Delivering Market-Changing Value to Enterprise and Managed Service Providers

Enterprise LTE

KEY BENEFITS

- New revenue models for MNOs and enterprises
- No inventory, no time to market, no truck rolls
- Single COTS box simplifies fulfilment
- Zero touch provisioning
- Subscriber self-provisioning for service configuration and new services
- Scales to thousands of sites globally

LTE is rapidly becoming the wireless network of choice for enterprise customers. Traditional, hardware-based enterprise wireless networks can't provide the seamless voice services users expect, or handle the growing demand for data, led by video and machine to machine communications (M2M). An LTE solution can reduce TCO 68% over a 5-year period compared to a Distributed Antenna Solution (DAS).[i] According to Forrester Research, one-third of enterprises plan to migrate their wireless networks to LTE because it delivers better coverage than other technologies, and is far more reliable, secure and scalable.

Mavenir's Enterprise LTE Solution empowers mobile network operators with a revenue-generating solution offering for businesses looking to replace outdated and expensive hardware-based wireless networks. Since Mavenir's solution is virtual, enterprises can save 47% per site (compared to traditional hardware-based wireless networks) with an ROI of 156% and a payback period of 3.1 years.[ii]

Mavenir Enterprise LTE: A New Revenue Opportunity for Operators and Enterprises

Mavenir is the first in the industry to scale Cloud RAN virtual machine technology for the enterprise marketplace, providing mobile operators the opportunity to offer enterprise customers a secure wireless LTE network, all running from an off the shelf (COTS) on-premises compute device. For the enterprise, it's a turnkey solution: zero touch provisioning, no inventory and no time to revenue. The mobile network operator generates recurring revenue from managing the solution and renting spectrum to the enterprise (Figure 1). The network is very simple to deploy and maintain, and is designed for fast updates and upgrades. The enterprise can generate revenue from roaming fees negotiated with the operator, as well as wireless services offerings for building tenants. It's a win-win for both the operator and the enterprise.

Solution Description: Wireless Enterprise

Mavenir Enterprise LTE is a single-box (COTS) network solution that is easily deployed, maintained, and upgraded. The compute device contains a complete LTE Radio Access Network (RAN) and an Evolved Packet Core (EPC) and is connected to a TDD or FDD low-cost Remote Radio Unit (RRU) as required. Self-Organizing Network (SON) features can be integrated with the outside macro network if required.

Deployment is a fast and simple process for both the operator and the enterprise. The box is drop shipped from the operator to the customer, fully configured, with the software and required Virtual Network Functions (VNFs). No truck rolls are required, the operator holds no inventory, and additional subscribers can be self-provisioned by the enterprise. Radios can be deployed by the operator or the enterprise IT team. The solution supports Mavenir and approved third-party radios. Radios can be placed in a similar coverage pattern to traditional Wi-Fi access points. As for spectrum, the enterprise can lease wireless frequencies from the operator, or register for Citizens Broadband Radio Service (CBRS) licenses from the government.

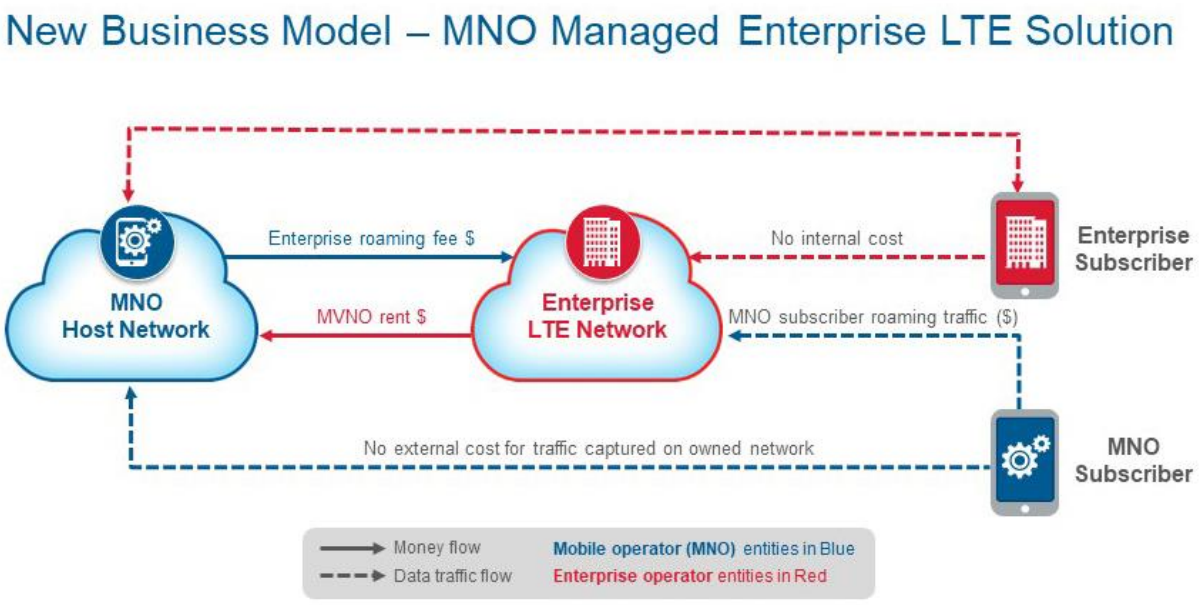

Figure 1 – MNO Managed Enterprise LTE Solution

Virtualized Baseband Unit (vBBU)

Coupled with the RRU for Radio Access, the solution is exclusively based on network virtualization (NFV/SDN) for centralized baseband processing in the cloud (vBBU). Network-wide centralization, coordination and scalability are just some of the benefits. The vBBU is fully integrated with Mavenir's vEPC and CloudRange™ NFV Management and Organization (MANO) framework, operating on standard open-hardware platforms (COTS). It empowers CSPs with highly efficient orchestration and control of VNF assets, and helps deliver cost savings by including NFV infrastructure elements for traffic aggregation, load balancing and end-to-end service assurance

with analytics, monitoring and orchestration.

The vBBU also incorporates Self-Organizing Network (SON) capabilities for improved RAN performance, capacity, adaptive interference management, and efficient network load management functions. The vBBU supports live migration and dynamic management of RAN infrastructure, alleviating the challenges of a live network.

Mavenir Fronthaul Split Technology: Innovation at the Edge

Mavenir's flexible fronthaul (FH) split is designed to overcome the inherent limitations of CPRI in terms of latency adaptation/tolerance, overhead compression, optimization and proprietary IPR – while addressing the technical challenges of non-ideal FH. The FH solution is ethernet-based and supports transport over wireless or wired elements-- actively handling delays up to 16ms round-trip time (RTT).

The FH supports multiple split options at the MAC/PHY interface as well as at the upper PHY. The nFAPI interface is supported to allow connection from other RRU vendors to the Mavenir vBBU. Configurable asymmetric splits on the FH enable unique adaption to U/DL traffic. These capabilities provide flexibility and reduce FH requirements tenfold in comparison with CPRI. QoS-sensitive splits are supported through the separation of control and data planes, with the ability to support Multi-Access Edge Computing (MEC) for applications that require low-latency, local HARQ decisions.

Summary

Mobile network operators are searching for new revenue opportunities during a time when network demands are increasing and ARPU is decreasing. Mavenir's Enterprise LTE solution offers operators a unique, recurring revenue opportunity with minimal costs, zero time to revenue, and no truck rolls. Mobile Network Operators can offer enterprise customers the best-in-class, on-premises LTE wireless solution that will meet the growing demands of the enterprise today and in the future.

[i] CBRS White Paper, Mobile Experts, March 2017 (Note: Savings based on DAS supporting all four operators)
[ii] vCPE Services Business Case, Analysys Mason, October 2015