5G optimisation technologies - an emerging priority for service providers

Service providers need to pull out all the stops to ensure the game-changing impact of 5G is optimised. According to the latest Ericsson Mobility Report, there will be 550 million 5G connections by 2022. There will also be 29 billion connected devices in use – 18 billion associated with the Internet of Things (IoT).

Image by 123RF

“5G represents more than just an evolution of mobile broadband,” said Martin Walshaw, senior engineer, F5 Networks, speaking ahead of this month’s Mobile World Congress (MWC) in Barcelona.

“5G will pave the way for a new era of digital transformation and the next generation of ultra-high broadband infrastructures that will have a genuinely transformative impact on both business and individuals.”

As 5G continues to evolve, F5 is highlighting the need for robust technological preparation, particularly as it relates to Mobile Ultra Broadband (UBB), Massive Machine Type Communication (M-MTC) and Ultra-Reliable Machine Type Communication (U-MTC).

In addition, Mobile Edge Computing (MEC) – which enables the edge of the network to run in an isolated environment from the rest of the network and creates access to local resources and data – is looming, with Research and Markets pegging it as an over $80 billion market opportunity by 20212.

“Services will be both centralised and distributed,” Walshaw explained. “This means technology that can apply functionality independent of underlying protocols will become a strategic must-have. This will give service providers the flexibility to apply services anywhere in the network.”

The shift is likely to drive demand for emerging solutions such as Intelligent Traffic Steering/Management, service function-chaining and TCP optimisation, which run at different points in the network, ideally as close to the end-user as possible.

“These solutions could become hierarchical and distributed where different proxies talk to each other, creating a sort of ‘reliable’ point-to-point intermediate connections to enable faster retransmission in case of any network drop, wherever it happens,” said Walshaw.

Another important part of the 5G puzzle is Network Functions Virtualisation (NFV), with networks straining to scale to accommodate massive data usage.

Ericsson’s Mobility Report predicts that mobile video traffic alone is expected to increase by about 50% annually through 2022 to account for nearly 75% of all mobile data traffic. Social networking will be the second-biggest data traffic type, forecast to grow by 39% annually in the coming six years.

“Making a business more virtual requires a greater focus on cloud-based technologies and solutions,” added Walshaw.

“NFV architectures provide the necessary network flexibility to enable new service delivery models and elastic network scaling to reduce total cost of ownership. The orchestration of networks, whether a fully virtualised network or a hybrid, lets you dynamically instantiate new services and deliver a network that can provide subscribers with more personalised service as well as an improved quality of experience.”