



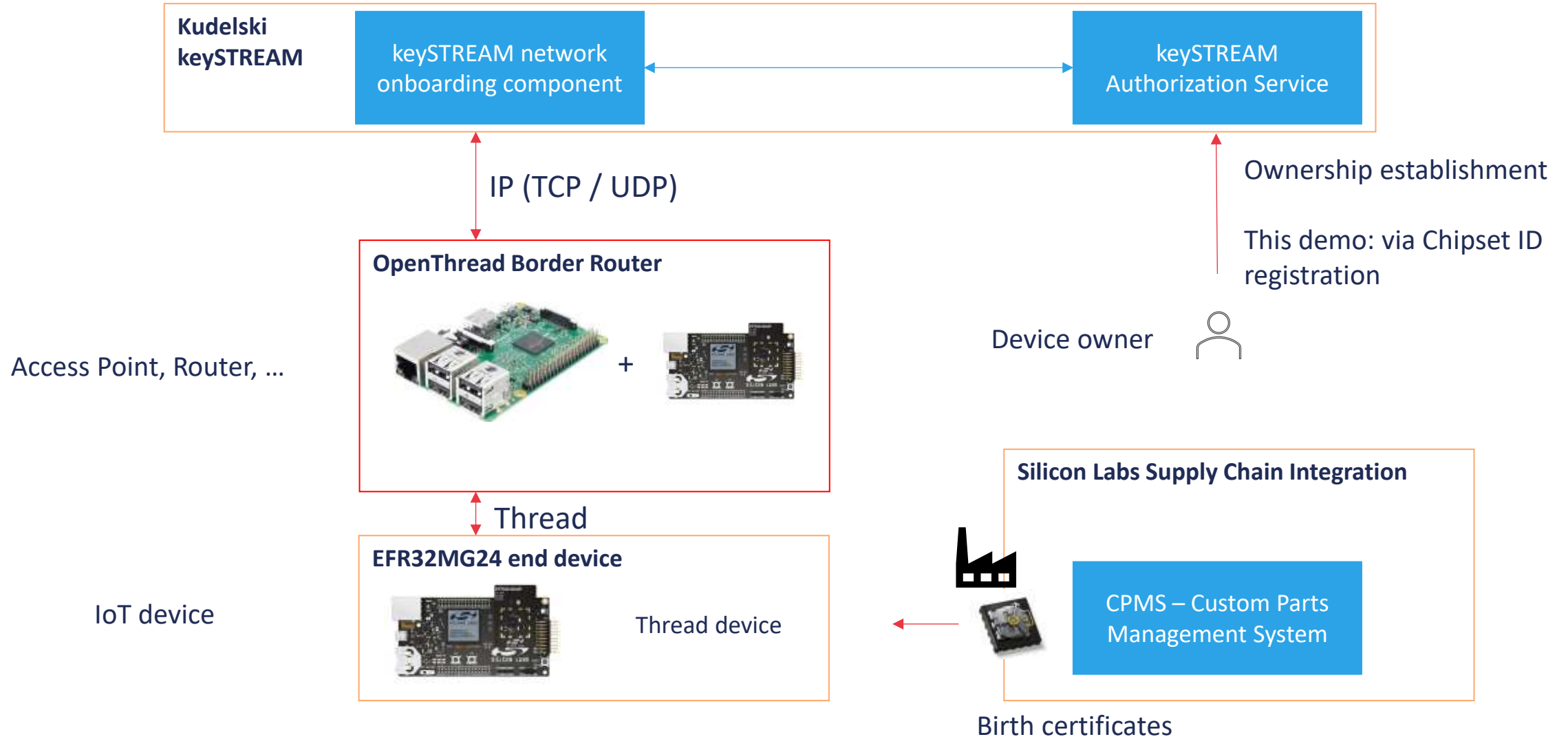
Build 4 – Thread and Cloud Onboarding

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Kudelski IoT



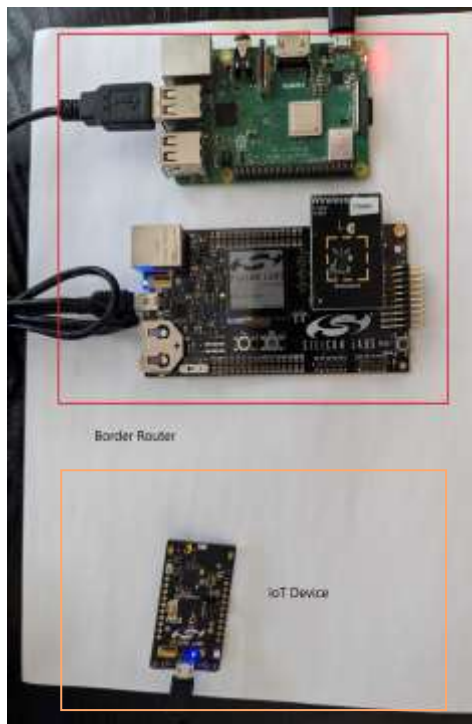
SP1800-36 architecture



Demo setup



IPv4/IPv6
internet connection



OpenThread Border Router



EFR32MG24 end device



Thread device

Trusted Network and Application Layer Onboarding

Build 4 achievements: seamless onboarding of IoT Thread Devices

1. Thread **Network-layer** onboarding

After network onboarding, IoT devices can communicate to the internet via the Border Router.

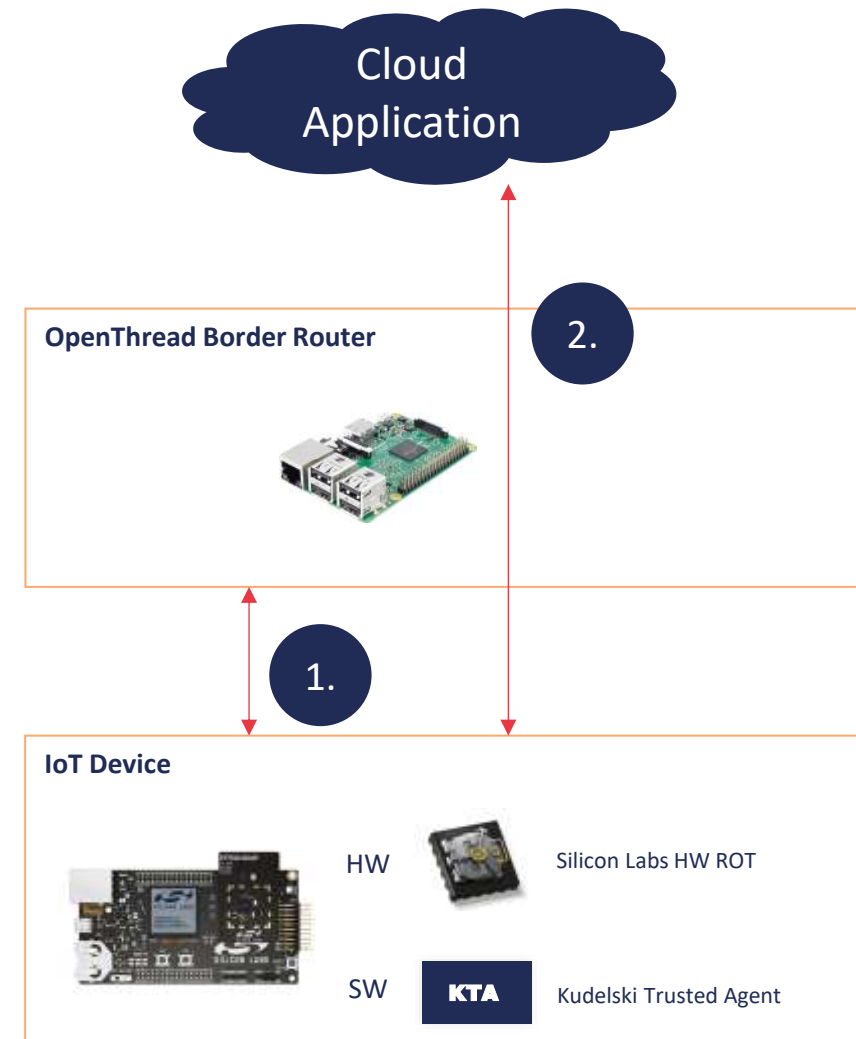
2. Cloud **application-layer** onboarding

The lifecycle of the IoT device can be remotely managed – including cloud application onboarding.

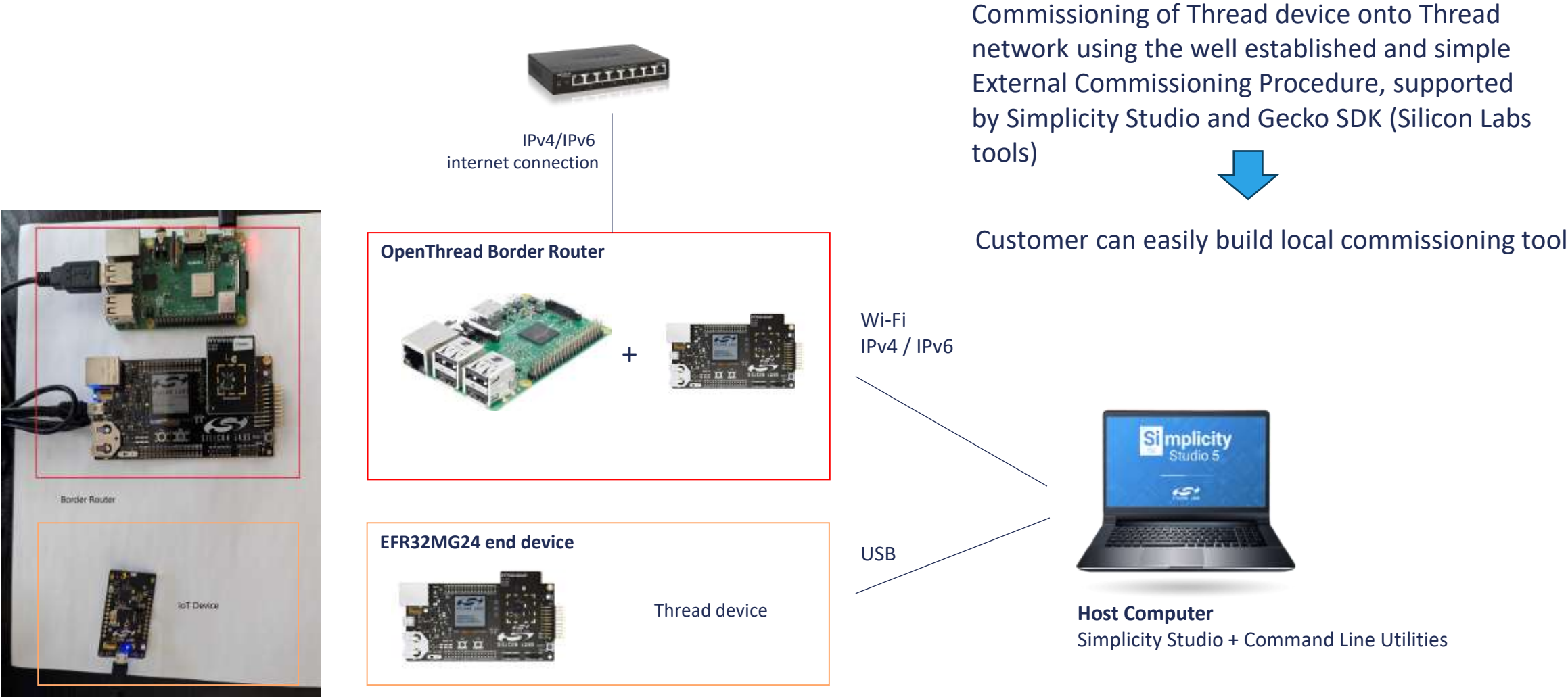
Easy and secure, from chip to cloud

- End-to-end secure communication, from IoT device to cloud
- Using Silicon Lab HW Root of Trust: Secure Vault
- Seamless onboarding: one-time configuration, after which all devices owned by the end-user will be onboarded automatically on the user's Cloud Application.
- Demonstrated with AWS IoT onboarding
- Integrated with Silicon Labs Gecko SDK – easy to put in place

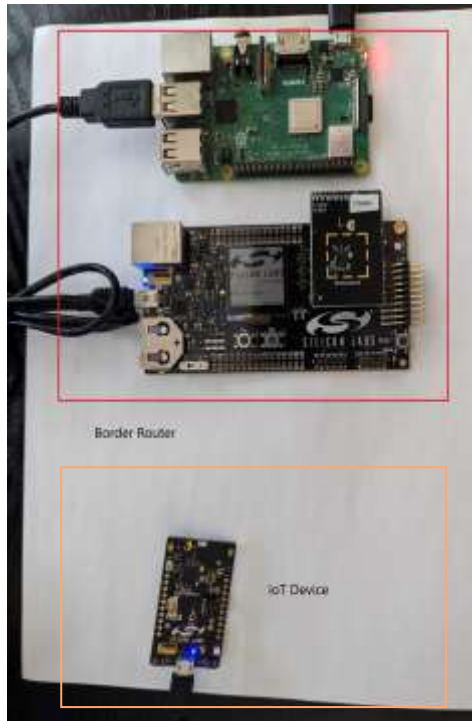
Thanks to Silicon Labs and Kudelski IoT partnership



Network Layer Onboarding: Simple External Commissioning Procedure



Application-layer onboarding



OpenThread Border Router



EFR32MG24 end device



Thread device

Objective: upon first boot/connection of the Thread device, it needs to automatically be onboarded onto a customer AWS IoT service

- Automatic
- Scalable
- Without local intervention
- Secure

keySTREAM

Kudelski IoT keySTREAM is a device lifecycle management platform that can manage Silicon Labs SoC credentials

- Allows you to manage your device efficiently at scale, through its entire lifecycle
- Facilitates onboarding using SoC bootstrap credentials

One-time platform setup

- Get your own keySTREAM tenant
- Setup your keySTREAM onboarding CA and import this in your AWS Account – secured with Proof of Possession (PoP).
- Claim your devices

Automatic onboarding – manage devices at scale

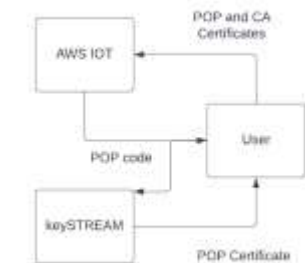
- Your devices will automatically onboard and connect to your AWS IoT
- Secured using SoC bootstrap credentials



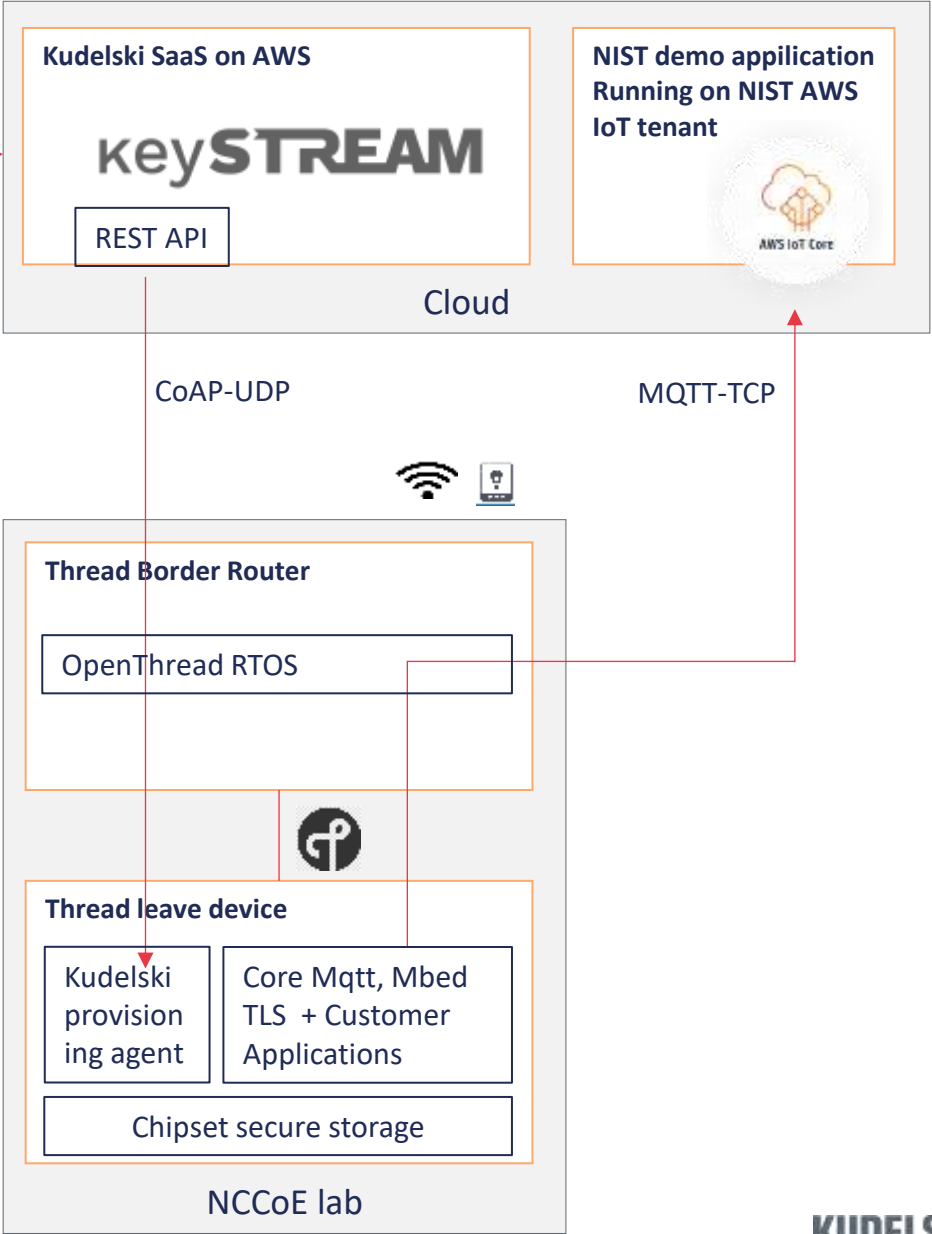
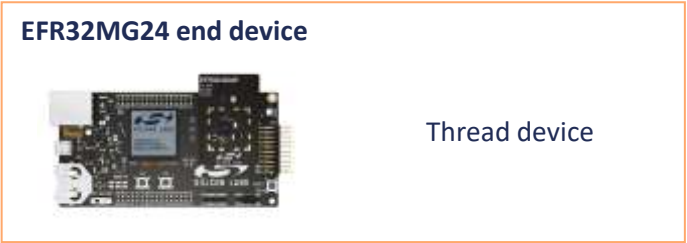
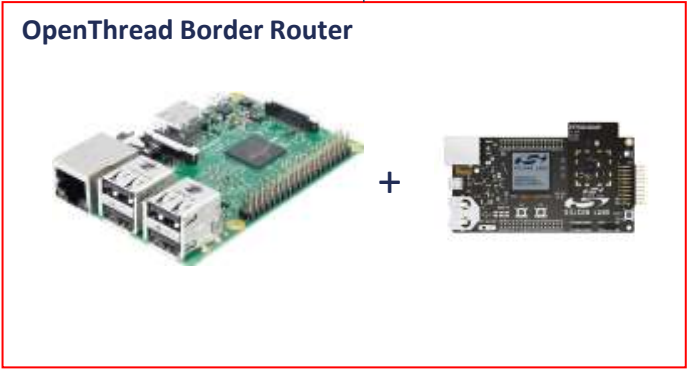
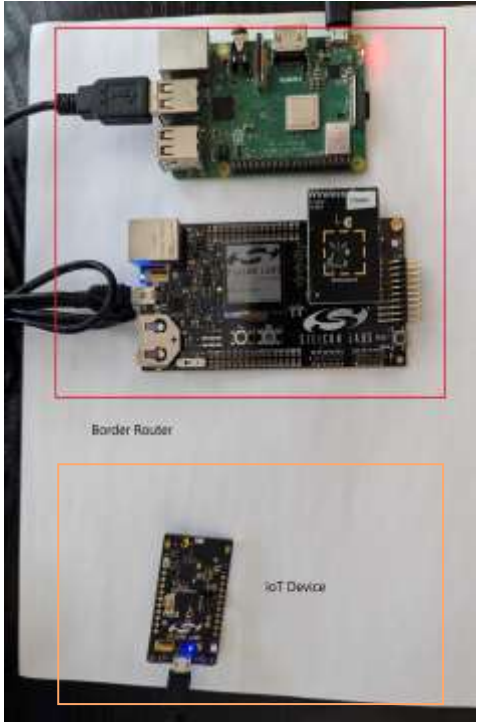
keySTREAM web UI



AWS IoT PoP



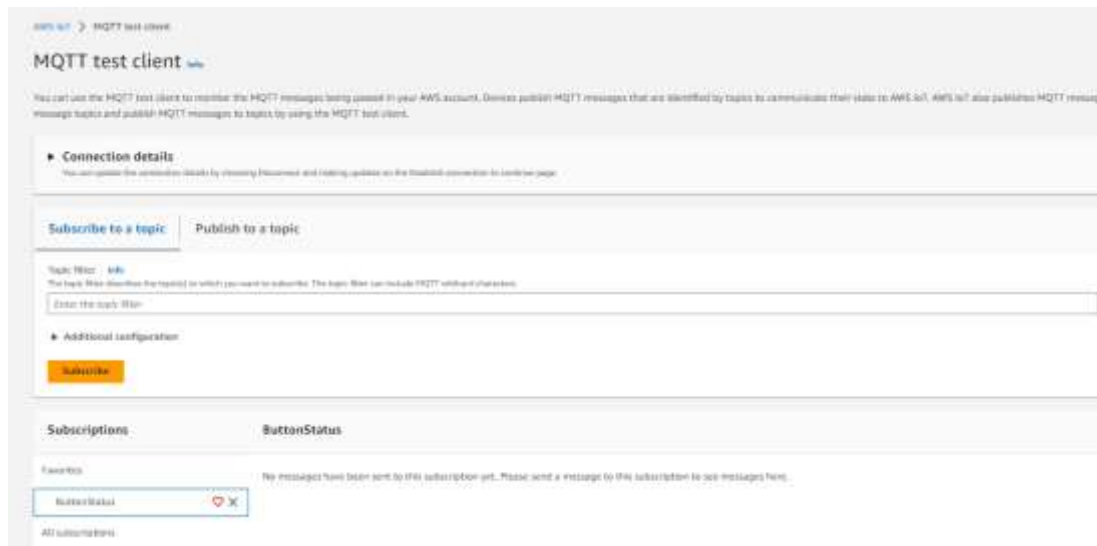
Software stack



Your IoT Devices can now talk securely to the cloud

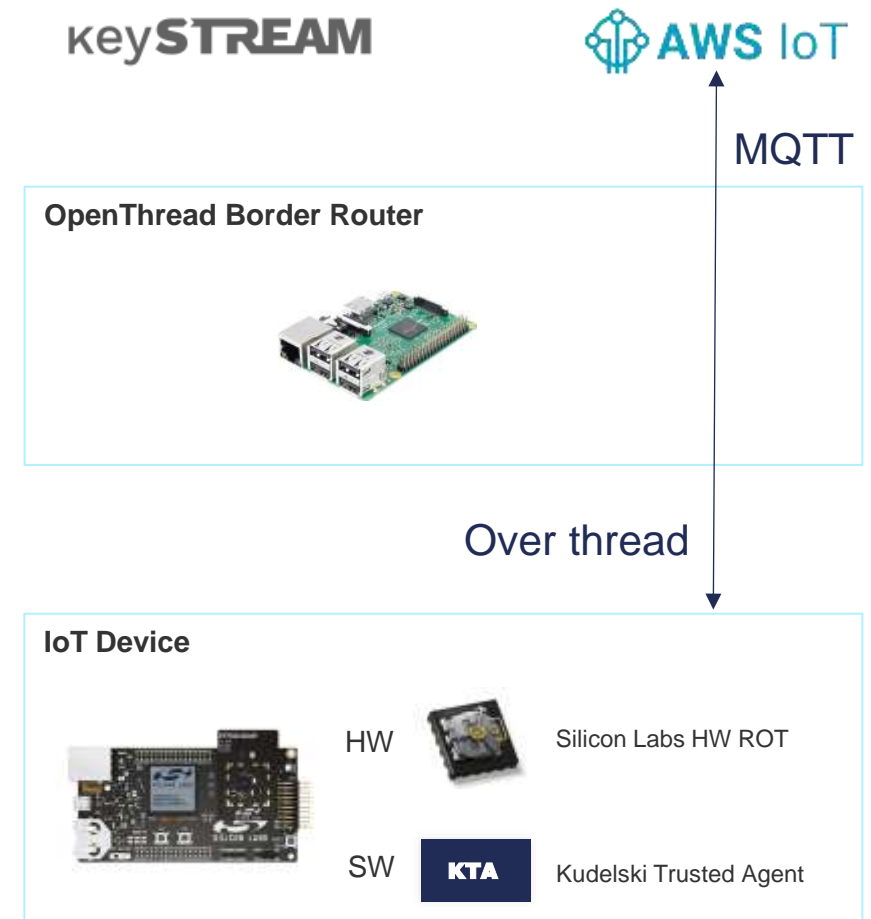
AWS IoT Speaks MQTT

- A light publish/subscribe-based protocol designed for IoT



Full capability on embedded IoT Device

- We demonstrate that the IoT Device with the Silicon Labs SoC can run all the software to perform secure communication based on MQTT over Thread to AWS IoT



Thank You

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Silabs.com



Kudelski-iot.com

References

- Learn more about thread: <https://www.silabs.com/wireless/thread>
- Kudelski IoT keySTREAM: <https://to.kudelski-iot.com/keySTREAM>