

Big Good Partners with GlobalSign to Secure Smart Home Products, Secure-Hardware Chips and Chip Burners



Challenge

Big Good Intelligent Systems Inc. (Big Good) is a recent start up company (2017) and subsidiary of Big Good Holdings, located in Taiwan. They offer smart home products, secure hardware chips and chip burners. Smart home products include wireless door locks, smart home mirrors that function as control centers, and light controls. Their secure hardware chips, HVCA Module / ECDH Crypto Chip (secure chip for SSL) is sold to manufacturers looking for chips that contain pre-loaded digital certificates ready to be built into products. Their chip burner, which is just now being released is called G-Shield, which functions as a certificate enrollment server to easily provision device certificates directly onto hardware chips, making them more secure.



Each areas had unique challenges. The most straight forward challenge was with their smart home products. Big Good wanted to add a layer of security from the devices to the gateway to the cloud. For that, they needed to create strong, unique device identities, which would protect the device identity, data integrity and communication privacy.

The second challenge was to be able to embed a digital certificate directly into a hardware chip, thus embedding a layer of security at the earliest point of a device's lifecycle, the component level.

Recognizing that chip manufacturer's need to produce thousands of secure chips per day, Big Good developed the G-Shield chip burner to facilitate certificate provisioning into the chip at high speed and with high volumes.

“As smart IoT technologies advance, it is increasingly important that security be part of the design from the very beginning” said Roger Wu, Big Good CEO. “Security should start at the component level (chips) and be supported by a strong, stable and secure PKI infrastructure at the device, gateway and cloud layers. GlobalSign’s easy API, collaborative approach and secure IoT identity Platform enables us to be first-to-market in delivering our security solution from chip to cloud.”

- Recognized, reputable and trustworthy Certificate Authority
- Innovative technology partner for faster time to market
- Easy integration (API)
- Ability to scale for high-volume and high-speed certificate provisioning
- Flexibility to add ICAs to the IoT Private/Shared Root CA

CUSTOMER PROFILE

- **INDUSTRY**
 - Smart Home products
 - Semiconductor
- **CUSTOMER VERTICALS**
 - Consumer Market
 - Smart Community
 - Smart Hotel
 - Semiconductor
 - Discrete (Device) Manufacturing
- **GLOBALSIGN SOLUTION**
 - IoT Identity Platform
 - Shared/Private IoT CA, ICAs
 - IoT Edge Enroll

AT A GLANCE

- **PROBLEM**
Big Good sought a trustworthy security partner to establish a PKI-based security infrastructure to easily integrate and secure their products and their crypto chips with digital certificates. They were looking for an expert technology partner to accelerate time to market for their G-Shield chip burner.
- **SOLUTION**
Big Good uses GlobalSign's IoT Identity Platform as the backbone of their PKI-based security framework. They use GlobalSign's Edge Enroll to provision certificates for their smart home products, crypto chips and their new G-Shield chip burner.

Solution

Big Good employed GlobalSign's IoT Identity Platform as their PKI-based framework to solve their security issues across all three of their product lines. It includes the GlobalSign IoT private/shared Root CA and private/shared Intermediate Root CAs as needed, providing a layer of management security (if one of their G-Shield customers is compromised they can shut down just that ICA without compromising others).

They installed GlobalSign's IoT Edge Enroll Registration Authority using our developer friendly API, and then implemented it in three different scenarios; a) to provision certificates for their own smart-home products b) to provision certificates that are embedded into the chips which are sold to device manufacturers, and c) and to provision certificates via the G-Shield chip burner, which is sold to other chip manufacturers to facilitate highspeed, high-volume batch certificate provisioning. The G-Shield chip burner also supports various types of security chips set by customized software.

GlobalSign's API facilitated the integration, helping BigGood to launch their G-Shield product faster than anticipated.

GlobalSign's outstanding reputation as an IoT expert and trusted Certificate Authority, gave Big Good instant security credibility and a trustworthy technology partner, ensuring the success of ongoing and future advancements in their products.

Big Good is already planning to release a version of their G-Shield chip burner that adheres to Arm TrustZone specifications, to enable system-wide embedded hardware isolation for trusted software. Since GlobalSign is actively engaged with Arm Platforms (Arm Pelion), which are designed to simplify and speed up the creation and deployment of IoT products, this provided an added technological advantage for Big Good.

About Big Good

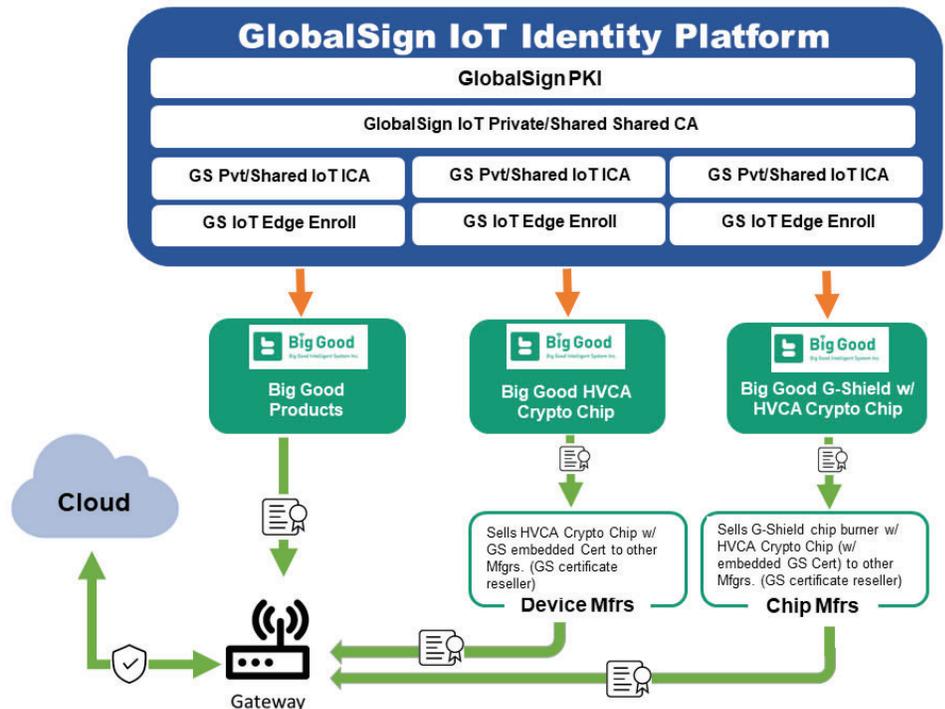
Big Good is addressing the needs of smart home applications on a global scale by creating an unbreakable security network. The network underlies the development and introduction of innovative and secure Smart Home products, hardware secure modules (HSMs or crypto chips) and G-Shield chip burners.

About GlobalSign

GlobalSign is the leading provider of trusted identity and security solutions enabling businesses, large enterprises, cloud service providers and IoT innovators around the world to secure online communications, manage millions of verified digital identities and automate authentication and encryption. Its high-scale Public Key Infrastructure (PKI) and identity solutions support the billions of services, devices, people and things comprising the Internet of Everything (IoE).

Result

- Delivered a single solution flexible enough to meet three very different identity challenges
- Provided a PKI-based IoT Identity Platform that serves as the core Big Good security framework and IoT Edge Enroll as their certificate provisioning mechanism across all their product lines
- Collaborated to accelerate time to market for their Crypto Chip and G-Shield chip burner product lines
- Secured smart home products from chip to cloud with strong, unique device identities that protect the devices from man-in-the-middle attacks
- Provided a full-featured enrollment server that allowed each hardware chip (Crypto Chip) to be embedded with a digital certificate, providing a layer of security that can be tracked for the full lifecycle of the chip
- Enabled the certificate provisioning technology of the G-Shield chip burners, allowing high-volume batching and high-speed certificate provisioning



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