

Evolving RAN architecture for cells big and small

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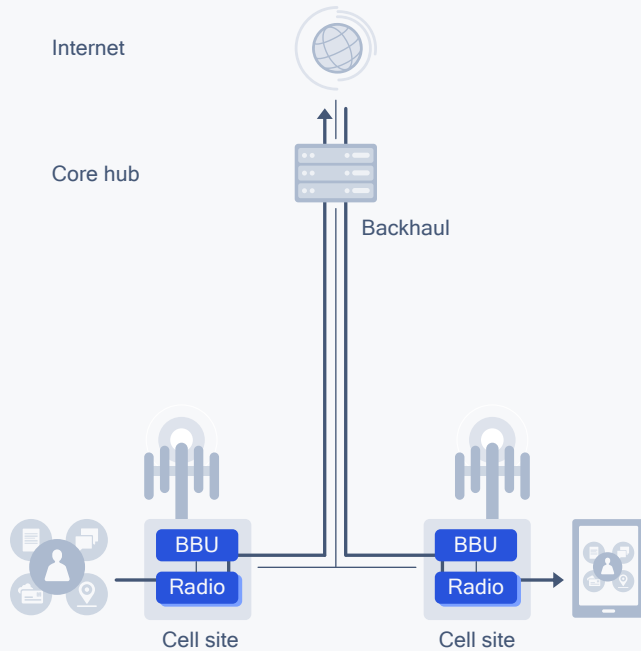
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Evolving the 5G network

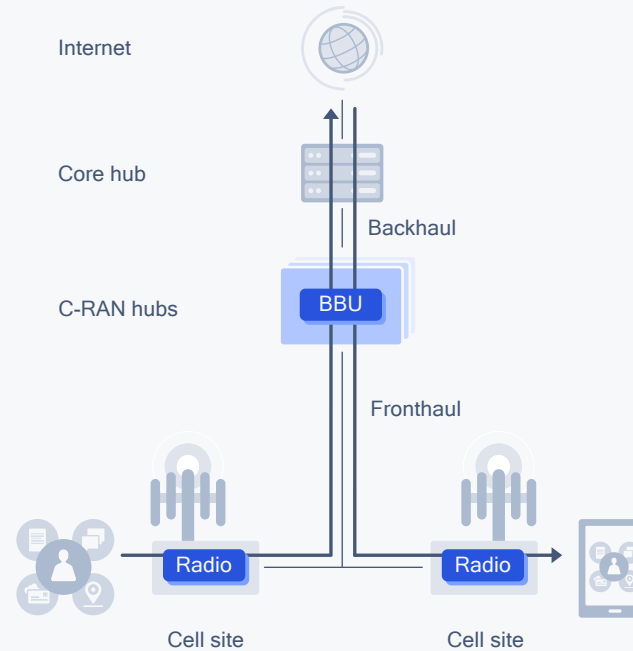
Traditional RAN

Combined baseband processing unit + Radio unit



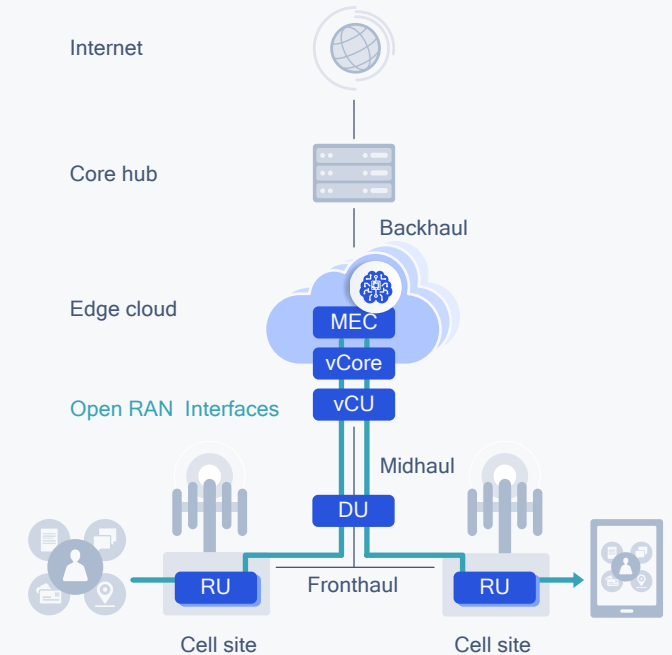
Centralized RAN (C-RAN)

Centralized baseband processing unit



Open and Virtual RAN (vRAN)

Virtualized baseband processing unit with disaggregation



For better coordination, scalable capacity, faster deployments, lower latency, and new use cases

5G

Open vRAN



Support different
deployment
scenarios



Higher utilization
of scalable
resources



Efficiently deploy
new services



Real Estate
Savings



Build RAN
cost-effectively

Place processing and
analytics where it is needed

Simplify orchestration

Resource pooling allows trunking
gains and better cost and energy
effectiveness

Rapidly scale virtual resources
for additional capacity

Support lower
end-to-end latency

Components can evolve
and be upgraded separately

Tailor dimensioning and
features to suit the use case
with 5G private networks

Reduce cell-site footprint by
relocating disaggregated
functions to data centers

Broaden the
ecosystem for competition

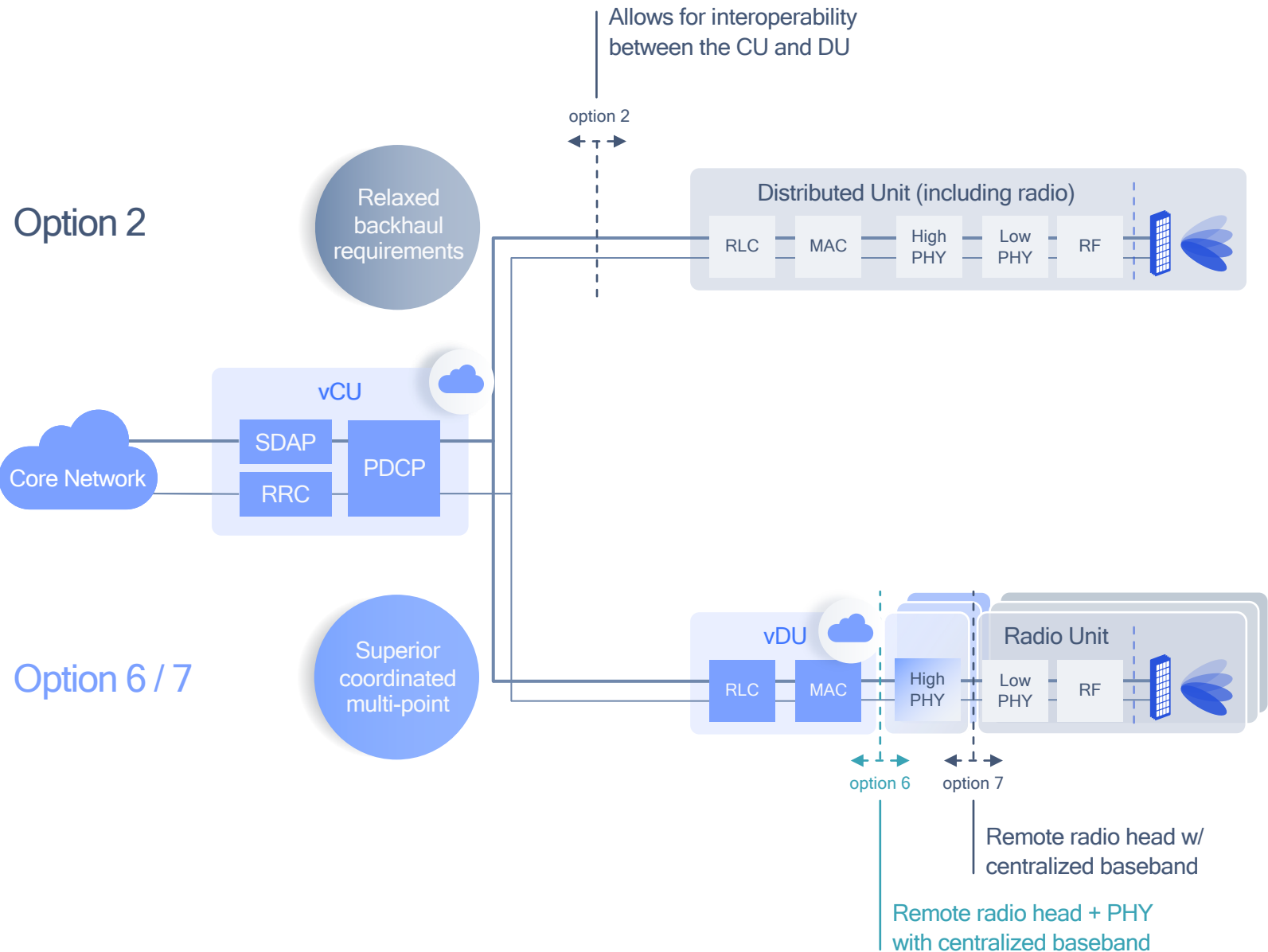
Vendor diversity spurs innovation

Deploy networks faster

with vRAN and disaggregation

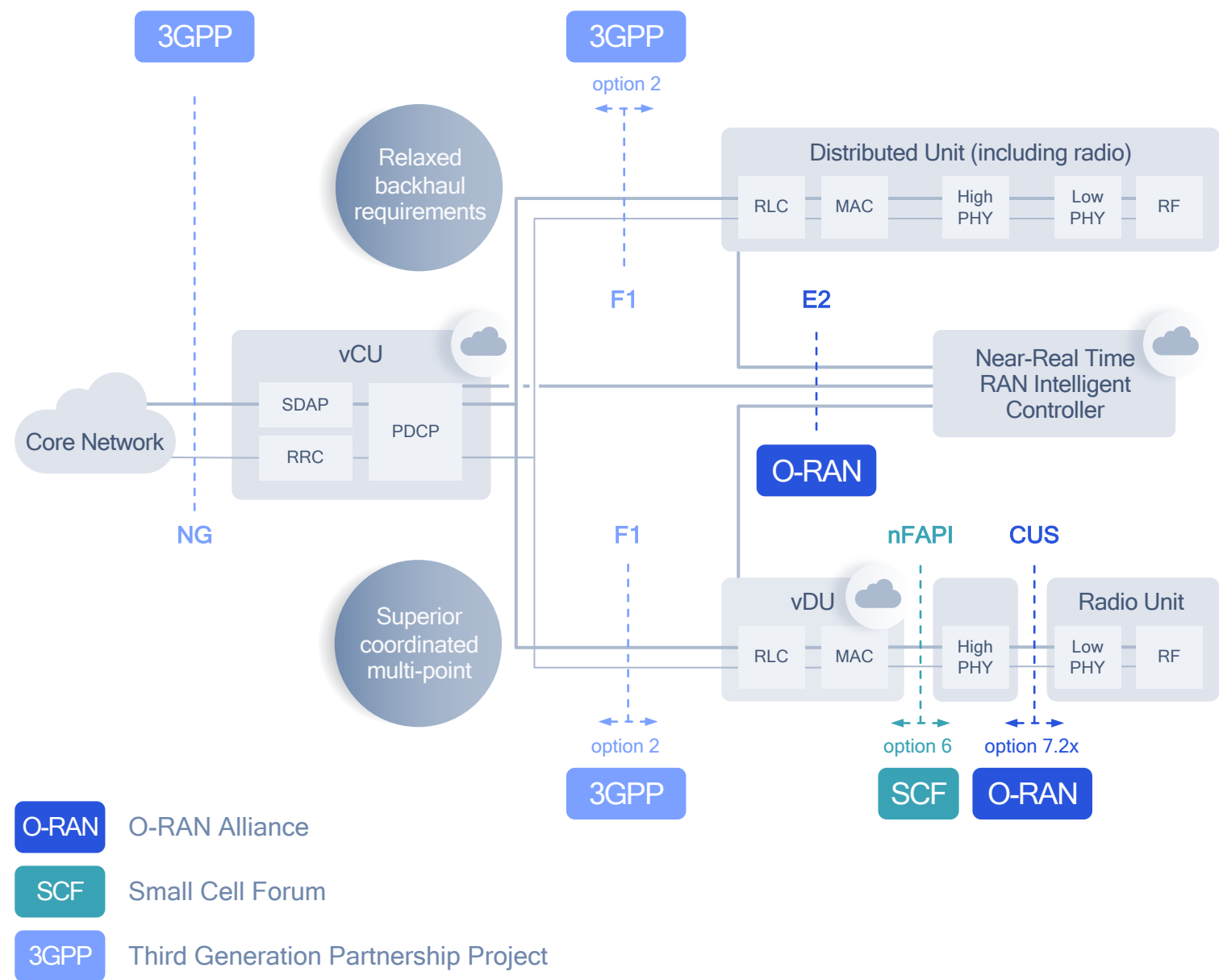


Designed for
unprecedented
flexibility and
cost-effective
network
deployments





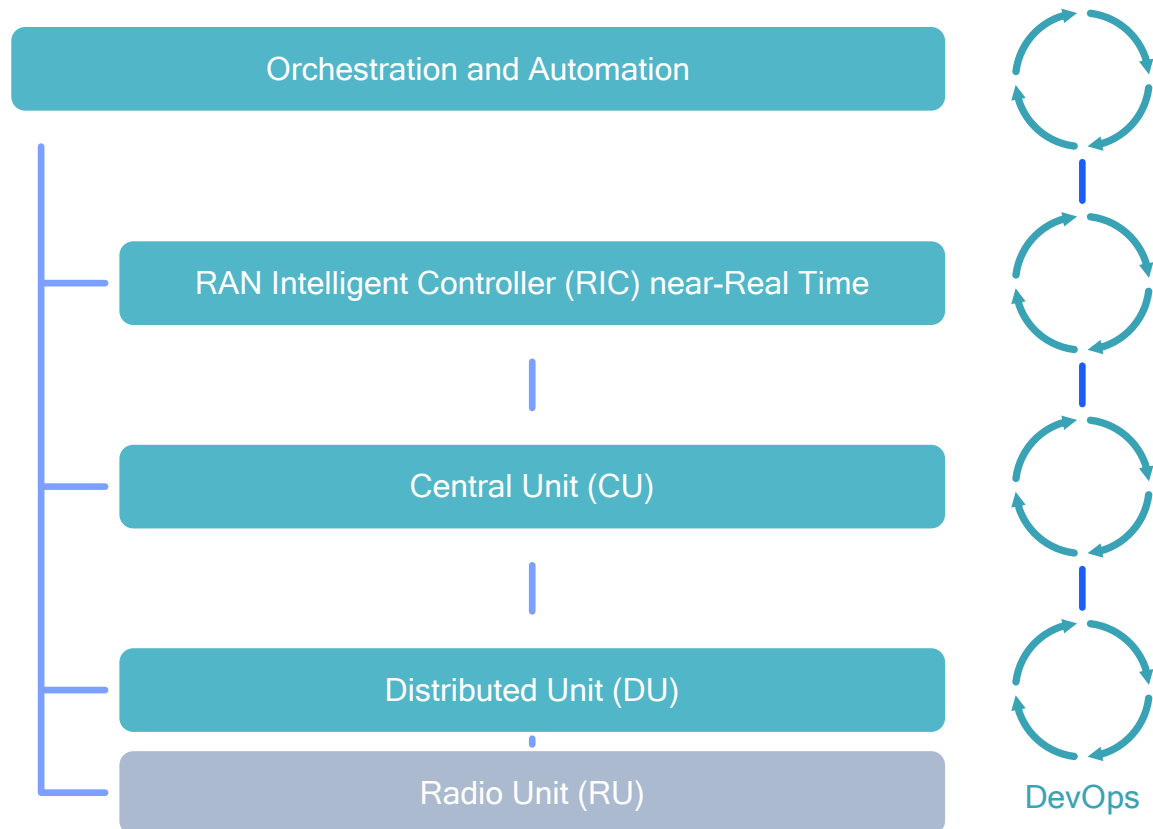
Broaden the interoperable ecosystem with standardized open interfaces



CUS: Control, User and Synchronization plane
nFAPI: Network functional application platform interface

Accelerate 5G innovation with modular components and standardized open interfaces

O-RAN architecture



Drive distributed development and operations (DevOps) with modular network components

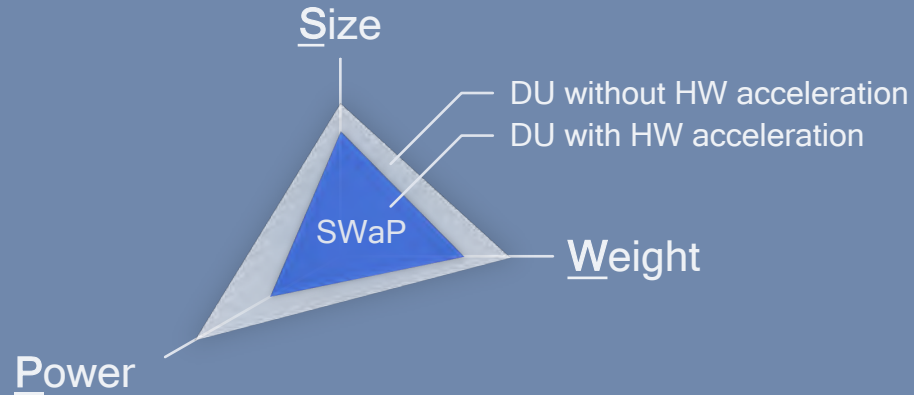
Set the foundation for interoperability by design with standardized open interfaces

Leverage a broader ecosystem for high-performance 5G with best-in-class functionality

Accelerate feature development, problem resolution and product differentiation

Build a common platform for public networks and the growing private network market

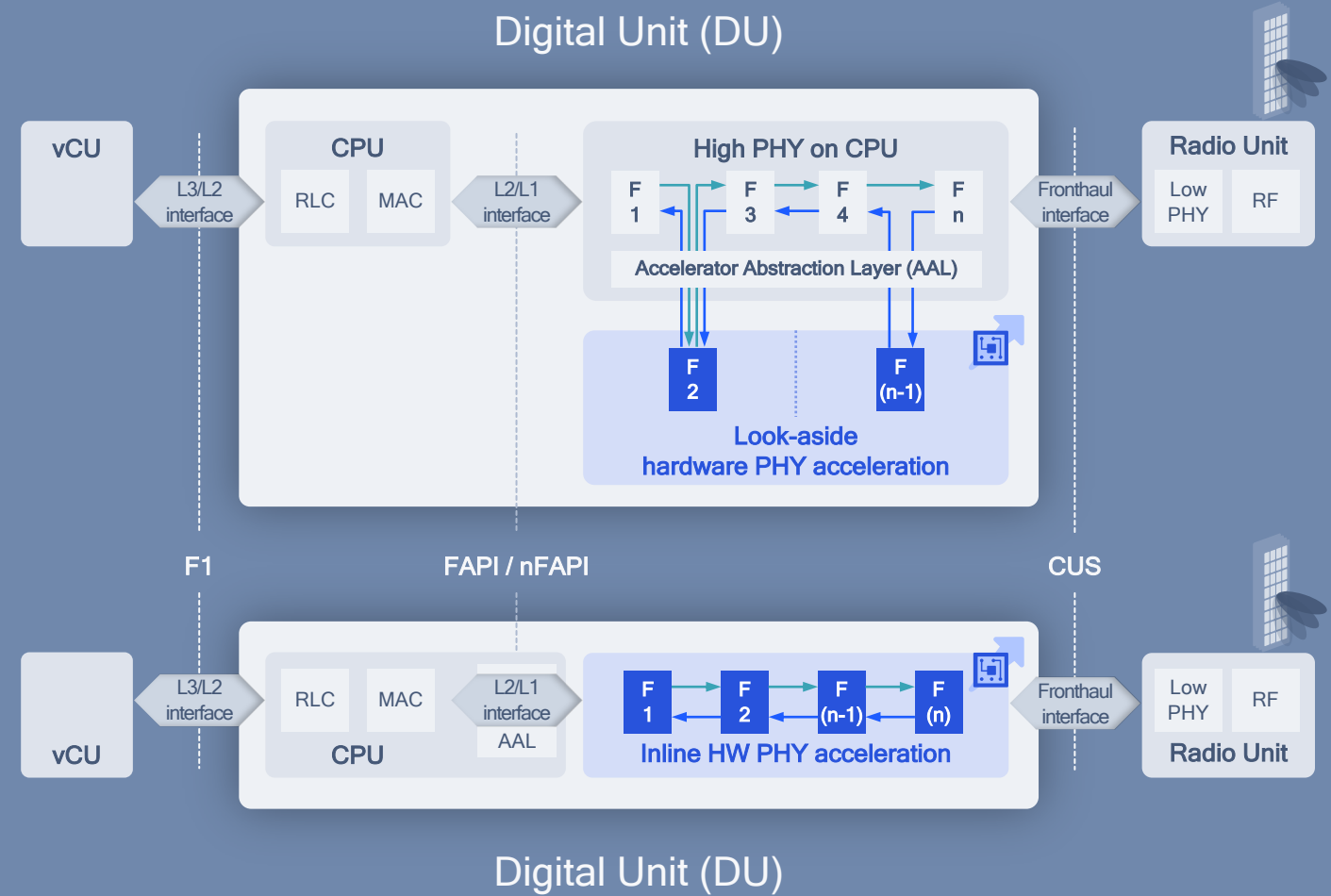
Reduce DU SWaP with HW-accelerated real-time functions



Modularize with nFAPI for L2 on COTS HW and a fully-accelerated inline PHY

Optimize physical parameters for PHY layer efficiency with HW accelerators

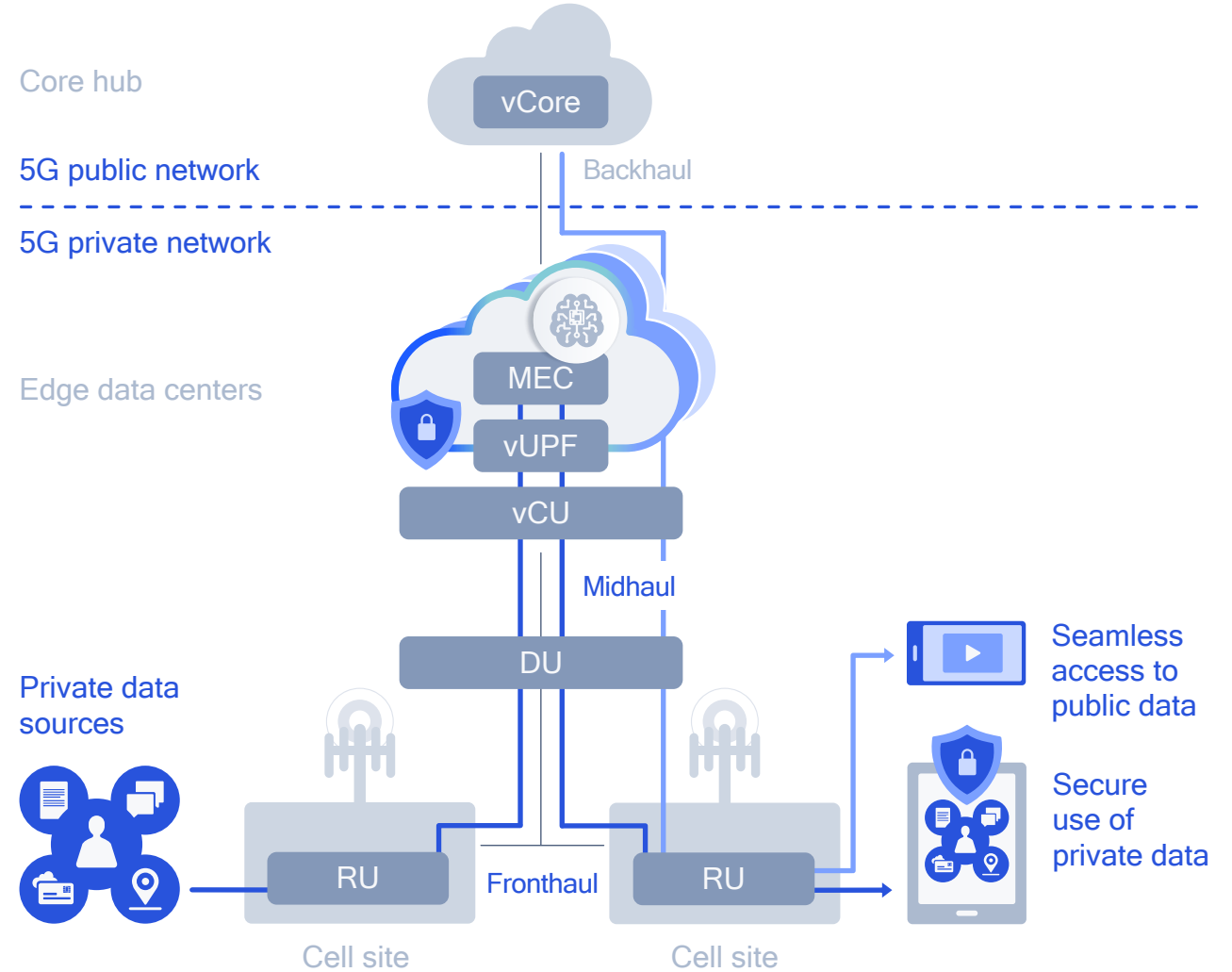
Efficiently handle multiple functions with inline accelerators



Transform industry and enterprise with 5G, vRAN and MEC

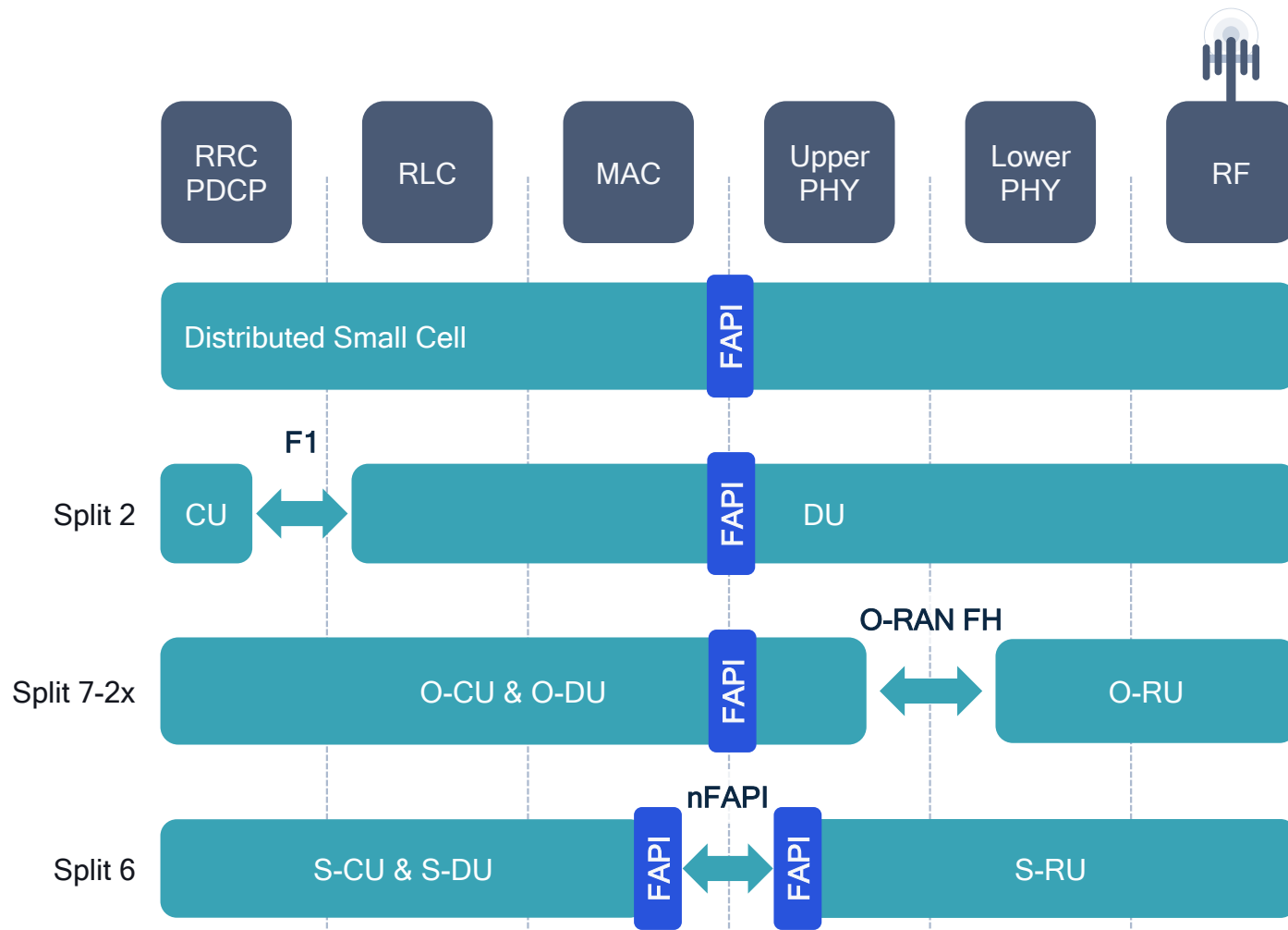
Increase availability and scalability

- by using common edge compute resources for both vRAN and MEC
- by independently scaling resources for control plane and user plane traffic



Option 6/7

Small Cell Forum FAPI: Accelerating 5G innovation



FAPI

The only open L2-L1 interface

At the crucial confluence of L1 hardware & L2 application

Established expertise in developing the interface

3GPP compatible, driven by market needs

Supports variety of RAN architectures

Bi-annual publication

Mature, reliable, comprehensive & market-ready

Minimizes need for custom engineering
Encourages innovation

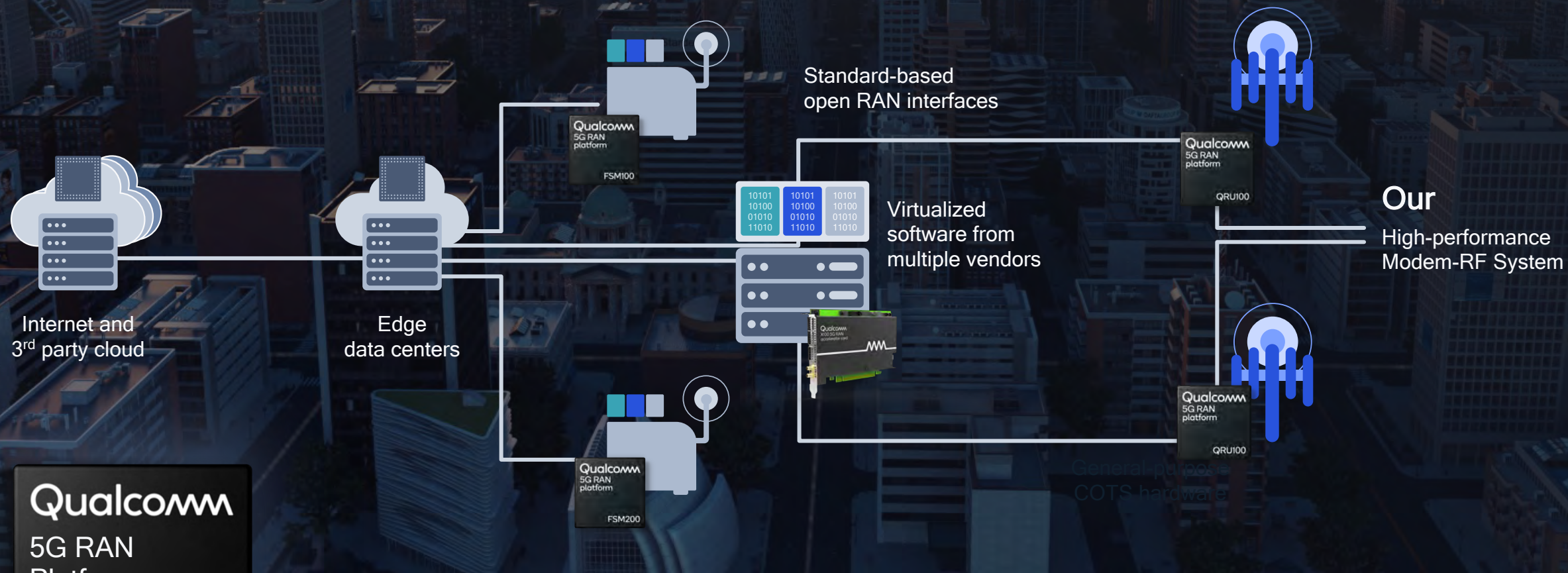
Accelerate feature development, problem
resolution and product differentiation

The Modern Network



Driving transition to Infrastructure 2.0

Powered by extended portfolio of Qualcomm 5G RAN platforms



Qualcomm

5G RAN
Platforms

High performance
Modem-RF

Virtualization
with hardware
acceleration

Flexible, scalable,
O-RAN
compatible

From Macro
to Small Cells

Integrated Sub-6
and mmWave
solution

Thank you



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