MAVENIR™

SOLUTION BRIEF
MAVENIR FIXED WIRELESS ACCESS (FWA)

Overview

The complexity, high costs and time required to extend cable and fiber infrastructure limits broadband competition and creates underserved communities in sparsely populated areas. The affected consumers and businesses lack the high-speed, low-latency internet service they require to work from home, engage in telemedicine, enjoy digital entertainment or service their customers. For Communication Service Providers (CSPs), this represents a missed opportunity for market share and revenue growth.

Fixed Wireless Access (FWA) allows CSPs to address the market demands by leveraging LTE and 5G wireless spectrum to deliver the last mile of broadband connectivity, providing bandwidth and packet latency that enable the use cases demanded by consumers and businesses, at an affordable cost and a shorter time to market.

One network for LTE and 5G Fixed Wireless Access

Mavenir's Fixed Wireless Access (FWA) Solution—powered by Mavenir's Converged Packet Core, Open vRAN and OpenBeam™ Radio portfolios—enables CSPs to deploy both LTE and 5G Fixed Wireless Access from a common converged network.

Converged Packet Core

Based on the CSP's business and technology needs, FWA can be deployed on a 4G EPC, a 5G core, or a converged 4G/5G network. Mavenir's Converged Packet Core provides a flexible solution that allows CSPs to manage a single network and leverage 4G/LTE or 5G access based on their specific capacity or coverage needs.

Mavenir's Converged Packet Core functions are implemented as microservices running in containers, using open APIs to integrate with 3rd party platforms and observability frameworks.

Mavenir's Converged Packet Core enables IoT, enhanced Mobile Broadband, and mission-critical services on the same core. Its high throughput, low footprint user plane function provides unbeatable performance at optimal cost per bit. Automated 5G core deployment allows CSPs to roll-out services faster, increase efficiency and reduce downtime.
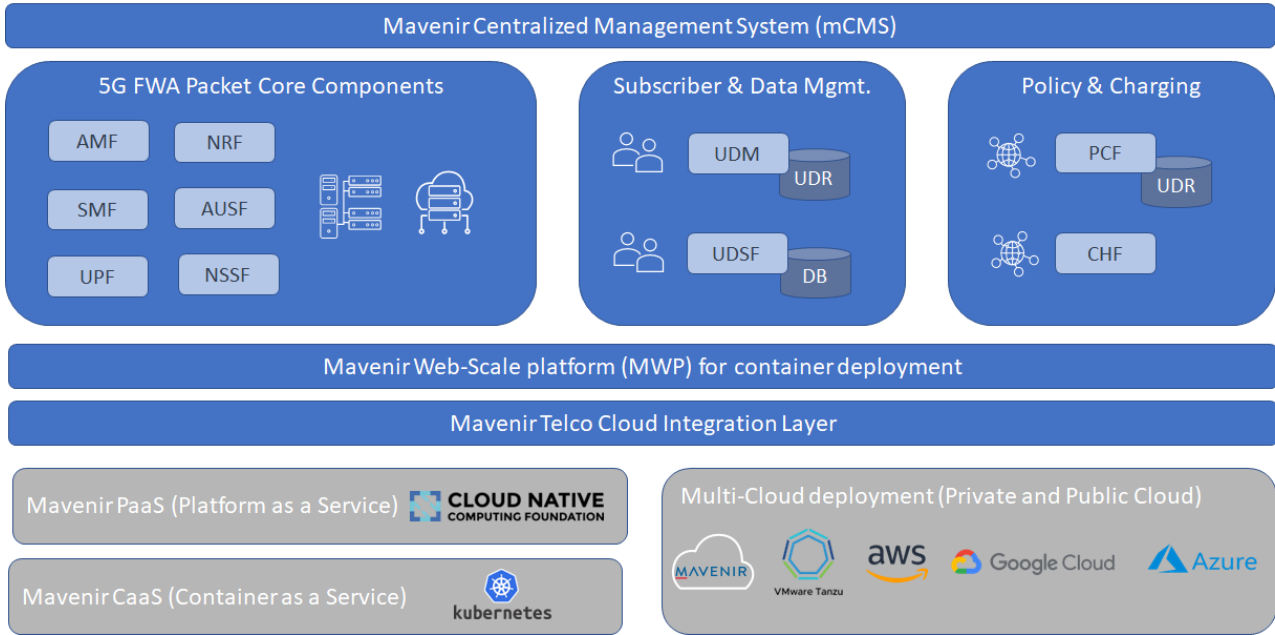
Figure 1 – Mavenir Converged Packet Core — High Level Architecture

Open vRAN

Mavenir's Open vRAN solution enables operators to leverage open interfaces, virtualization, and web-scale containerization to support various deployment scenarios – including private, hybrid, and public cloud.

It is an O-RAN compliant, fully containerized solution, that works on open interfaces supporting O-RAN Split 7.2x and Split 2. It further disaggregates into a Distributed Unit (DU) and Centralized Unit (CU). These entities work as containerized network functions running on Commercial Off the Shelf (COTS) hardware and are designed to support multiple fronthaul splits simultaneously – making the vRAN solution an ideal choice for a vendor-agnostic and future-proof strategy.

To help mobile operators make the best use of network resources, Mavenir developed the Open RAN Intelligent Controller (RIC), uniquely designed with deep knowledge of the Radio Access Network (RAN) domain, artificial intelligence and machine learning (AI/ML), and cloud-native, software-defined networking. The Mavenir RIC adds strategic value and differentiation to the operator network by providing a framework that automates RAN operational workflows, while also optimizing end-to-end network performance.

OpenBeam™ Radio Portfolio

Mavenir's FWA solution supports 4G, 5G NSA (non-standalone) and 5G SA (standalone) deployments, including massive MIMO radio technology and 5G millimeter wave frequency bands, to enable gigabit downlink speeds to multiple users in the same coverage area.

Mavenir's OpenBeam™ robust set of radio options address the needs of the CSPs to be agile and cost-efficient with low power consumption, low wind load, and integrated intelligence and automation. Designed for the growing needs of private enterprises to public networks, the portfolio supports both new and legacy radio access technologies. All Open RAN Compliant Radio Units (O-RU) have a modular design, using proven technology to support both beamforming and multi-band needs.

The portfolio includes different models of Massive MIMO (mMIMO) and Millimeter Wave (mmWave) Active Antenna Units (AAUs), as well as single-band and multi-band, macro and micro Remote Radio Units (RRUs).

FWA FEATURE SET

> High throughput, low footprint User Plane Function (UPF)

> Multi-Cloud environment (Public and Private cloud)

> Application Detection Control (ADC)

> Geo-Restriction

> DS-Lite with AFTR and IPv6 Prefix Delegation

> IPTV Detection and Differentiated Quality of Service (QoS)

> Home-zoning and differentiated charging

    – Dynamic IP Retention

    – API for SUPI to IP Address mapping

Figure 2 – Mavenir OpenBeam™ Radio Portfolio

Mavenir's FWA Solution benefits

> **Fast-track service rollout** — Mavenir's Cloud Automation for Telco allows CSPs to deploy network infrastructure and 5G core applications in a matter of hours, instead of days or weeks. This swift deployment enables CSPs to quickly introduce services to the market and get first-mover advantages.

> **Leverage existing core** — Mavenir's FWA offering can be deployed with dedicated network slices that come packed with specialized Network Functions (SMF, UPF) to boost the performance for FWA users while leveraging the reliability of the existing packet core network to deliver a seamless, high-throughput, low-latency connection. CSPs can maintain a substantial portion of the network capacity for existing core mobile broadband services.

> **Optimize costs** — with the faster deployment, reusable network assets and operational efficiency enabled by 5G cloud-native networks.

> **Diversify products and services offered** — Mavenir's FWA solution is built on a truly cloud-native and microservices-based converged packet core architecture, delivering at highly flexible solution that makes it easier to diversify offerings to end users.

> **Adopt a tailored solution** — Mavenir's FWA solution supports flexible system configurations that adapt to the CSP's specific deployment requirements.

Delivered on converged infrastructure to provide a lean solution with maximum throughput and performance, Mavenir's FWA solution enables CSPs to reduce the service cost per bit of data by utilizing assets from existing network infrastructure and implementing a future-proof network architecture that is scalable and cost-efficient. And it can be deployed on any cloud (public, hybrid and private), accelerating time to market, and reducing CapEx and OpEx.

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

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