

# Carrier Network Disaggregation Reaches an Inflection Point

Given the benefits of reduced costs and increased flexibility, it's no wonder more service providers are considering or are in the midst of investing in network disaggregation.

By Richard Brandon / RtBrick

**A**lthough the past two years have been rife with ongoing pandemic-related difficulties, they also have been a time of positive transformation. For instance, many people have adjusted to permanent hybrid working, and an astonishing number have found exciting new roles as part of the so-called Great Resignation. Meanwhile, telcos have been making some fresh starts of their own – switching from traditional carrier models to open, disaggregated networks.

Let's take a closer look at recent developments in network disaggregation and examine why this technology is poised to revolutionize the ways telecom providers build their networks.

## NEW PLAYERS EXPLORE DISAGGREGATION

Recently, Vodafone revealed that it had successfully tested a new, open, broadband network gateway (BNG) architecture to deliver faster fixed-broadband services to new and existing customers across Europe.

This news builds on earlier developments, such as a joint positioning paper published by BT, Deutsche Telekom, Telefónica, and Vodafone in 2020. The white paper outlined the need to leverage “disaggregation, softwarization and automation to design, build and deploy next-generation broadband networks more effectively and efficiently.” Along with RtBrick, all four telco giants are part of the fast-growing Telecom Infra Project (TIP) Open BNG Initiative. TIP is a global community of organizations collaborating to accelerate the development and deployment of disaggregated networks.

One of those operators, Deutsche Telekom, is even further down the road to disaggregation, having deployed a software-based BNG in its live production network.

With a surge in interest from so many of the world's largest telco providers, it's safe to say that network disaggregation seems to have reached an inflection point.

## SO, WHAT IS NETWORK DISAGGREGATION?

For years, monolithic infrastructure, with routing systems that use custom silicon and proprietary software, has dominated the telco sector. These systems are slow to scale and expensive and can even carry security risks – consider many countries' recent decisions to replace hardware from Chinese vendors that were deemed national security threats.

Despite this, many telcos had to accept the status quo, with little innovation on offer from their existing suppliers.

Enter network disaggregation. In simple terms, disaggregation allows telcos to independently select the best combination of off-the-shelf hardware and independent software to build their networks. Disaggregation was enabled by the advent of the so-called “merchant silicon.” High-volume, low-cost networking chips made by silicon vendors now have the same capabilities as the customized systems of traditional vendors. The merchant silicon chips are used in disaggregated networks to build a new category of robust, low-cost, “bare-metal” switches. They are often made on the same outsourced assembly lines as traditional router systems – but at a fraction of the cost.

## WHY SHOULD I CARE?

In just one word? Money. Disaggregation removes supplier monopolies by allowing providers to “mix and match” hardware and software, so they can be sourced from many different vendors at much lower costs. Disaggregation can also save telcos money in the medium and long term. Because hardware and software aren't packaged together, it's relatively simple to replace software without overhauling hardware and vice versa – previously a costly, time-consuming process.

Another benefit of disaggregated networks is that they are much easier to scale, enabling telcos to be more agile and respond quickly to consumer demand. When they need to grow, providers can add low-cost white boxes to their networks and turn on new software licenses. On the other hand, for operators using traditional infrastructure, scaling capacity can take weeks or months. What's more, it usually carries a significant price tag.

So, will 2022 be the year of open routing? We certainly think so. Given the benefits of reduced costs and limitless scalability, an investment in network disaggregation could be the gift that keeps on giving for telcos. ❖

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