



TÉRAL RESEARCH
— WIRELESS INDUSTRY ANALYSIS —



5G SA CORE, SDM, AND POLICY – JUNE 2023

FINALLY, THE SLOW MIGRATION TO STANDALONE MODE IS PICKING UP SOME STEAM; THERE IS NO RUSH THOUGH!



Table of Contents

ABSTRACT	4
KEY TAKEAWAYS	5
ALTHOUGH THE SLOW MIGRATION TO 5G SA IS PICKING UP SOME STEAM; THERE IS NO RACE, NO RUSH.....	6
AS OF JUNE 2023, THE WORLD HOSTS 40 COMMERCIAL 5G SA NETWORKS	6
THERE IS NO 5G SA RACE, NO RUSH TO MIGRATE TO 5G SA.....	7
FOR CHINA, IT WAS A RACE, IT WANTED TO BE FIRST AND DID IT DURING THE PANDEMIC	7
HOWEVER, THE 5GC SBA ROLLOUT PLAYBOOK IS UNIVERSAL.....	7
<i>In 5G core, NRF, NEF, and NSSF are keeping CSPs busy.....</i>	8
<i>In 5G Data Management, the 3 distinct approaches to implement UDM we found 3 years ago still hold.....</i>	9
<i>And interworking between 4G and 5G remains the most challenging part of UDM rollout.....</i>	9
<i>But overall, CSPs tend to stick with their traditional mobile packet core vendors.....</i>	10
ONCE AGAIN, CHINA SUSTAINED THE PREDOMINANCE OF HUAWEI AND ZTE	10
<i>Huawei continues to rule the 5GC SA world, at least for now, and launched its 5.5G cloud-native converged core at MWC23.....</i>	11
<i>ZTE comes in second for 5G Core sales market share.....</i>	12
<i>Meanwhile, Ericsson has the highest number of 5G Core contracts worldwide.....</i>	13
<i>With its core platform, Nokia comes second in 5G Core SBA contracts</i>	14
LITTLE HAS CHANGED, LACK OF BUSINESS CASES AND NETWORK ARCHITECTURE ISSUES CONTINUE TO INHIBIT 5GC SA ROLLOUTS	15
<i>Stuck in MBB land, the monetization of 5G use cases is a chief business challenge</i>	15
<i>Like with LTE 10 years ago, a gain in spectral efficiencies remains the 5G killer app so far.....</i>	16
<i>The lack of clear 5G business cases leads CSPs to sweat their 4G core assets.....</i>	16
<i>...and delay the move to a cloud native-based architecture.....</i>	16
<i>Crippled with legacy network elements, many CSPs are reluctant to enter the new 5G SA world.....</i>	17
<i>Meanwhile, there is light at the end of the tunnel: the unabated rise of 5G private mobile networks.....</i>	17
<i>... and a 5G signaling surge that may “signal” a swift shift toward 5G SA.....</i>	17
BEARING IN MIND ALL THE FOREGOING, EVEN AFTER CUTTING OUR FORECAST, THE 5GC SBA MARKET WILL GROW AT SOLID DOUBLE DIGITS THROUGH 2028.....	19
2H23 IS LOOKING UP, DONE WITH THE RAN, LET’S MOVE TO 5G CORE!.....	19
FIXED WIRELESS ACCESS (FWA) IS CURRENTLY SEEN AS THE CHIEF DRIVER FOR 5GC SA DEPLOYMENTS	20
<i>All this means we’re far from attacking the long tail of 5G use cases.....</i>	20
<i>We are in operating region 1 (R1) and stuck in it for some time!.....</i>	21
<i>Consequently, the ongoing slow migration to 5G SA prompted us to cut our initial forecast.....</i>	22
5G SA CORE WILL CONTINUE TO MAKE THE BULK OF SALES THROUGH 2028	23
ASIA PACIFIC WILL BE THE LARGEST MARKET THROUGHOUT THE FORECAST PERIOD	24
THE MULTI-DOMAIN NATURE OF 5G CORE SBA BRINGS A BROAD RANGE OF VENDORS.....	25
THIS CROWD IS MAKING THE CURRENT 5GC SBA ECOSYSTEM STRUCTURALLY CHALLENGED	25
<i>The main trend is continuation with existing vendors.....</i>	25

TRADITIONAL TELECOM NETWORK EQUIPMENT VENDORS SEE 5GC SA AS BUSINESS AS USUAL.....25

NEC and Rakuten Mobile pioneered a “made in Japan” 5GC, which then was selected by DOCOMO.....26

In a similar fashion, Samsung launched a “made in Korea” 5GC back in 201727

...SO DO MOBILE CORE NETWORK SPECIALISTS28

Cisco’s strategy for 5G core is a pure software play with an eye on private 5G wireless networks.....28

Microsoft Azure for Operators’ 5G offering is built on 3 pillars: AT&T, Metaswitch and Affirmed Networks 29

Mavenir brings more than 15 years of core networks expertise and is challenging the traditional equipment vendors.....31

THE LIST OF SDM SPECIALISTS IS SHORT BUT SOLID32

Enea is a 56-year-old Swedish company that has data storage and operating systems in its DNA.....33

HPE launched its 5G core stack in 202034

Oracle beefed up its 5GC offering with automation and analytics tools.....35

BY CONTRAST, THE LIST OF PCRF VENDORS IS VERY LONG37

Amdocs has been leading the BSS market for more than a decade37

Abstract

As 5G goes far beyond mobile and will eventually become the network that bridges all networks together, a new sophisticated service-based architecture (SBA) is being designed by the 3GPP. Although many of the network functions featured in the 5G SBA come from existing ones currently active in 2G/3G and 4G networks, novel ones such as the network slice selection function (NSSF) are being introduced. Based on a service provider survey and discussions with many vendors, this report analyzes several of the 5G Core SBA functions and provides global and regional market sizes and forecasts by focusing on the most imminent network functions (NFs) to be implemented by service providers (UDM, UDR, AUSF, and PCF, BSF, CHF).