

## Mavenir's unique approach to cloud-centric NFV infrastructure pushes performance thresholds across its end-to-end 5G portfolio.

### 5G Initiatives

The promises of 5G go well beyond high data rate, spectral efficiency, ultra-low latency, or massive sensor networks.

The fundamental appeal of 5G lies in the fact that the entire infrastructure acts as a cohesive platform for innovative applications and is tuned to flex with demand - providing services tailored to their unique characteristics. While the infrastructure may encompass discrete components from multiple vendors and heterogeneous wireless networks, it is designed to be a fully programmable and an interoperable framework both in the core and radio resource management.

This smart network infrastructure and an enhanced ability to support exponential scale for connectivity open the doors to innovative applications across a variety of markets such as connected cities, smart agriculture, smart manufacturing, connected healthcare, virtual reality, and autonomous vehicles.

Mavenir is committed to cloud-centric infrastructure across its end-to-end 5G portfolio ([vRAN](#), [vEPC](#), [IMS](#), Security, and other critical solutions), using open development techniques and programming tools to deliver the networks of the future.

The recent announcement of [5G Core Network](#) and vRAN solutions means that Mavenir is a full end-to-end 4G LTE and 5G, IoT network provider.

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As one of the early members of X-RAN, now O-RAN, and as the industry's ONLY end-to-end Network Software provider, Mavenir is innovating to enable both 4G and 5G wireless networks with virtualization. With numerous successful 5G demonstrations and trials in progress globally, Mavenir's cloud-centric infrastructure and open development approach is helping operators redefine the mobile network economics, as 5G nears wide-scale global commercial rollout.

#### Mobile Network in a Box:

An OpenRAN-based Virtualized RAN, vEPC and IMS Core, with all mobile network elements located on a very small number of servers in a single enclosure essentially representing a complete 'mobile network in a box.'

- **Enables 5G Network Slicing**
- **Split 7-2 Architecture with MTI RRH**
- **Split 2 Architecture with Sercomm DU**
- **NFV OpenRAN Capabilities** - uto provisioned CU through CEM Orchestrator

The **Mobile Network in a Box** demonstrates innovative, open interfaces, cloud-based architectures and virtualized solutions that are reinvigorating innovation outside of the traditional NEPs to benefit of CSPs and the overall industry. The [OpenRAN](#) approach frees operators from lock-in with incumbent infrastructure, making it easier to deploy a cloud-based OpenRAN solution. Increasingly, operators are embracing and implementing O-RAN, solidifying the power of OpenRAN to address a greater variety of deployment scenarios.

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The [5G New Radio \(NR\)](#) and the 5G Core element realization and deployment requirements are sharp departures from the traditional approaches of legacy vendors. Mavenir has these elements, supporting 4G LTE, already in trials and POCs in several countries.

Mavenir's 5G Core Network is designed for mobile communications systems with the functional capabilities to support high bandwidth, massive IoT connectivity and ultra-low latency applications. Highlights:

- Cloud Native, fully virtualized, stateless architecture with a flexible end-to-end orchestration framework to suit varied CSP needs
- SDN-controlled 5GC with complete separation of both control and user plane framework that allows independent dynamic scaling of control and user plane elements with intelligent packet handling.

Mavenir's vRAN extends the virtualization to the edge of the network and provides strategic differentiation by enabling the Remote Radio Units (RRUs) to interwork with the virtualized Cloud Base Band Unit (vBBU) over ethernet Fronthaul (FH), overcoming the traditional constraints of Common Public Radio Interface (CPRI™) over fiber. Highlights:

- With end-to-end network slicing support, flexibility for the vBBU and even the vEPC co-located for [Multi-access Edge Computing](#) (MEC) – the solution can be tailored for unique service-centric architectures, enriching user experience while addressing proximity specific deployment constraints.
- Investment protection is achieved (e.g. 4G LTE to 5G NR) through remote-upgradable Software Defined Radio (SDR) capabilities.

Both Mavenir's access and core offerings are enabled by its network functions virtualization (NFV) and container management and orchestration platform called [CloudRange™](#).