MAVENIR

LIGHTCOUNTING

MAVENIR:
A TRUE END-TO-END COMMUNICATIONS SOFTWARE SUPPLIER

WHITE PAPER

2020

INTRODUCTION

The rock steady beat of Mavenir: one (radio) step beyond…

Sounds like the ska band Madness singer Suggs introducing Mavenir's acquisition of IP.access! But this is not madness, this is finesse. With the tactical and rightly timed acquisition of ip.access on September 28, 2020, Mavenir plugged the small cell radio hole in its growing end-to-end software products and services portfolio.

KEY TOPICS IN THIS WHITE PAPER

This white paper article focuses on the following:

- Mavenir as end-to-end communications software supplier
- IP Access pioneered IP-based indoor GSM picocells
- IP Access brings world-class Telco grade indoor small cells
- Indoor Open RAN small cell opportunity
- 2G and 3G still matter

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Mavenir Is Now A True End-To-End Communications Software Supplier

Radio was the only missing piece of the end-to-end portfolio puzzle and for that, Mavenir was working with a least 10 radio unit vendors and will continue to do so because ip.access is a small cell specialist who actually pioneered low power nodes for IP-based mobile networks when GSM started. Moreover, since announcing its open and virtual RAN strategy in the fall of 2018, Mavenir has been vocal about the urgent need to have cheaper radio units, particularly for macro networks, to accelerate the open RAN and vRAN market takeoff. This mounting need is even more pronounced in the indoor enterprise market segment and in the mobile operators' demand to support 2G and 3G services that are not going away anytime soon.

ip.Access Pioneered IP-Based Indoor GSM Picocells

Founded in 1999 and headquartered in Cambourne Business Park, Cambridge, UK, ip.access Limited started as a wholly owned subsidiary of TTP Group PLC with the mission of developing technologies that enable IP communications between radios. It took 3 years for the company to achieve that goal: introduced in 2002, nanoGSM became the first IP basestation controller (BSC) designed for indoor GSM networks. Based on 2G GSM picocell principles, this full IP-based BSC came with a central operation and maintenance management system that delivered voice, messaging and data to both 2G and 3G handsets within an indoor range of up to 200m.

ip.Access Brings World-Class Telco Grade Indoor Small Cells

The nanoGSM and nano3G products paved the way for the femtocell era. In 2007 at the 3GSM Mobile World Congress in Barcelona, ip.access launched Oyster 3G Technology, a W-CDMA femtocell core platform that could easily be integrated into home gateways, set-top boxes and other devices. AT&T adopted Oyster 3G technology as the foundation of its 3G MicroCell product offering and Cisco developed a TR-069 compliant femtocell product with ip.access. The same year, the company was a founding member of the Femtocell Forum that became the current Small Cell Forum in 2012 to better reflect the demand for LTE network densification. It's worth mentioning that Cisco and Qualcomm made a strategic investment in the company in 2008 and since then ip.access has managed to stay independent as a small cell niche player despite the heavy consolidation that occurred over the last decade.

As Fresh Spectrum For Private Wireless Networks Is Released, The Indoor Open Ran Small Cell Opportunity Is Swelling

As said at the beginning of this piece, Mavenir has acquired ip.access at the right time because the explosion of private wireless and campus networks opportunity for 5G picocell deployments is just starting; here are 2 recent examples:

- The U.S.: finalized in September, the CBRS auctions led to the emergence of significant new spectrum holders, including DISH which in April 2020 selected Mavenir's open RAN software, Charter, and several state utility companies (Southern California Edison, Alabama Power) and oil and gas company Chevron, and John Deere
- Europe: in September, German regulator Bundesnetzagentur allocated local 5G spectrum licenses in the 3.7-3.8GHz band to 74 applicants for private wireless networks and campuses, with many more expected to follow. In the Netherlands, many private network spectrum licenses were allocated as well including to the Port of Rotterdam, Isala Klinieken Hospital and Edzcom through Dutch carrier V&M Telecom

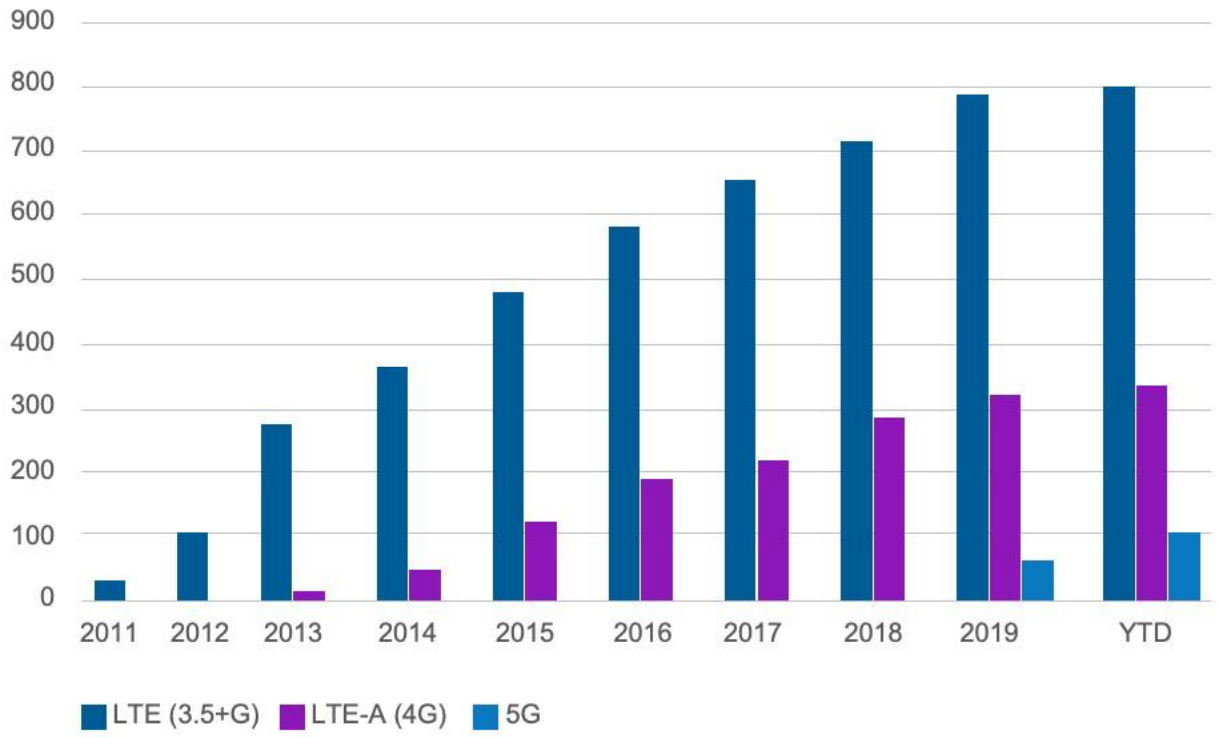
There is little doubt that the above examples represent just the tip of the iceberg, there will be more to come soon…

And Finally, 2g And 3g Still Matter

As 3G is a total failure that almost crippled with huge debt most European mobile operators, many of them are sunsetting their networks and refarming the spectrum for 4G and 5G. However, in many rural areas of the U.S. and other regions of the world (e.g., Africa, Asia, and Latin America), 3G services need to be maintained along with plain LTE, which according to the ITU IMT-2000 set of definitions, is technically the highest iteration of 3G (e.g., 3.9G) and not 4G that resides in the LTE-Advanced domain.

Figure 1 illustrates the situation, the migration to true 4G (LTE-Advanced) still has a long way to go: 4G networks only account for 42% of all commercial networks that are now LTE. A large majority of these LTE networks support 3G services as a fallback and may not even be upgraded to 4G after all, even when 5G is added to the mix.

Figure 1: 3.5+G, 4G, and 5G commercial networks in the world



Source: LightCounting with data from the Global mobile Suppliers Association (GSA)

2G is a different story though, by the end of the first decade of this century, GSM became a global success and led to the rise of connected machines and things that will stay around for a long time to come simply because it's impractical to replace their embedded GSM modem.

Consequently, while many vendors prefer to focus on 5G, Mavenir made the right decision of adding ip.access to its radio portfolio.

Bottom Line: The Right Acquisition At The Right Time

This acquisition opens new doors and propels Mavenir into new arenas crowded with their own established players. Take indoor DAS for example, Cobham, Comba Telecom, CommScope, Corning, JMA Wireless, SOLiD Technologies and Zinwave have all added small cells to beef up their DAS offerings as the traditional and declining mature DAS market for large venues continues to shift to enterprises and campuses. As we pointed out in our June 2020 Virtual and Open Radio Access Networks: How vRAN and open RAN are reshaping the RAN establishment, JMA Wireless stands out because they were the first DAS vendor to launch a 100% software-based RAN product in 2018, since then the rest have been busy catching up. By bringing ip.access small cells to its flagship open vRAN portfolio, Mavenir is certainly well equipped to be a formidable contender in the DAS arena. Interestingly enough, a few DAS players are adding 5G millimeter wave radios to their product quiver at a time when Mavenir is adding 2G and 3G.

Now it's time for the whole RAN ecosystem (e.g., traditional, open, virtual) to wake up and move its feet to the rock steady beat of Mavenir, always one (radio) step beyond…

Credit: **Stéphane Téral,** *Chief Analyst,* Light Counting

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

