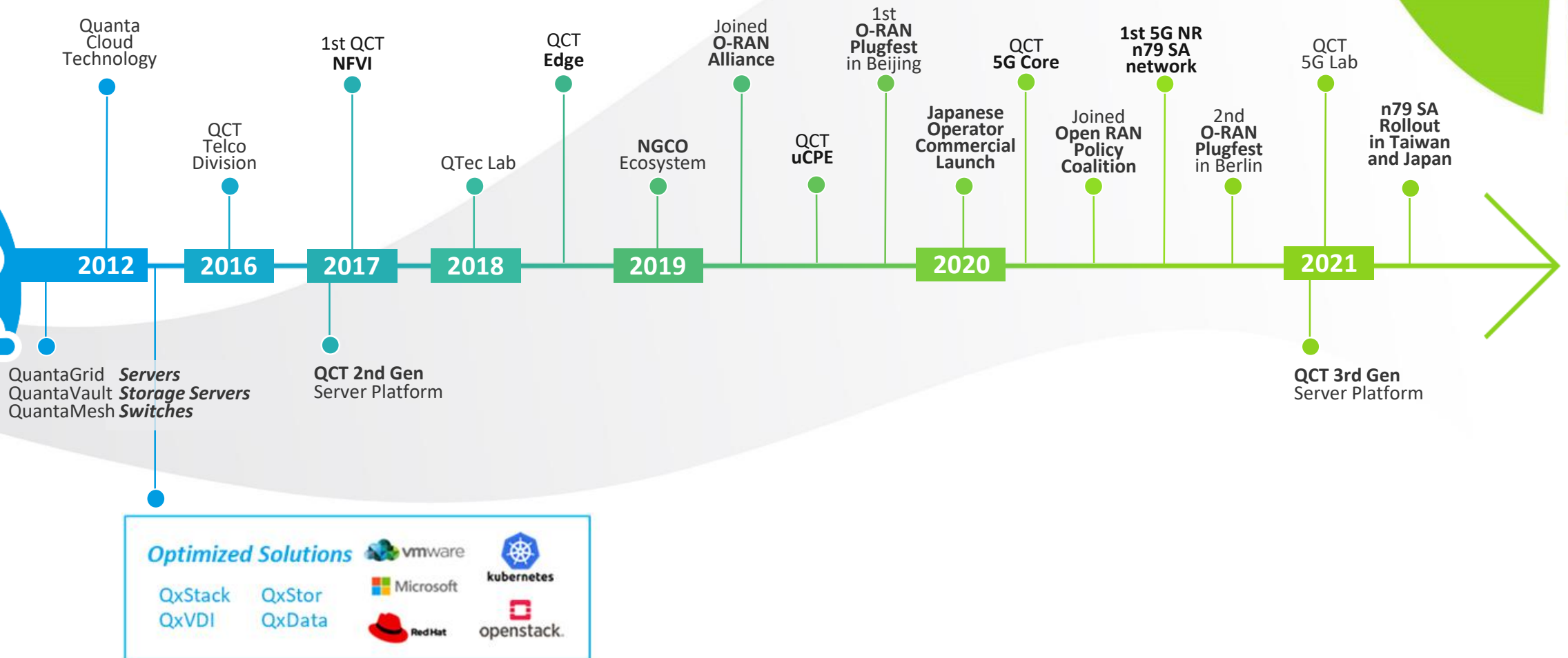
- Established in 2015
- Dedicated sales force & technical support for local customers



Established Offices:

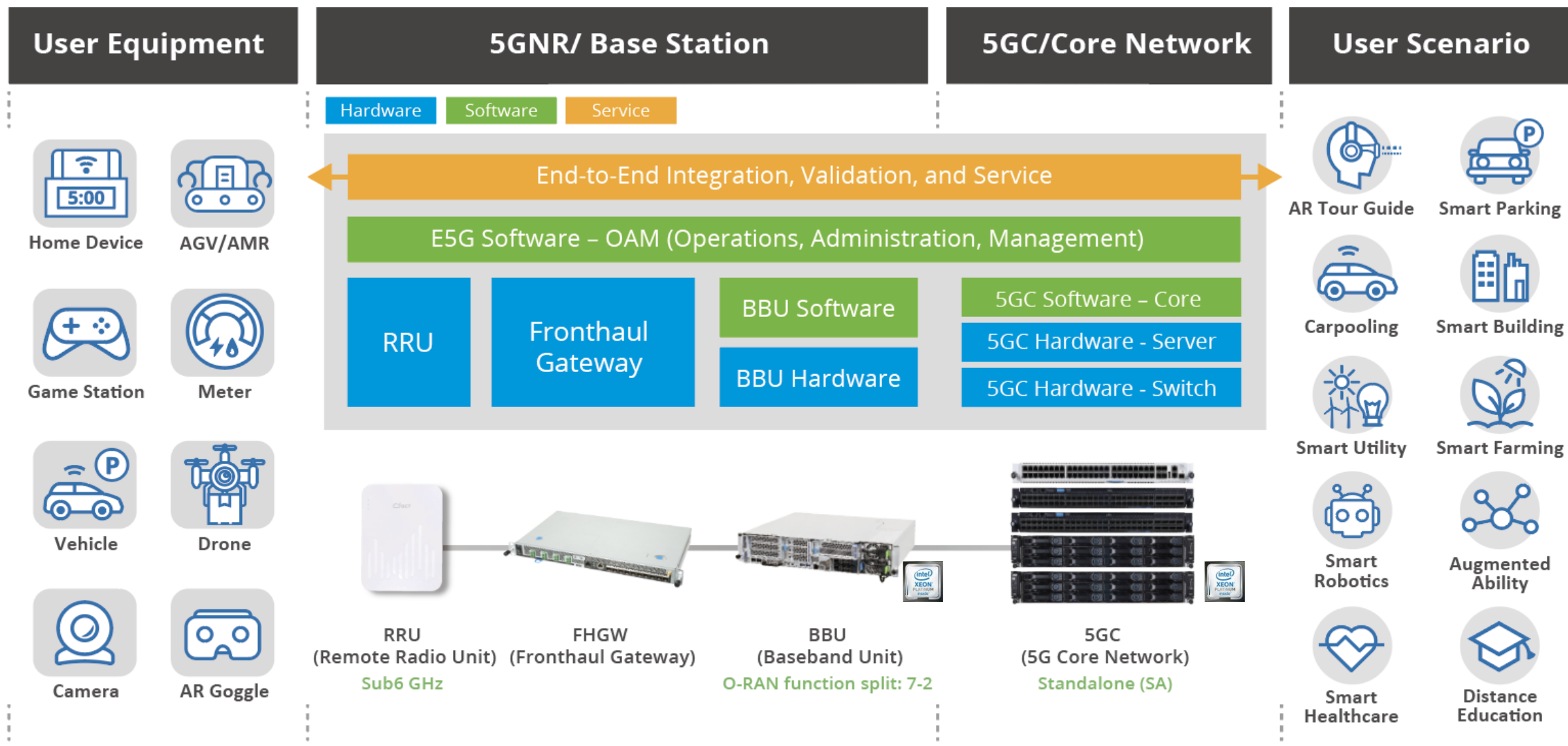
- USA: Silicon Valley, Seattle
- Taiwan: Taoyuan
- China: Beijing, Hangzhou, Chongqing
- Japan: Tokyo
- Korea: Seoul
- Germany: Düsseldorf
- Singapore

QCT Journey to 5G

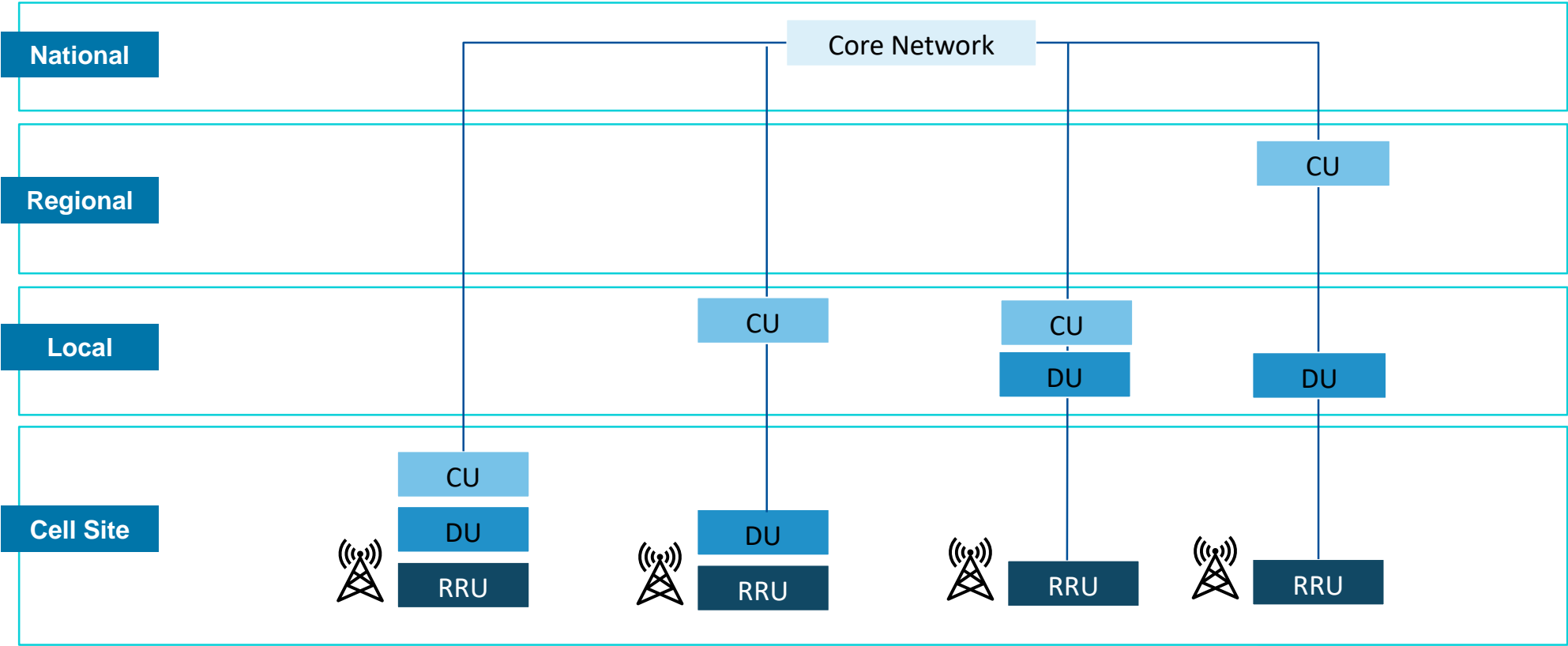


Enterprise 5G Overview

QCT play as the 5G Infrastructure role



Open RAN. We have it all Covered

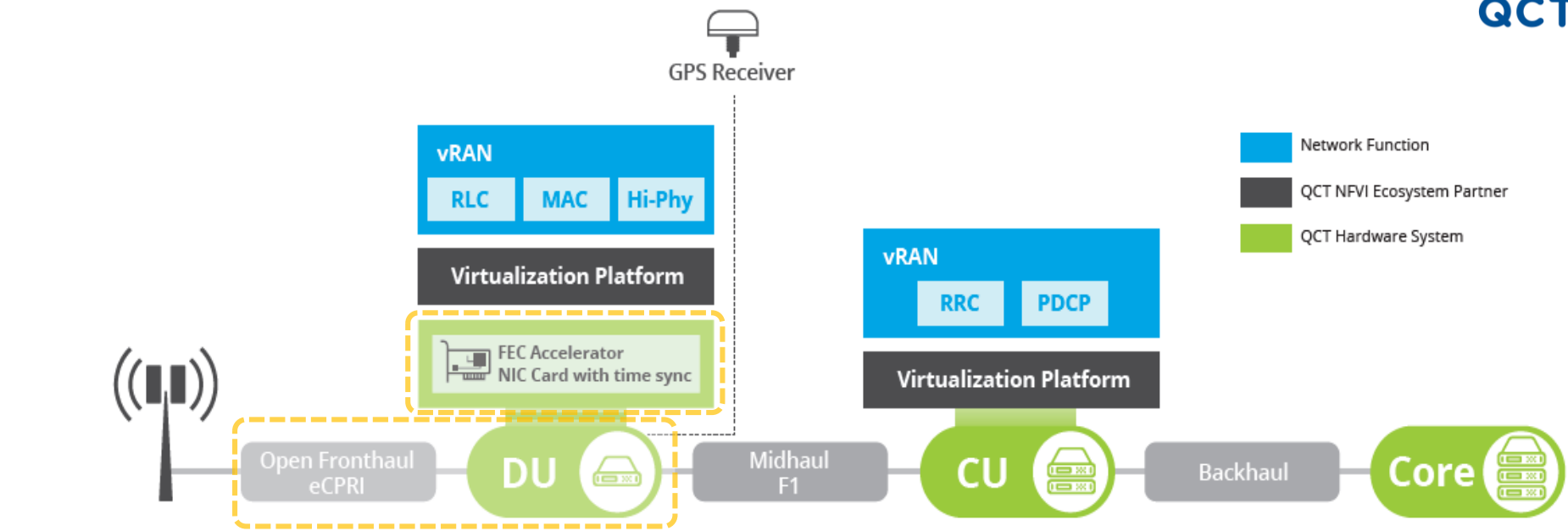


QCT DU/CU Product Portfolio

- Open RAN Centric Design
- Environmental Robust
- Integration. Optimization



Validation Ready . Deployment Ready



NIC Card

Extend the connection for openRAN

QCT validated NIC card that can support time synchronization for fronthaul connection.

intel®

- Edgewater Channel
- Westport Channel
- Tacoma Rapids DP
- Clifton Channel
- Salem Channel

Silicom Ltd.
Connectivity Solutions

- STS1
- STS2
- STS3

Accelerator

Boost the Capacity of the DU

QCT Validated FEC Accelerator to provide Ready to deploy DU system.

intel®

- N3000
- ACC100

Silicom Ltd.
Connectivity Solutions

- Lisbon
ACC100

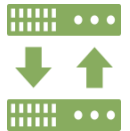
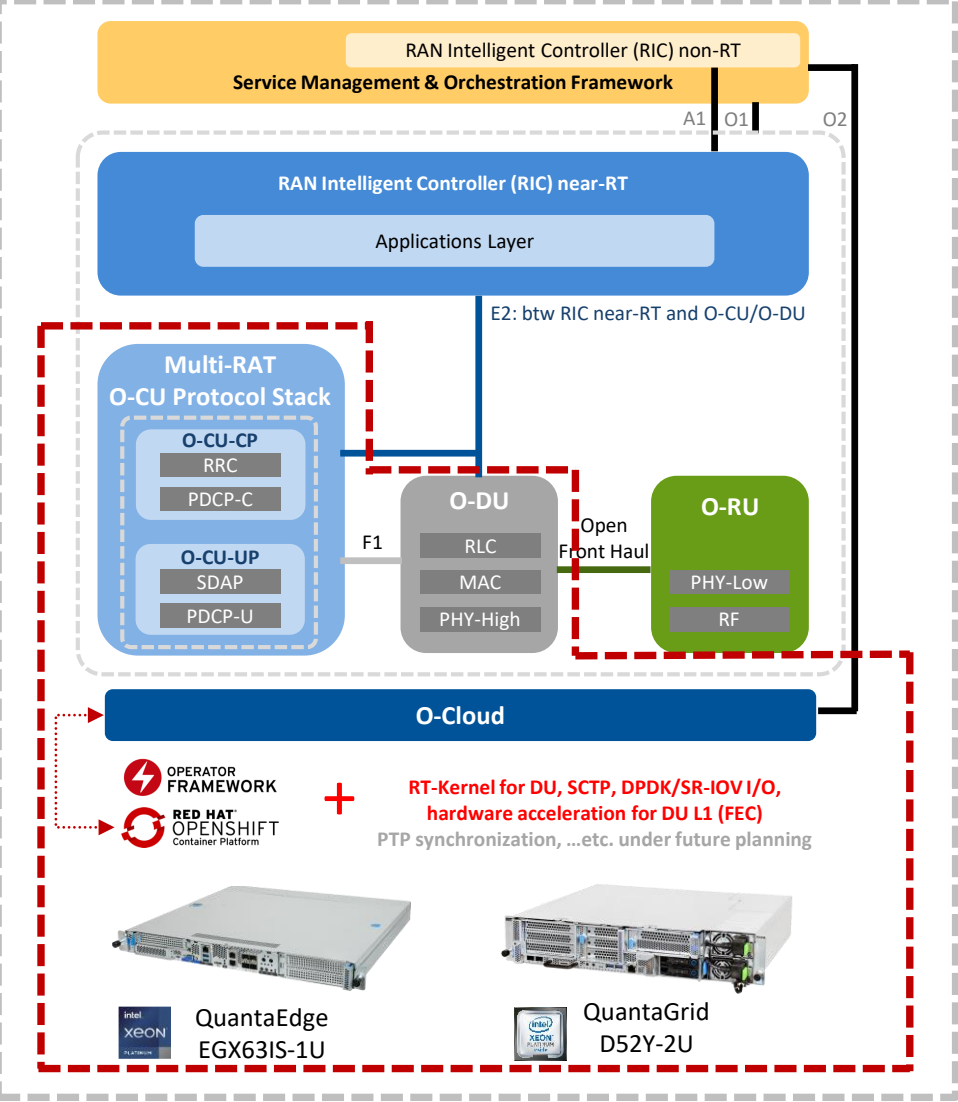
QCT Open vRAN on OpenShift 4.7 Container Platform with OpenNESS Operator

Features & Value Proposition



RAN Evolution: Disaggregation and Virtualization

O-RAN Alliance



Resource Management

- Automation of infrastructure provisioning & load balancing (FEC accelerator, NIC, etc.)



Streamlined Deployment

- Automation of installation and configuration



Easy Monitoring

- Telemetry (ex. temperature, voltage, etc.)
- Cluster monitoring



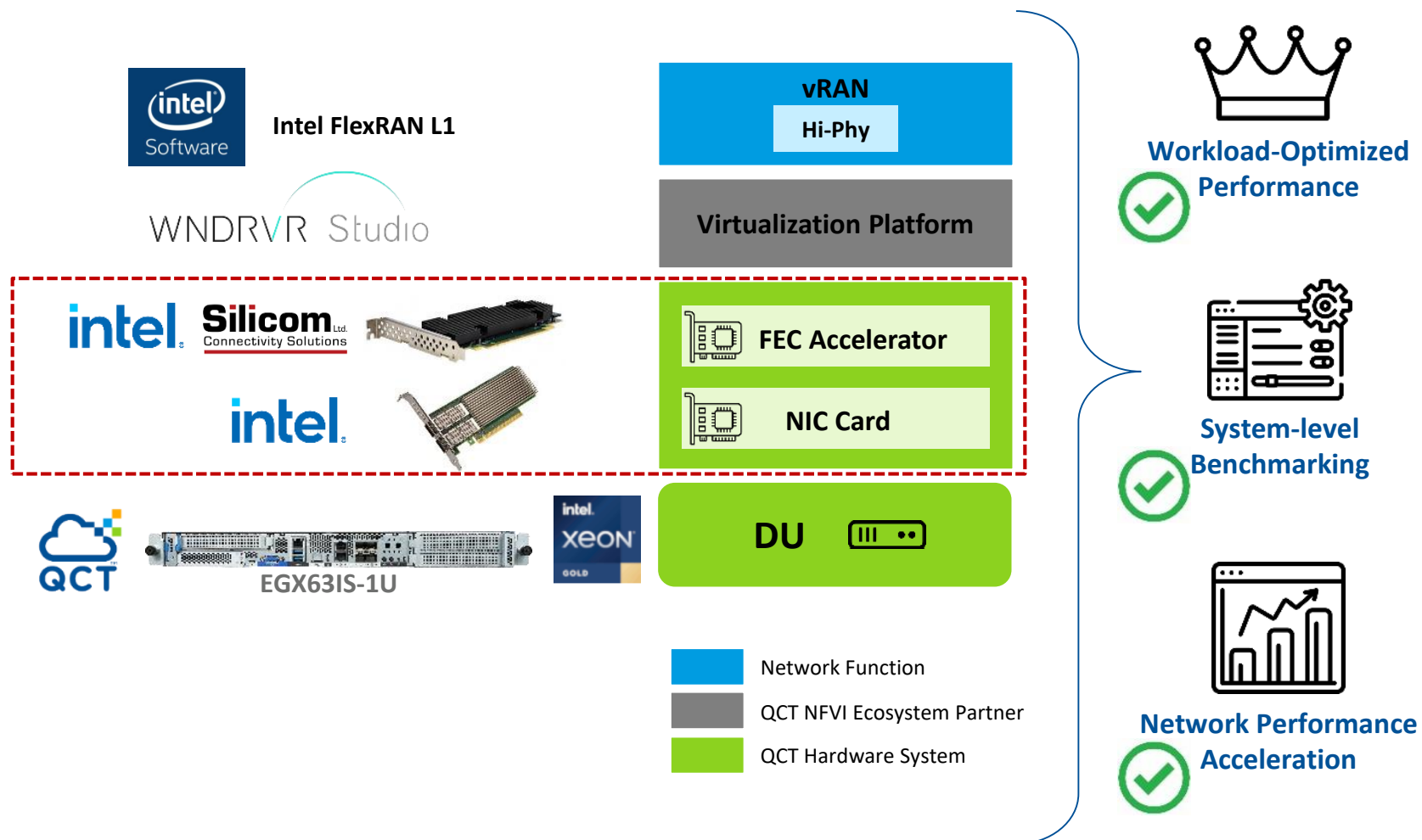
CU/DU Containerization

- Disaggregated and interoperable vRAN applications (ORAN-compliance)

-- Current scope
--- End-goal

vRAN on Wind River Architecture for Intel Select Solution

Performance Validation of FlexRAN on Wind River Studio with QCT 3rd Gen Platform as DU



Workload-Optimized
Performance



System-level
Benchmarking



Network Performance
Acceleration

Use Case: mMIMO 100MHz 64T64R

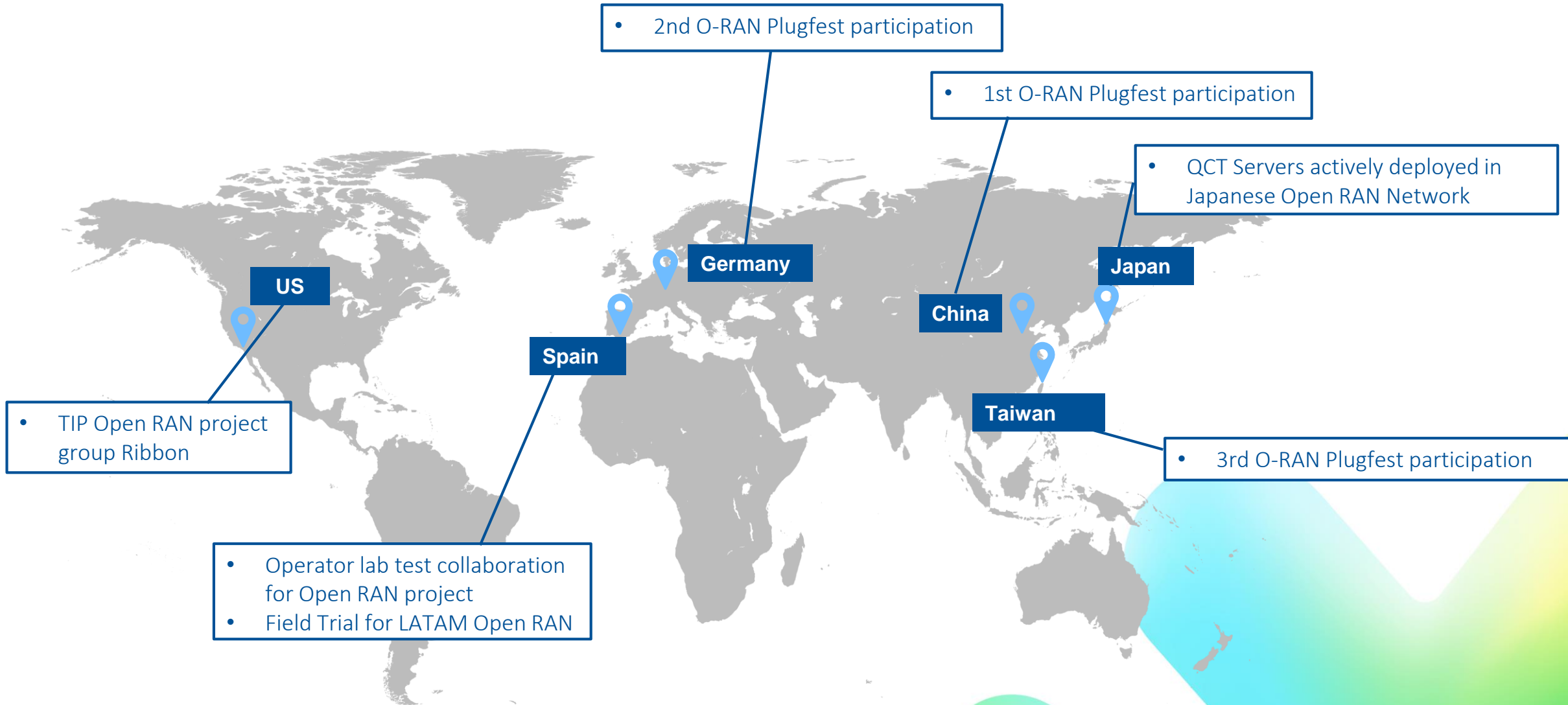
Benchmark Tools

Latency: Memory Latency Checker (MLC),
Cyclictst Performance (Wake-Up Latency)

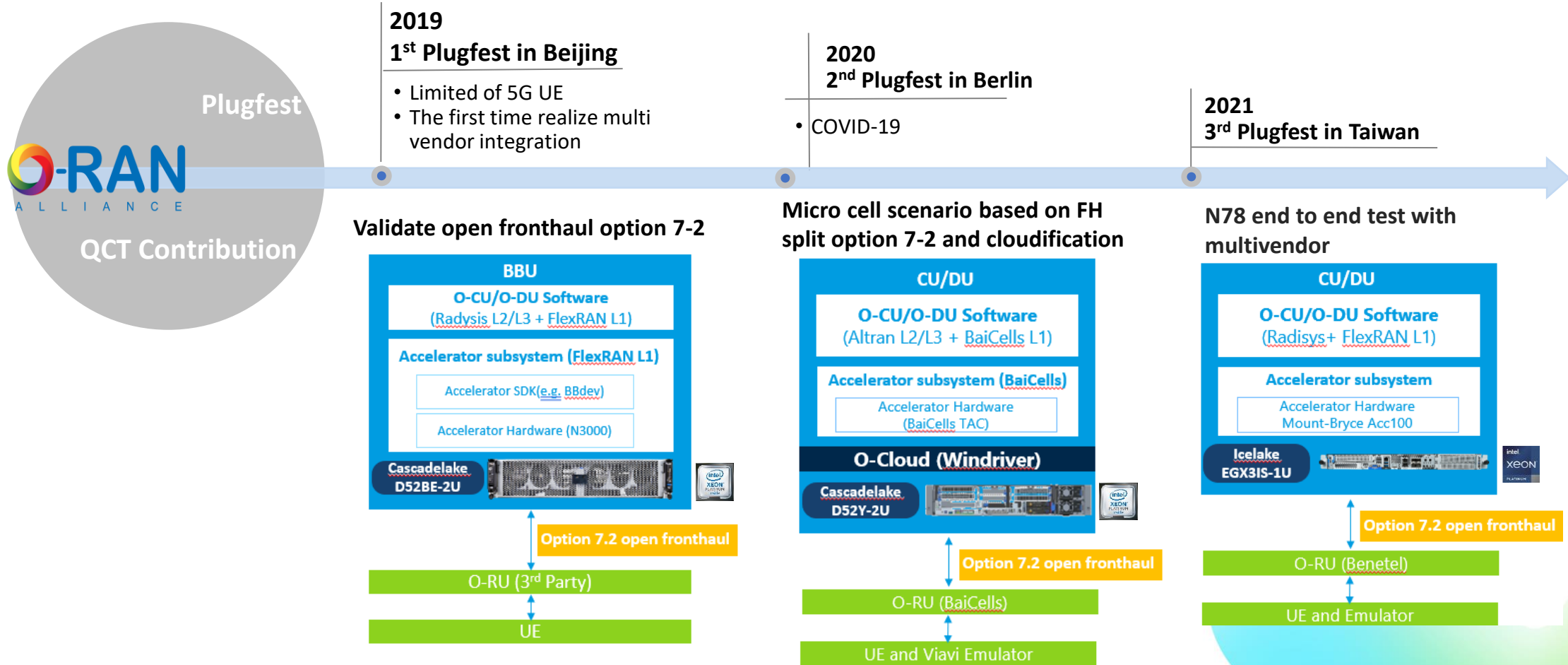
Stability and Accuracy: Jitter

Network Performance: Packet Processing
Performance (DPDK L3 FWD)

QCT Footprint in Telecom Business




O-RAN Plugfest



Accredited and Validation



Community Participation and Test






TELECOM INFRA
PROJECT



QCT Server in TIP Marketplace

Rural
Suburban


 EGD21L-WT 

Rural
Suburban
Urban



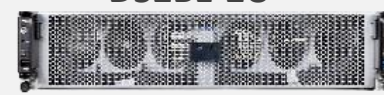
 EGX3IS-1U 




 D52Y-2U 




TIP Community
Lab Test


O-RAN
ALLIANCE

Year **Solution**

1st Plugfest. 2019  **Intel 2nd Gen Xeon SP** 
D52BE-2U **Validate open fronthaul option 7-2**
 FEC Accelerator: Intel N3000

2nd Plugfest. 2020  **Intel 2nd Gen Xeon SP** 
D52Y-2U **Micro cell scenario based on FH**
 **split option 7-2 and cloudification**
FEC Accelerator: Intel N3000

3rd Plugfest. 2021  **Intel 3rd Gen Xeon SP** 
EGX3IS-1U **N78 end to end test with**
 **multivendor**
FEC Accelerator: Silicom Lisbon ACC100



Contact QCT
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For more information, visit
<https://go.qct.io/telco/>