



SOLUTION BRIEF

MAVENIR'S VIRTUAL CELL SITE ROUTER (vCSR)

Mavenir's Virtual Cell Site Router (vCSR) replaces the physical cell site router with a cloud-native network function (CNF) running on the Open RAN DU server, on common-off-the-shelf (COTS) servers. This means communications service providers (CSPs) have fewer cell site devices to power, fewer cables and points of failure and more data throughput per watt, lowering operation and management overhead, and liberating rack space that can be used for incremental revenue generating applications.

The introduction of 5G service and edge computing has increased the capex and opex on a per-cell basis for CSPs. RAN densification has further strained their total cost of ownership (TCO).

While the whole 5G stack is virtualized in the cloud, every cell site requires a conventional hardware-based router, the cell site router (CSR), to connect the different elements back to the network. This router takes rack space and needs to be commissioned, deployed, and managed.

Mavenir's solution virtualizes the routing functions, providing the following benefits:

- > **Full integration and energy efficiency** — Mavenir is the only vendor that provides vDU and vCSR CNFs integrated in the same server and optimized for virtual RAN workloads, with fewer cell site devices to power and more data throughput per watt.
- > **High Performance** — leveraging a high-speed memory interface architecture that maximizes throughput and minimizes packet delay.
- > **Automated deployment and swift upgrades** — zero-touch provisioning, to bring up thousands of cell sites without truck rolls and compliance with the CNF Continuous Integration and Continuous Delivery (CI/CD) architecture to deliver new features with limited network down-time.
- > **Future proof investment** — flexible software architecture, hardware agnostic and different network interface card options.
- > **Quality of Experience (QoE) for 5G applications at scale** — end-to-end QoS slicing for applications with vCSR Segment Routing version 6 (SRv6), and flexible segment definition with programmable Segment ID (SID) binding.
- > **Open and programmable solution** — based on open-source software with open programmable interfaces (REST API & gNMI) and open configuration models (YANG).
- > **Compatibility with Cloud-native Network Functions (CNF) framework** — vCSR streaming telemetry allows the use of open-source CNF tools for deployment, orchestration, network analysis and optimization.

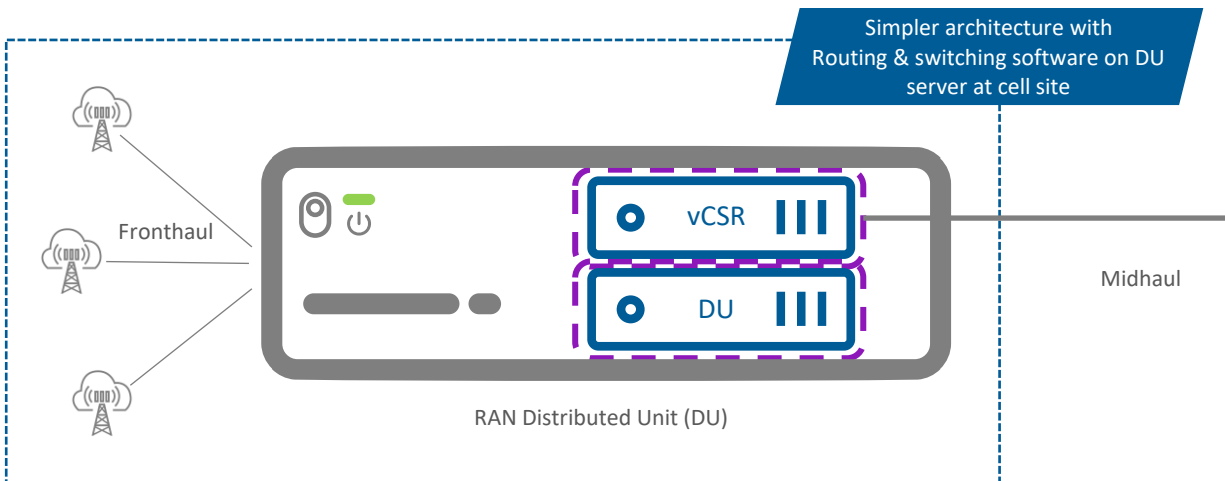


Figure 1 - Mavenir vCSR CNF running alongside the Open RAN DU CNF within the RAN Distributed Unit (DU) hardware

New Revenue Opportunities

Mavenir's vCSR liberates rack space at the cell site frame that can be used to deploy computing resources and monetize other use cases:

- > edge computing applications
- > Content Delivery Network (CDN) servers for video streaming
- > cloud gaming
- > augmented and virtual reality (AR/VR) applications
- > and more

About Mavenir

Mavenir is building the future of networks and pioneering advanced technology, focusing on the vision of a single, software-based automated network that runs on any cloud. As the industry's only end-to-end, cloud-native network software provider, Mavenir is transforming the way the world connects, accelerating software network transformation for 250+ Communications Service Providers in over 120 countries, which serve more than 50% of the world's subscribers.

For more on Mavenir solutions please visit our website at www.mavenir.com