



OPEN VIRTUAL RADIO ACCESS NETWORKS – MARCH 2023

The skeptics and open RAN/vRAN detractors are wrong, open RAN/vRAN is slowly but certainly attacking the RAN world as we know it



Table of Contents

ABSTRACT4

KEY TAKEAWAYS5

THE OPEN RAN/vRAN MARKET GREW 50% YOY BUT CAME SHORT OF HITTING OUR FORECAST6

 ALTHOUGH WE RIGHTLY PREDICTED WHO WOULD LEAD THE ROLLOUTS, DELAYS NEGATIVELY AFFECTED OUR FORECAST 6

 JAPAN SHOWS THE WORLD WHAT AN OPEN RAN/vRAN ISLAND LOOKS LIKE 8

Japan has propelled Fujitsu and NEC to the open RAN/vRAN leadership board..... 9

 THANKS JAPAN AND DISH, OTHERS HAVE YET TO TAKE THE PLUNGE!11

After turning into a fiasco in June 2022, The “Rip and Replace” initiative has stalled.....11

Front runners Telefónica and Vodafone scaled down, after all.....12

Although everyone is committed to open vRAN, there is no shortage of excuses for scaling down and postponing D-day.....13

SNAFUS PUT ASIDE, OPEN VRAN IS SET TO RULE THE WORLD AND RUIN THE TRADITIONAL RAN ESTABLISHMENT, UNLESS THEY TRULY EMBRACE IT 15

 NTT DOCOMO DID IT, NOW THE WORLD IS WATCHING15

 THE THORNY HUAWEI REMOVAL ISSUE THAT LED TO UNPRECEDENTED MULTINATIONAL COOPERATION IS THE POSITIVE FORCE15

For most of the world, the mission to ban the Chinese vendors is accomplished.....15

...And international cooperation is at its best.....16

This also drove the creation of a flurry of regional and national initiatives.....17

All this led to a rapid expansion of a crowded open RAN ecosystem.....19

...that also reshuffled the chipset landscape that has been all about Intel and its partners DELL, HPE and Supermicro.....20

But Intel is not resting on its laurels21

 BUT THE FAST 5G COMMERCIAL NETWORKS ROLLOUT CYCLE IS THE NEGATIVE FORCE22

However, the good news is that open RAN/vRAN is becoming mature enough to take part in the 2nd 5G rollout cycle23

This year’s pause evokes George Stigler’s survivorship principle.....23

We expect the open RAN/vRAN market to experience the Stigler principle.....24

Consequently, consolidation and restructuring are on the agenda24

 CONSEQUENTLY, THE OPEN vRAN MARKET IS SET FOR A SHORT-TERM PAUSE BEFORE TAKING OFF IN 2025, “ITS GLOBAL SWITCH YEAR”25

The open vRAN penetration of the global traditional RAN sales is expected to hit 23.4% in 2028, up from 4.7% in 202327

At a regional level, North America is poised to hit the 20% penetration bar in 2025 and reach 50% by 202828

We believe nearly all commercial open RAN networks will be running RAN functions on software.....29

vRAN and open RAN are 2 different configurations.....30

DISH and Rakuten Mobile bring cloud RAN to prime time31

As NTT docomo showed the world, an open RAN does not need to be virtual32

OPEN VRAN IS A STRONG CANDIDATE FOR INDOOR USE CASES IN GENERAL AND AS A DAS REPLACEMENT IN PARTICULAR..... 34

CURRENT C-RAN-BASED DAS ARCHITECTURES OFFER PLENTY OF OPPORTUNITIES FOR OPEN vRAN UPGRADES.....34

In 2026, the indoor open vRAN/open DAS market will surpass indoor DAS.....35

The neutral host capability has been protecting the DAS market so far but open vRAN can kill it all together35

Private wireless networks remain an open vRAN niche for now but 90% of large enterprise installations are traditional RAN.....36

However, as DAS replacement shifts to smaller venues, open vRAN will eventually penetrate the SME space at some point.....36

Indoor 5G coverage is the vRAN driving force.....37

The shift from DAS to C-RAN to open vRAN architecture is shaking the traditional DAS vendor ecosystem .37

Interestingly enough, Airspan, Comba, and CommScope have become leading open RAN RU and antenna suppliers39

In this DAS bucket, JMA Wireless is unique39

Abstract

This report takes a deep dive into the virtualization and disaggregation of radio access networks and analyzes the various schools of thoughts ranging from basic virtualization of RAN functions (vRAN) to new open architectures such as open RAN, following the TIP initiative and the O-RAN Alliance specifications, designed to cut the dependency on proprietary RAN equipment supplied by the traditional vendors. The vRAN segment is taken from our existing RAN size and forecasts and broken down by 2G/3G/4G versus 5G, as well as by vCU/vDU and RU for each region, and also looks at the potential for indoor DAS replacement. The report covers a wide emerging ecosystem of vendors.