

Why 5G isn't just faster 4G!

Enhanced user experience, privacy and security in the 5G world

By Stéphane Jacquelin, Director Advanced Business Line, Mobile Operators Business Unit at IDEMIA

MOBILE OPERATORS

POSTED ON 11.28.19

- 5G networks have already begun to spread across parts of the world and will continue to expand
- 5G + WiFi make connectivity ultra-fast but also seamless and secure
- New 5G SIM cards bring another level of privacy to mobile users

With unprecedented amounts of data projected to stream at remarkable speed across 5G networks, new questions surrounding user privacy and security emerge. How can mobile operators (MNOs) better protect their subscribers and enhance their connectivity experience in this bold new world?



Welcome to the 5G era – where connections are 10 to 100 times faster than 4G. Here, ultra-low latency and high throughput allow us to go beyond basic mobile-to-mobile communication. Every connected device can join in on the conversation: connected cars, smart cities, remote or robotic surgeries, smart health services and of course out-of-this-world experiences with AR/VR gaming.

Currently as many as 328 operators across 109 countries have begun the 5G transformation. Today, roughly 50 operators in 27 countries provide 5G connectivity – some conducting field trials or testing and others already offering some 5G network services. As 5G enabled devices begin to rollout, these services will continue to spread around the world.

Limitless connectivity at our fingertips

The launch of 5G connectivity will usher in enhanced coverage by allowing mobile subscribers to simultaneously connect devices to the 5G mobile network and their mobile network operator's WiFi hotspot. Not only will this dual connectivity aggregate the capacity of the two networks – creating unrivalled throughput – the connection itself will become more secure and streamlined. All thanks to 5G SIM cards enabling instantaneous and secure authentication to both networks.

The benefits are clear: let's say a mobile user experiences a poor 4G connection. They may choose to manually log in to their MNO's WiFi hotspot – and disconnect and reconnect at will. In the 5G world, the same users will automatically be authenticated on the WiFi network and will also get the benefits of the 5G network thanks to their SIM. What's more, their **5G SIM cards** will store temporary connection keys allowing devices to seamlessly re-authenticate to the WiFi network if disconnected before users even notice it. Ultra-fast, secure connections, without the hassle of logging on? Yes, please!



Privacy is key

Another huge advantage of the 5G SIM card is the encryption of the International Mobile Subscriber Identity (IMSI) number. The IMSI number tells the network the user's country of origin, mobile network provider and subscriber number – in short, it uniquely identifies each individual subscriber. When a customer connects to the network, the IMSI number serves as their “username” and the encrypted key, stored in the SIM card is their “password”.

5G SIM cards further protect user privacy by encrypting IMSI numbers before they are sent over the air. Originally, only government agencies used “IMSI catchers” to intercept IMSI numbers and monitor user location or SMS messages for official matters. They did it, and continue to do it, but under heavily regulated conditions. Nowadays, low-cost software made IMSI catchers relatively cheap and accessible to anyone. Its potential use by unauthorized parties or organizations is considered a serious threat.



The new privacy feature of 5G SIM cards comes at the perfect time, as the industry and individuals now demand greater protection against malevolent usage of IMSI catchers, invading their privacy or infringing their civil rights.

Stéphane Jacquelin, Director Advanced Business Line, Mobile Operators Business Unit at IDEMIA

Brace yourself for the future

With each passing day, technology brings us closer to widespread 5G connectivity. As we prepare to jump in this new 5G world, MNOs need to be ready to keep up with the new expectations and challenges that arise with this network evolution that will allow us to share more data than ever before. Providing their subscribers with **5G SIM cards** will be essential to guaranteeing their security, privacy and an unrivalled digital experience.