LIGHTCOUNTING

THE SON KEEPS SHINING, THE RIC STALLS, AND THE SMO WAITS – OCTOBER 2022

The evolution of mobile network automation from 3GPP self-organizing networks (SON) to radio access network intelligent controller (RIC) and service management and orchestration (SMO)

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IT'S AMAZING, THE SON KEEPS SHINING! **6**

DEFINED BY THE NGMN IN 2008 AND STANDARDIZED BY THE 3GPP IN REL.8, SON HAS BEEN AROUND FOR OVER A DECADE AND TOOK OFF WHEN LTE ROLLOUTS STARTED IN 2010 6

Already in 2010, zero touch network closed-loop automation was the C-SON grand vision *7*

IN 2021, GLOBAL SON SOFTWARE AND SERVICES REVENUE GREW 2% YOY 7

This year, we forecast the global SON market to keep growing at low single digits *7*

C-SON sales have never grown proportionally to the number of mobile networks *8*

With or without C-SON, LTE networks are running fine, so are 5G NSA ones *9*

If every single LTE network was equipped with a C-SON, we believe global C-SON software and services would be more than $8B at this point *9*

This 2024-2025 plateau coincides with the open vRAN uptake *10*

C-SON has always been a tough sell *10*

As a result, the C-SON ecosystem has shrunk to 10 active players *11*

Most players are no longer investing in SON use cases, they focus on RIC *12*

Our estimates indicate Nokia leads C-SON sales market shares *16*

WITH THE EMERGENCE OF OPEN RAN, SON USE CASES ARE MORPHING INTO APPS 17

Since 2017, AT&T has been driving the ONAP and open RAN efforts *17*

Fueled by geopolitics, open RAN accelerated the development of the RIC and the SMO *18*

Leveraging the TIP and the O-RAN Alliance, the ONF SDN'ized the RAN *18*

Deutsche Telekom rushed to trial SD-RAN *19*

But in April 2022, Intel acquired the ONF development team and Ananki *19*

Last year, we rightly developed a RIC and SMO model based on the O-RAN Alliance framework *20*

In the meantime, open RAN networks run fine with C-SON, which is here to stay longer than many think *22*

Only Dish and Rakuten Mobile operate 5G open RAN sites, the rest are 4G LTE! *22*

THE RIC STALLS AND THE SMO WAITS **24**

BAKED IN 5G OPEN RAN, RIC IS COMPLEX AND NOT READY FOR PRIME TIME 24

Consequently, we shifted our RIC forecast 1 year out *25*

After the pause, the RIC takes off for good *25*

The Near-Real Time RIC market is unleashing D-SON use cases that until now were proprietary and controlled by the RAN vendors *25*

CSPs have plenty of questions about the near-real time RIC *27*

In 2027, we expect 68% of C-SON sales and services to be in the form of a non-RT RIC rApps *28*

CSPS ARE NOT TYING SMO TO OPEN RAN, THEY NEED IT FOR ALL RADIOS OPERATING IN THEIR NETWORK 28

Consequently, we shifted our SMO forecast by 1 year *29*

Adding the non-open RAN SMO opportunity to our forecast will at least double the size of the market by 2027 ..... *29*

After the wait, the SMO market is poised for a rapid ramp up, and will be the largest opportunity *30*

MEANWHILE, A HUGE RIC/SMO ECOSYSTEM IS BUILDING UP 30

Traditional RAN vendors have become actively engaged in RIC developments… *35*
…so are cloud providers *37*

Abstract

Defined by the Third Generation Partnership Project (3GPP) at the beginning of this century, SON (self-organizing network) algorithms configure and optimize mobile networks automatically without human interaction. As networks handle vast amounts of traffic and become more and more sophisticated and complex through the addition of several generations, SON algorithms are blended with machine learning (ML) and artificial intelligence algorithms. This report tracks the centralized SON (C-SON) software and services revenue market, provides size, forecast and vendor market shares, and analyzes the evolution of C-SON modules and use cases becoming apps in the RAN Intelligent Controller (RIC) needed in open RAN, open virtual RAN, and software defined RAN (SD-RAN) architectures. This report also tracks the O-RAN defined service management and orchestration (SMO) market and provides a breakdown between non-Real Time RIC rApps and near-Real Time RIC xApps.