Nokia WING and 5G

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The confluence of 5G and IoT will have a profound impact on the global economy, affecting every country and industry (e.g., automotive, healthcare, manufacturing); it will also fundamentally come to transform our personal lives — how we shop, drive, manage our homes, consume media, communicate, etc. This fifth generation of mobile networks will enable unprecedented connection speeds and device density while supporting near-zero latency.

5G and IoT will create a global hyperconnected fabric that will stretch to everything and everyone.

To reiterate, IoT will have a critical role in transforming the global economy, leaving no industry untouched. It is borderless (i.e., global) by nature, with malleable connectivity serving as its oxygen.

WING, as a cloud-native, globally-distributed, IoT core is central to this transformation. The WING-managed core works with the full range of access networks (e.g., 3G, 4G, NB-IoT), allowing operators to accelerate time-to-market, lower costs and risk, extend reach and tap into new revenue streams through a broad set of IoT services. WING leverages a pay-as-you-go, outcome-driven XaaS business model that aligns perfectly with the mobile-first, cloud-centric wave that is sweeping the world and will come to dominant our hyperconnected future. This future will be unquestionably data-driven, with IoT serving as a wellspring for much of this data, which is giving rise to escalating data localization and sovereignty regulations among nations and states. The WING distributed core was architected to meet the most stringent data regulations.

The WING IoT core will work seamlessly with 5G to support a smooth evolution. Operators around the globe have commercially launched 5G networks with an initial focus on select metro markets. These initial launches will serve as stepping stones to rapidly expanding 5G coverage and, along with it, a vast array of IoT use cases in the coming months and years.

5G IoT use cases include connected, assisted and autonomous vehicles; critical public services (e.g., public-safety video, infrastructure monitoring); critical, real-time industrial monitoring and control (i.e., Industry 4.0) and remote healthcare. Many of these use cases will place unprecedented demands on mobile networks with regards to latency, the volume and velocity of data and the density of devices. 5G and WING are architected from the ground up to meet these stringent requirements. They both leverage distributed, flexible architectures that allow critical functions to be separated and extended to the far network edge or to enterprise premises. This will unleash the network to support a new set of use cases that were not previously possible.

1 https://www.gsma.com/futurenetworks/resources/all-ip-statistics/
With this new paradigm, computing, data and analytics also move to the network edge in support of critical, real-time processing that delivers local insights and actions. Another driver for this move is the need to control data storage and backhaul costs as unprecedented amounts of data get generated by tens of billions of devices. A final driver for this move is the increasingly stringent data sovereignty regulations that will demand data be stored and processed locally.

WING was designed with this new paradigm in mind. It enables operators to offer to enterprises on a global scale a consistent SLA that spans borders, networks and use cases.

It allows operators and enterprises to scale their investments in harmony with the return on those investments through its pay-as-you-go delivery model. Its architecture supports a highly-distributed 5G user plane function (UPF) that delivers the ultra-low network latency needed to unlock real-time insights and actions. It optimally routes data to the appropriate computational resources to minimize data processing latency and transport costs while staying compliant with data governance regulations. Indeed, as 5G momentum builds, WING is ideally positioned to unlock its full potential.