Prepare for the 5G revolution

5G offers greatly increased bandwidth, dramatically faster download speeds and instant response. But 5G is much more because it rewrites the rules on how mobile connectivity is delivered. As a result, it will create the foundation for a truly IoT-enabled world: smart cities, autonomous vehicles, automated appliances and a plethora of similarly ground-breaking concepts.

By Sherry Zameer 7 Sep 2018

A revolution, not an evolution

However, this deep digital transformation also raises profound security questions. Stakeholders must, therefore, put in place new strategies to protect us from the increasingly sophisticated threats posed by cyber-crime. Before exploring this issue, we should understand the roll-out timetable.

Countdown to 5G

An initial standard is in place, creating a stepping stone between 4G and 5G. The publication of the first standard defining a true 5G network has been approved in June 2018. Beyond that, 2019 will see the release of the first 5G-compatible smartphones, along with 5G mobile network deployments. By late 2019 early 2020, operator adoption of the new standard is predicted to be on a steep upward curve.

MOBILE & APPS

5G: A paradigm shift in the role of the Internet of Things

Michelle Janse van Vuuren, Canon SA 29 Aug 2018

Given the importance of mobile technology, especially mobile data, to Africa's economic development, it i clear that mobile operators are investing heavily in the new technology. 17 out of 54 African countries have already rolled out LTE networks, which means they are ready for 5G, but the stumbling block is likely to be the lag between technology's readiness and the ability of regulators across the continent to assign spectru and publish regulations. South Africa is likely to lead the way, with the first live network trials having already been completed by MTN.

Moving to the edge - and what that means

In contrast to earlier generations, 5G is very much an open platform, fusing together various wireless technologies. Traditionally, a mass of data is stored centrally, in servers that are far removed from the end user; 5G employs a highly decentralised, distributed model. Virtualised networks enable distributed, cloud based software to do the job currently performed by hardware.

Overall, it, therefore, allows both data and apps to be hosted far closer to end users - at the very edge of t network rather than buried at its heart.

In practice, this boosts the sheer speed and responsiveness of our everyday connectivity experience alor with dramatic improvements in the flexibility, scalability and efficiency available to service providers.

Making sense of the numbers

The scalability, flexibility and cost-efficiency enabled by 5G enables a truly staggering increase in the connected world. For example, by 2021 there will be 28 billion connected devices worldwide, of which 16 billion will populate the IoT. Indeed, IoT devices are expected to overtake mobile phones as the largest category of connected devices during the course of 2018.

5G's greatest significance lies in its ability to create across which billions of devices, as well as people, ar permanently connected, a world facilitated by countless new life-enhancing services and experiences.

TELECOMS & NETWORKS

What needs to be done to get SA telcos ready for 5G?

Trevor Rajcoomar 12 Jul 2018

It's a genuinely thrilling prospect. But one that also poses some serious questions. To start with, realising t vision will require complex collaboration between a diverse array of stakeholders, including telcos, cloud/infrastructure vendors, network software vendors and industry verticals.

Moreover, there could be a price to pay for the advent of truly ubiquitous connectivity. By distributing data, apps and functionality throughout the network, 5G will also increase the so-called "attack surface" available to cyber-criminals. Every device, connection and application within the IoT represents a potential entry poi for hackers.

We're already seeing plenty of evidence of the risks involved—not least in the Mirai botnet attacks of 2016 which targeted the multitude of IoT devices that still retain their vulnerable default, non-unique security settings.

Get ready for a new security landscape

With breaches such as these making headlines with increasing regularity, it's apparent just how important trust is for any sustainable digital ecosystem. So, whilst enthusiasm for 5G's new network DNA is perfectly understandable, stakeholders must bear in mind that it also creates a radically different security landscape Consequently, they must ensure that robust protection is built in from the outset of every project, not bolte on at a later stage, or even ignored completely.

What's more, a ground-up approach is essential, starting with the processor and maintained at every level beyond that. However, for all those committed to creating a safe, stable and trusted 5G future, the good news is that the tools necessary to achieve it are readily available. As a result, for consumers and service providers alike, there is no reason why 5G cannot ultimately have an impact far more profound than even w can imagine.

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