

KORE and Kigen Open-Source SIM Technology for Cybersecurity

Energy Web, KORE, and Kigen developed a highly secure, efficient, SIM-based open-source solution for internet-of-things (IoT) device communication.



Introduction

About the project

Energy Web, KORE, and Kigen developed a highly secure, efficient, SIM-based open-source solution for internet-of-things (IoT) device communication.

The solution

How does it work?

In discussions with energy market aggregators and original equipment manufacturers, Energy Web identified an opportunity to leverage IoT SAFE—a GSMA initiative using SIM Cards as a secure hardware element for chip-to-cloud security—as an ideal solution for storing encryption keys within a device to enhance its security.



With Kigen's eSIM and iSIM hardware, KORE's IOT solutions, and Energy Web's Identity and Access Management (IAM) solution, Energy Web Switchboard, the three organizations implemented an IoT SAFE solution



SIM cards on energy network assets or IoT devices, such as smart meters and batteries, can be used as **hardware wallets** to improve the assets' **security and connectivity** due via cryptography and native interoperability.

With the IoT SAFE solution, devices receive a **decentralized identifier (DID)** associated with an asymmetric key-pair stored on the SIM card and use this DID for various use-cases such as authentication, authorization, real-time measurements, flexibility applications, and life-cycle management.

This enterprise-grade solution can go well beyond the energy space and be transposed to any industry and **any device using a SIM card**. The solution also creates a multi-tenant environment where companies can leverage **shared infrastructure** in an optimized, secure way.

Providing data to third-party IOT providers via SIM cards with device-level security, data authentication for cloud services, and **secure communication** is a critical step towards bringing end-to-end security to a rapidly **decarbonizing and decentralizing** energy sector.

Collaboration

Who is building the solution?

KORE is a frontrunner in IoT security and Kigen is a top global SIM vendor. Along with Energy Web, these companies aim to improve open-source secure SIM technology.

KORE is a pioneer, leader, and trusted advisor delivering mission critical IoT solutions and services. We empower organizations of all sizes to improve operational and business results by simplifying the complexity of IoT. Our deep IoT knowledge and experience, global reach, purpose-built solutions, and deployment agility accelerate and materially impact our customers' business outcomes.

Kigen makes the future of secure connectivity simple. Together with partners and customers, Kigen unlocks new opportunities as (integrated) eSIM becomes the cornerstone of connected devices' security. Kigen's remote SIM provisioning and eSIM services drive this momentum, further placing us amongst the top 5 SIM vendors globally. All 150 employees globally are guided by the vision of a world where every device can connect securely and reliably.



Some of the benefits of SIM-based open-source solution

Standardization

Leveraging SIM cards as a secure, scalable, and standardized hardware solution improves device communication and interoperability.

No vendor lock-in

Control over SIM cards traditionally fell under mobile network operators. This solution allows companies to own and control SIM cards on their devices—not the mobile network operators themselves.

Open-source

Once released, the solution will be publicly available for companies seeking to improve IoT operations and security and benefit from innovation taking place within different companies around the world.

Future-proof

Device interconnectivity is accelerating to a point that shortly every device will require connectivity. This solution offers it in a simple, secure, and reliable way.

Whats next

The organizations have executed a successful POC and will collaborate with IOT device manufacturers to implement the solution and improve device-level security and interoperability.

In the short term, any company across the world seeking to tackle security challenges posed by the increasing number of IoT devices and decentralized energy assets coming online will be able to build upon the foundations of this solution.

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