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Welcome 2024: Demand and Drivers for 5G and 5G Densification

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There has been much excitement regarding the promise of 5G connectivity. At its inception, 5G was set to improve all aspects of our lives. However, the rollout of the technology has not been at the expected pace. Thankfully, things are changing. According to a recent report which explores the vital role 5G plays in today's digital landscape, 71 percent of decision makers in mobile network operators (MNOs), public, and private sector organizations in the U.K., Ireland, and the U.S., are now more confident in 5G than ever before. In fact, 81 percent of U.S.-based public and private companies say that 5G has a direct impact on the performance of their organizations.

Growing confidence in 5G is a good thing. It does not mean, however, that continuing to roll out 5G is without challenges. The truth is that 96 percent of respondents, according to this same report, have faced increasing hurdles. Effectively deploying 5G infrastructure and dedensifying deployed networks can be complex, time-consuming, costly, and labor-intensive. For respondents, it means justifying CapEx, navigating political and regulatory environments, and putting more fiber in the ground. While confidence in 5G is clear, the road to 5G densification is less so.

So, what is the solution? How can MNOs, public, and private organizations overcome these challenges? For 5G to become a widespread reality, more fiber, more cell sites, and more investments are required. The right deployment model has to support that.

A Neutral Approach

5G success hinges on the implementation of effective network-building strategies. This means making physical and financial investments. These investments will be crucial in unlocking new 5G use cases, whether they be for enterprises aspiring to become factories of the future, or MNOs looking for new ways to engage with their subscribers. But investment requires financial resources. Take MNOs for example: As they face reduced margins and ever-increasing budget pressure, large upfront CapEx costs are an unwelcome expense. The same is true for organizations in both public and private sectors where creative ways are needed to roll out and densify 5G networks with maximum ROI. One such creative way is neutral hosts.

Neutral hosts offer the ability to deploy, operate, and lease connectivity infrastructure. Through this, customers — in both the public and private sectors — have access to reliable, advanced connectivity that enables them to deliver their services and accelerate 5G adoption. All of this is accomplished without the need to build or maintain proprietary infrastructure because said infrastructure investments can be shared on a neutral basis across several customers, lowering costs for all.

In that sense, the neutral host approach works well to address the key challenges faced by those responsible for building infrastructure, particularly MNOs. Economies of scale are also made possible by unifying network security. Neutral hosts can implement centralized security measures to protect shared infrastructure. This ensures consistent and robust security policies which facilitate coordinated response efforts in security incidents. A unified approach will be easier than every MNO trying to manage a crisis in silos.

Cost and enhanced security are not the only benefits of using neutral hosts. Neutral host deployment offers a more environmentally friendly alternative to traditional network rollout. As multiple organizations can share a single infrastructure, it reduces the need for overbuilding. This will become all the more important as organizations continue to focus on their ESG strategies and ways to reduce their carbon footprint.

Network Densification

As consumers use more and more applications on their devices, data consumption will continue to grow. To satisfy this data demand, MNOs will no longer be able to rely on macro sites only. Instead, investments to densify their networks in a way that ensures they can meet the latency, bandwidth, and capacity needs of modern technology users. They will need to deploy small cells to densify the network. Small cells, just like macro sites, require a considerable amount of CapEx. If every MNO built its own small cell network to meet their densification targets, they'd be left with a huge CapEx bill. What's more, they'd also be faced with significant building regulation constraints to overcome, particularly in dense urban environments, where the right permits and licenses are required to deploy small cell sites.

This is where neutral hosts can help. The model makes it easier for MNOs to keep up with the data consumption growth without significant impact on their bottom line. A neutral host partner can alleviate the financial burden of infrastructure build out, help with overcoming regulatory challenges such as permits, and bring benefits such as colocation, whereby small cells from different MNOs can occupy the same site or a nearby site to save cost. These benefits also significantly help to speed up time to market for MNOs looking to roll out new services.

Unlocking Use Cases

If MNOs and public and private organizations are to embrace a neutral host model, we will see an interconnected future come to life underpinned by enhanced connectivity, one that will change the way we live, work, and play. In fact, several 5G use cases will transform a range of industries if 5G rollout continues at pace, underpinned by neutral host deployments.

One example is in venues and stadiums where 5G will enhance the fan experience to enable more immersive experiences. This will make events more engaging than ever before. 5G rollout and densification in and around venues is going to be key to making this a reality, especially as data consumption continues to grow at events and users want to experience concerts, games, and matches in new and exciting ways.

Within manufacturing facilities, 5G creates possibilities across various applications that were previously unavailable or, at the very least, not as extensive. Imagine crane automation on high-speed, low-latency production lines. The possibility of robots doing the same in logistics is also exciting. Integrated inventory systems solve the problem of tracking, sorting, and monitoring packages and shipments. In ports, there is a vast potential for increasing safety and security. It will be possible to monitor port activity based on real-time data.

We'll also start to see more private network use cases in enterprises, schools, or hospitals, using 5G to provide both secure connectivity to unlock new services and the ability to better monitor the network. Whatever the use case, 5G will drastically improve efficiency and productivity across many sectors without impacting the bottom line.

Making the 5G Dream a Reality

Creating truly interconnected communities of the future will require 5G connectivity – indoors and outdoors, and in urban, suburban, and rural settings. But there's no doubt that rolling out 5G networks is, and has been, challenging. It will continue to be a challenge as MNOs and both public and private sector organizations face mounting budget pressures. As we get closer to the 5G dream, reducing costs and increasing efficiency when deploying infrastructure will enable telcos, public, and private organizations to offer more services quickly and securely to their customers.

The neutral host model helps to overcome some of these common challenges associated with infrastructure build-out.

There are only upsides to creating a truly dense network. Not just for today but for the future of technological advancements.