5G: Bigger, better, faster, more – and secure!

Lower latency, greater reliability, greater throughput, higher connectivity density, better coverage and higher mobility range: This is the technical promise of 5G, the next generation of wireless networks.

CONNECTIVITY

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To translate: bigger, better, faster, more! 5G will open up new usage of mobile services and massively broaden the scope of connected objects in the Internet of Things (IoT). At the same time, the need for security and privacy not only remains, but will grow significantly along with the explosion of opportunities. Requirements will also change as new use cases are enabled. To make sure security is integrated at an early stage as a core part of the 5G architecture and developments, the SIMalliance – the global, non-profit industry association which simplifies aspects of hardware-based device security to drive the creation, deployment and management of secure mobile services – has published a whitepaper taking a closer look at the security needs of the 5G market.

Yves Portalier, Board Director of the SIMalliance and Vice President & General Manager Telecom at Morpho, explains the key recommendations of the document to which Morpho has actively contributed: "The first part of the analysis assesses the purpose of the equipment and services connected in a 5G network and what their special security requirements are. Based on this we defined four segments:

⟫ Massive IoT: Sensors and equipment connected to networks, data being exchanged with the cloud. In these segments the SIM is increasingly a piece of embedded hardware.

⟫ Critical communications: Industrial solutions and solutions such as traffic control systems, where we need close links between equipment and networks and continuity of service.

⟫ Enhanced broadband: smartphones, tablets, etc. We already have mobile broadband. 5G will enable new solutions to enhance bandwidth and to access more and more live services and paths to the internet and between different kinds of equipment.

⟫ Network operations: These need to be secured, as they have to coordinate all the links to vertical applications and segments.

For each of these segments we need to understand the requirements of the different use cases and then provide different solutions in terms of security, size and protection. We have to consider what exactly is needed in terms of service security and how we can protect network access. We have to be able to protect the authenticity, integrity and confidentiality of data. Security is not something added on top – it needs to be embedded in products and services to build user trust and widespread deployment in the market."

The SIMalliance whitepaper aims to create awareness of the need to integrate security in 5G developments and provides initial examples of different security solutions. Next the SIMalliance security experts will analyze the technical details and maintain a global and interoperable approach by cooperating closely with standardization bodies such as

3GPP and ETSI.

Within Morpho, our teams are actively contributing to standardization activities, and ensuring that our solutions are ready for 5G commercial deployment. Embedded Secure Elements come in all sorts of shapes and sizes, and Morpho's SIM, eSIM and eSE technologies as well as MorphoFlex™, our remote SIM provisioning solution, are all designed to meet the security integrity which 5G demands. To learn more about our embedded secure element solutions click here or email us.

Watch the interview with Yves Portalier about 5G security here.