Parallel WIRELESS

CASE STUDY

PARALLEL WIRELESS OPEN RAN HELPS VODAFONE TO MODERNIZE LEGACY NETWORKS

INTRODUCTION

The telecoms industry is capital intensive, so every dollar and every cent spent on new infrastructure needs to be accounted for. The biggest expense for mobile operators has always been the RAN, accounting for around 60 % of CAPEX (and 65 % of OPEX). Older technologies are becoming more expensive to maintain.

The Open Compute model of the data center has the potential to help operators to move away from proprietary hardware to a virtualized network architecture. Some of TIP's (Telecom Infrastructure Project) initiatives by Facebook highest-profile activities are aimed specifically at the RAN, where the proprietary nature of several interfaces has stopped operators from using more than one vendor. Greater openness enabled with Parallel Wireless OpenRAN helps service providers to "virtualize" their RAN infrastructure. In a virtual RAN, an operator runs baseband processing functions as software programs on commodity servers, rather than dedicated equipment. This allows to aggregate hardware for greater efficiency and cost savings.

THE CHALLENGE

The high operational cost of legacy 2G and 3G deployments have become very capital intensive for low ARPU markets as newer technologies are being deployed that create operational complexity and result in the high cost of managing multiple Gs.

THE SOLUTION: PARALLEL WIRELESS 2G/3G/4G/5G

The software-based approach for older Gs is unheard of where by virtue of the original design, it's impossible to reconfigure legacy 2G and 3G networks to support newer communications standards such as 4G and 5G. Parallel Wireless technology is designed for open interoperability through the GPP-based baseband processing platform, radio hardware, software and simplified business model to support ALL current, present, and future Gs for a better service to the end users.

By disaggregating hardware and software, Parallel Wireless software platform helped Vodafone Turkey to unify all Gs, and modernize legacy network to support subscribers on all G technologies enabled by these solution components:

- The Parallel Wireless All G Open RAN solution allowed Vodafone to replace legacy 2G systems with fully virtualized 2G technology and to run simultaneously 2G and 4G on the same base station to provide superior data and voice services to Vodafone customers.

- The Parallel Wireless aggregator is an ALL G software platform that virtualizes ALL G RAN and core functions (i.e. vBSC for 2G, vRNC for 3G, small cell and core gateways for 4G) to lower the cost of RAN through simplification and automation of ALL G networks. The software enables a unified architecture through abstraction of traditional RAN and core network functions on a COTS server. The aggregator enables an OpenRAN architecture by using standard-based and open interfaces between network components and as a result, simplifies network management and integration of new RAN products into the core of the network. It also provides seamless mobility and low latency for the best subscriber experience for Vodafone customers today on 2G, 3G, 4G, and 5G.

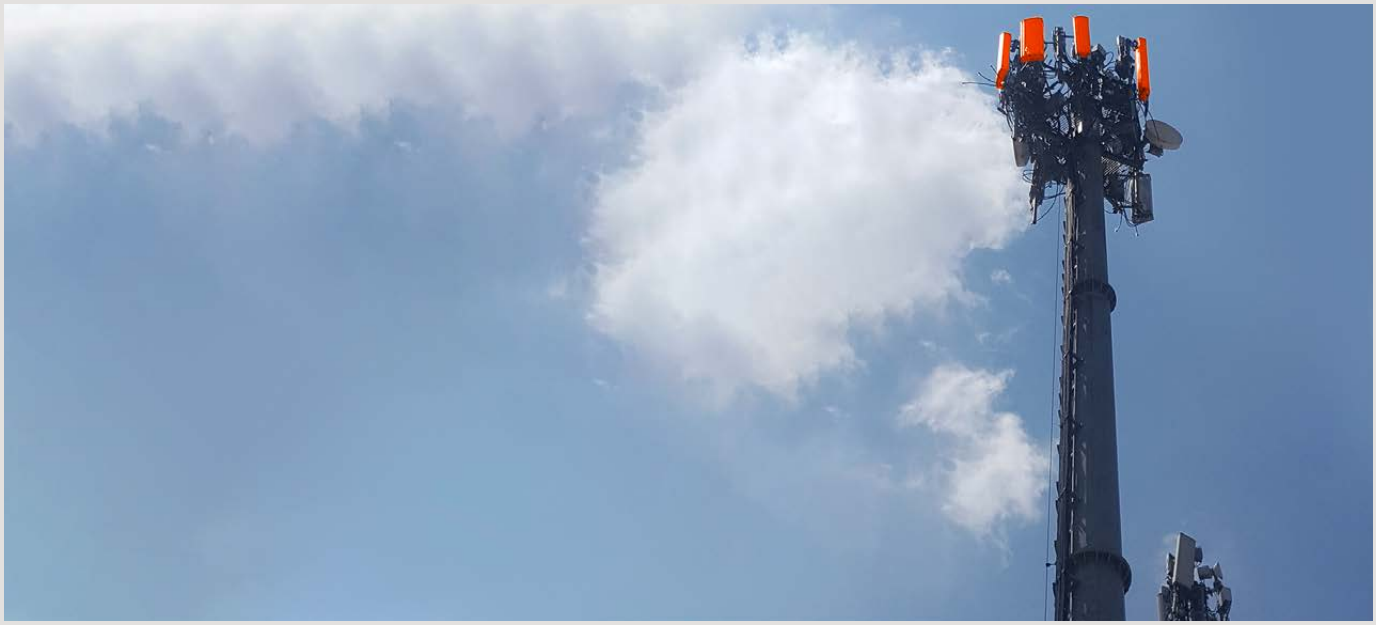
BENEFITS TO VODAFONE

The world's first virtualized unified 2G 3G 4G 5G OpenRAN helped Vodafone simplify deployments resulting in much lower CAPEX and OPEX through:

- Installation simplification and increasing flexibility and sustainability
- Open interoperability on the GPP-based baseband processing platform, radio hardware, and software
- Simplified business model for a comparable service to Vodafone's customers as was provided through traditional systems

The resulting cost benefits of opening up the RAN are impressive. It offers a negotiating position – a viable "other" to the current vendor pricing model. And it is reducing dedicated hardware cost. Open source designs for the radio software minimizes costs even further.

However, the technical consequences are also sizeable. Radio network processing is intensive, real time, and complex. It has relied on the optimized software and hardware capabilities – working in tandem – of specialist vendors. But to save the cost and to reduce operational complexity, RAN needs to be open, standardized and automated.



SUMMARY

Traditional 2G voice-only and broadband 3G or 4G networks require several high-cost and often bulky equipment to deploy and operate. These types of equipment need large spaces to store, have a short life cycle and consume energy. Besides, hardware-based networks are difficult to upgrade. By shifting networks to virtualized OpenRAN architectures like Parallel Wireless technology, telecom operators can overcome all these problems, modernize their networks and deliver coverage to every single subscriber at much lower cost. The connectivity leads to a more socially inclusive and economically more vibrant and a dynamic society.

CS-031822