

CASE STUDY

KORE, Kigen, and Energy Web Enable Decentralized Identity Exchange for Smart Grid with eSIM

Background

Energy Web is a nonprofit organization focused on building open source, decentralized operating systems to help decarbonize the global economy. Energy Web offers its open-source stack to organizations to build their own applications, or Energy Web will provides assistance to organizations in building applications off the open-source stack.

THE EW-STACK is a suite of open-source tools built off of the Energy Web Chain, the world's first public, enterprise-grade blockchain tailored to the energy sector.

Energy Web wanted to provide a highly secure solution for energy assets that is just as simple as their EW-STACK when it comes to security at the device level.

The Challenge

Targeting aggregators and OEMs, Energy Web identified three methods of storing private encryption keys within a device – firmware, which is not safe and easy to tamper; or an embedded SIM, which would place the onus on OEMs to add an additional integrated circuit and that was a burden Energy Web didn't want to pass down.

Far and away the best option was to leverage IoT SAFE, which is a GSMA initiative that utilizes the SIM as a secure hardware element for chip-to-cloud security. Energy Web could utilize the SIM as a hardware wallet anchored to an open-source, publicly accessible blockchain powered by Energy Web.



Securely communicating data at the packet level is a significant step toward creating end-to-end security.

The Solution

Energy Web has partnered with KORE and Kigen, pioneers in IoT security through eSIM and iSIM hardware, to implement an open IoT SAFE solution, which essentially is an open-source method for third parties to use Energy Web cryptocurrency features to store their private encryption keys and sensitive credentials in the crypto-safe enabled through IoT SAFE infrastructure.

Not only does this provide the device the same kind of authentication credentials found at the network level, but it also secures data communications at the packet level. And because Energy Web operates in a blockchain environment, it's a decentralized approach to device-level security.

The Result

This opportunity created through the partnership of Kigen and KORE and leveraged by Energy Web is a historical approach to an enterprise essentially "owning" the SIM card.

Prior to eSIM and iSIM, SIM cards were removable and treated primarily as property of the Mobile Network Operator (MNO) distributing the SIM that connected to its network.

Now it's an open platform that allows the organization delivering the use case to own the SIM for its own purposes. And specifically in the case of Energy Web, IoT SAFE allows an enterprise – a third party – to store its own credentials and own encryption key, which truly makes this a multi-tenant solution.

Organizations using Energy Web's technology can build their own applications via the world's first open-source technology stack focused explicitly on the energy transition towards efficiency and renewables. This enables the ability to provide information to third-party IoT providers via a SIM card which in-builds device-level security and can authenticate data for a user's cloud service. Securely communicating data at the packet level is a significant step toward creating end-to-end security.



“Energy Web’s focus is to use digital identities and open-source operating systems to make it easier for grid operators around the world to interact with an increasingly decarbonized, decentralized energy market,” said Jesse Morris, CEO of Energy Web. “Of course, as more and more IoT devices come live and decentralized energy assets become increasingly common, protecting the infrastructural security of these systems is of the utmost importance. The work we are doing in partnership with KORE and Kigen is a perfect example of what smart, sensible, and safe IoT security solutions look like in the real world.”

About KORE

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. For more information, visit www.korewireless.com

About Kigen

At Kigen, we are making the future of securing connectivity simple. As simple as can be. Together with our partners and customers, we are at the forefront of unlocking a new era of secure IoT as Integrated SIM (iSIM) and eSIM becomes the mainstream choice for connected devices. Our industry-leading SIM OS products enable over 2 billion SIMs. Our GSMA certified remote SIM provisioning and eSIM services drive this momentum further placing us amongst top 5 SIM vendors globally. As an Arm founded company, we bring an ecosystem approach to driving innovation and collaboration. For more information, go to kigen.com or speak to us on [@Kigen_Ltd](https://twitter.com/Kigen_Ltd) on Twitter and LinkedIn about #futureofSIM.

About Energy Web

Energy Web is a global, member-driven nonprofit accelerating the low-carbon, customer-centric energy transition by unleashing the potential of open-source, digital technologies. We enable any energy asset, owned by any customer, to participate in any energy market. The Energy Web Chain — the world’s first enterprise-grade, public blockchain tailored to the energy sector — anchors our tech stack. For more information, visit www.energyweb.org

