

**STATEMENT OF  
COMMISSIONER BRENDAN CARR**

Re: *Promoting the Deployment of 5G Open Radio Access Networks*, GN Docket No. 21-63

In the 1990s, Internet pioneer Marc Andreessen and Jim Barksdale, an IBM veteran, coined a now-famous phrase in the corporate world: There are only two ways to succeed in business—bundling and unbundling.

And they were definitively on the unbundling side. They first used this phrase as they were pitching their new venture—Netscape Communications. Their flagship product, Netscape Navigator, was a standalone web browser that sought to disrupt a nascent market dominated by bundled or vertically integrated systems—ones like AOL—that sought to operate as one-stop-shops for all your dial-up needs, from email, to chat, to search: all combined together in a clunky, take it or leave it package.

The trend towards unbundling only accelerated as Internet speeds increased and even more of the world moved online. Take the home computer or PC market. The first Apple PCs bundled the software and hardware together in a way that was prohibitively expensive for many families. Microsoft saw an opportunity to improve the consumer experience through unbundling. They decided to make a standalone business out of one part of Apple—the operating system. They had no interest in the rest of Apple’s PC business. They let others, including IBM and Dell, go after the hardware. By separating the software and hardware parts of the PC business, the companies disrupted the market—driving down prices to a point where more families could afford PCs and powering innovation.

We now see these same forces at play in the wireless industry. Wireless carriers used to control everything from the moment a customer punched a request into a device until that data was handed off to another network. Since then, they have chosen to exit much of the physical infrastructure business, spinning off or “unbundling” their ownership of towers, for instance. Similarly, carriers now have less control over devices or smartphones with Apple playing a key role in disrupting that part of the business.

Unbundling of the radio access network or RAN, which our Notice today addresses, is part of this trend towards disintermediation in wireless. And it’s essentially the wireless version of what Microsoft and Dell did in the PC market. The central idea is to standardize components of the radio access network and allow them to be built by competing firms, instead of a fully-integrated RAN in one company’s control, while providing a platform on which a variety of different software applications can run. Indeed, it’s common today for wireless carriers to use one vendor for all their needs in a particular market because of a lack of operability between competing providers’ network gear. With O-RAN, in contrast, the components of the RAN do not have to be built and integrated by one company. This means that the benefits of unbundling can be realized—less expensive hardware and better performing software. As a policymaker, I think this is attractive for three main reasons: service, jobs, and security.

From a service perspective, carriers will be able to mix and match components and pick the ones that best meet their needs. That means we’re going to see increased competition across what used to be a vertically integrated market. This will lead to increased performance and lower costs. We’re already seeing evidence of this. One rural carrier working with an O-RAN vendor has seen a 40 percent increase in throughput at half the cost. And our efforts over the last few years to make it easier to deploy and swap out wireless infrastructure will help drive this trend across the country.

Another piece of this is jobs. With unbundling, we open up the market to competition from smaller, specialized providers. This plays to an enduring American advantage in software development and security and will spur investment in high-paying jobs here in the U.S.

And last, but certainly not least, security. By lowering the costs of participating in the development of 5G infrastructure, we can ensure that telecom companies can choose from a diverse range of trusted vendors—rather than feeling like they have to use cheap, but insecure gear. So the transition to O-RAN can provide low-cost network options without sacrificing security. And this is particularly important as our rip and replace process moves forward.

At the FCC, we should explore whether we can help accelerate this transition while also acknowledging the role that established, trusted vendors will continue to have in our communications networks. I look forward to reviewing the record in this proceeding.

I'd like to thank the staff of the Wireless Telecommunications Bureau. The item has my support.