

# Next-Level Network Efficiency for Telecommunications

## Meet increasing wireless network demands and support emerging use cases



Increasing data traffic and new use cases are requiring mobile network operators to increase their network infrastructure investments to keep pace.

QCT created a developer kit that leverages Intel® Xeon® Scalable processors for optimized efficiency workload performance on 5G networks. The QuantaEdge EGX74I-1U is a 400mm short-depth, low power consumption, highly expandable Multi-Access Edge Computing server for centralized and distributed Radio Access Networks. Featuring flexible expansion slot designs and numerous CPU options, QCT's DU/CU servers deliver best-fit capacity and performance for Open RAN scenarios. QCT's telco servers are designed with a wide range of operating temperatures in mind to meet rigid environmental requirements and are pre-integrated and pre-optimized to meet the interoperability and flexibility needs of open RAN solutions.

### About QCT

Quanta Cloud Technology (QCT) is a global data center solution provider that combines the efficiency of hyperscale hardware with infrastructure software from diverse industry leaders to solve next-generation data center design and operation challenges. QCT serves cloud service providers, telecoms and enterprises running public, hybrid and private clouds. To learn more about QCT, visit: [QCT Website](#)

### Address telecom-critical applications with vRAN

Open vRAN represents a critical step in advancing telecommunications and is steadily being adopted across the industry due to its ability to increase wireless access in industrial settings. Working jointly, Intel and QCT are providing a reference vRAN architecture within the Intel® FlexRAN™ solution. The QCT DevKit vRAN test suite features a user-friendly GUI from which system information can be checked and functional validation tests can be executed.

Intel's 4<sup>th</sup> Gen Intel® Xeon® Scalable processors provide outstanding energy-efficient performance for vRAN and Open RAN deployments. The platform delivers up to twice the capacity for vRAN workloads versus the prior generation.<sup>1</sup>

It also integrates vRAN acceleration directly into the processor, eliminating the need for external accelerators and reducing vRAN power consumption by approximately 20%.<sup>1</sup> This combination of increased capacity and reduced power requirements provides significant efficiency gains while substantially enhancing performance-per-watt.

## Key features unlock business value

**Artificial Intelligence and Machine Learning** are the most important RIC technologies connecting QuantaEdge EGX74I-1U, providing network energy savings by turning off components which aren't needed.

**Virtualization** enables the transition from fixed-function telco hardware to software-defined systems running on commodity hardware, where a common platform can serve cloud, core, and edge applications. Virtualization also reduces costs through both limiting equipment footprint and cutting operating expenses by using energy efficient components.

**vRAN Boost** is integrated acceleration within the SoC. This helps reduce the complexity and bill-of-materials cost of Open RAN deployments for CoSPs.

## Where to Get More Information

- [Intel® Foundational Developer Kits for IoT](#)
- [QCT Carrier-grade Edge Server with 4<sup>th</sup> Gen Intel Xeon Scalable processor and Intel® FlexRAN for vRAN Boost | QCT](#)

## Intel Ingredients



### Intel® Xeon® Scalable Processors

4<sup>th</sup> Gen Intel® Xeon® Scalable processors allow network operators to run radio base stations with less required hardware. They now include Intel® Advanced Vector Extensions (AVX) for vRAN. The new instructions execute twice as many 16-bit half-precision FLOPS in a single AVX register. These new features deliver up to double the vRAN compute capacity.

**Intel® Foundational Developer Kits** allow you to get started on your targeted application development with a superior out-of-the-box experience. Deploy your application at scale by building customized systems via Intel ecosystem partners.



<sup>1</sup> For workloads and configurations visit [www.Intel.com/PerformanceIndex](http://www.Intel.com/PerformanceIndex). Results may vary

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