

ReButton

2019/9/6

Takashi Matsuoka



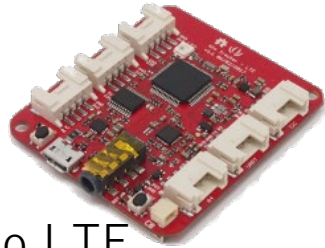
Takashi Matsuoka (@matsujirushi12)



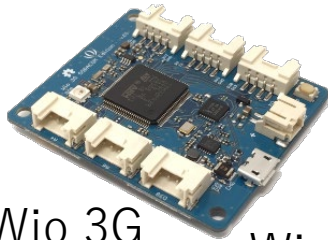
「e」 3つ



2017~ MVP for Windows Development



Wio LTE

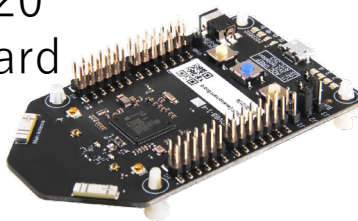


Wio 3G



Wio LTE M1/NB1(BG96)

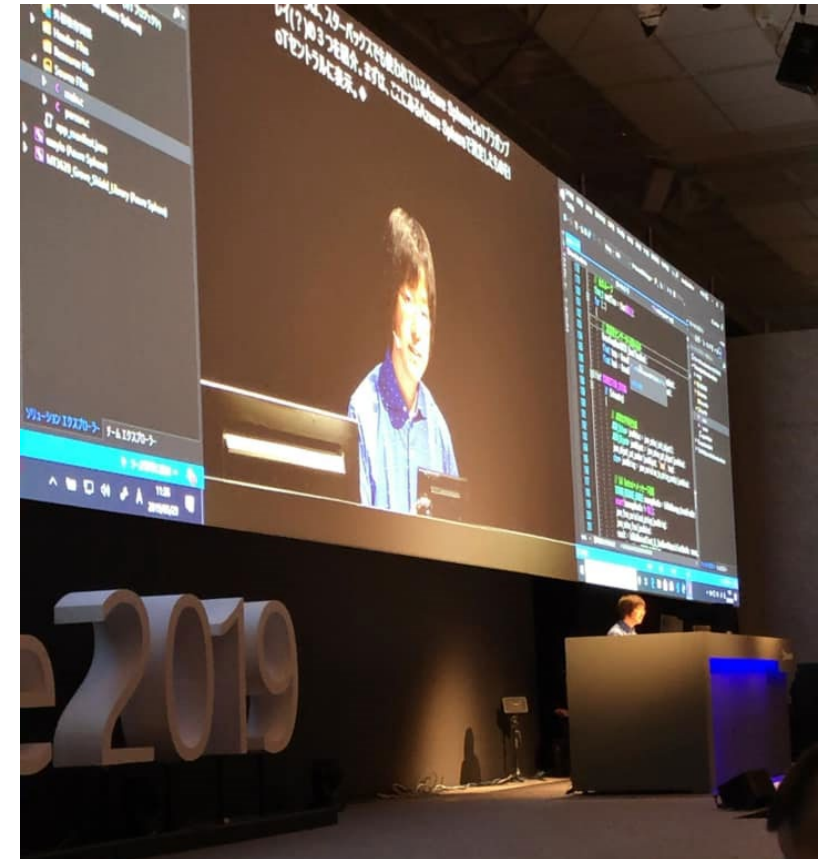
MT3620
DevBoard



ReButton



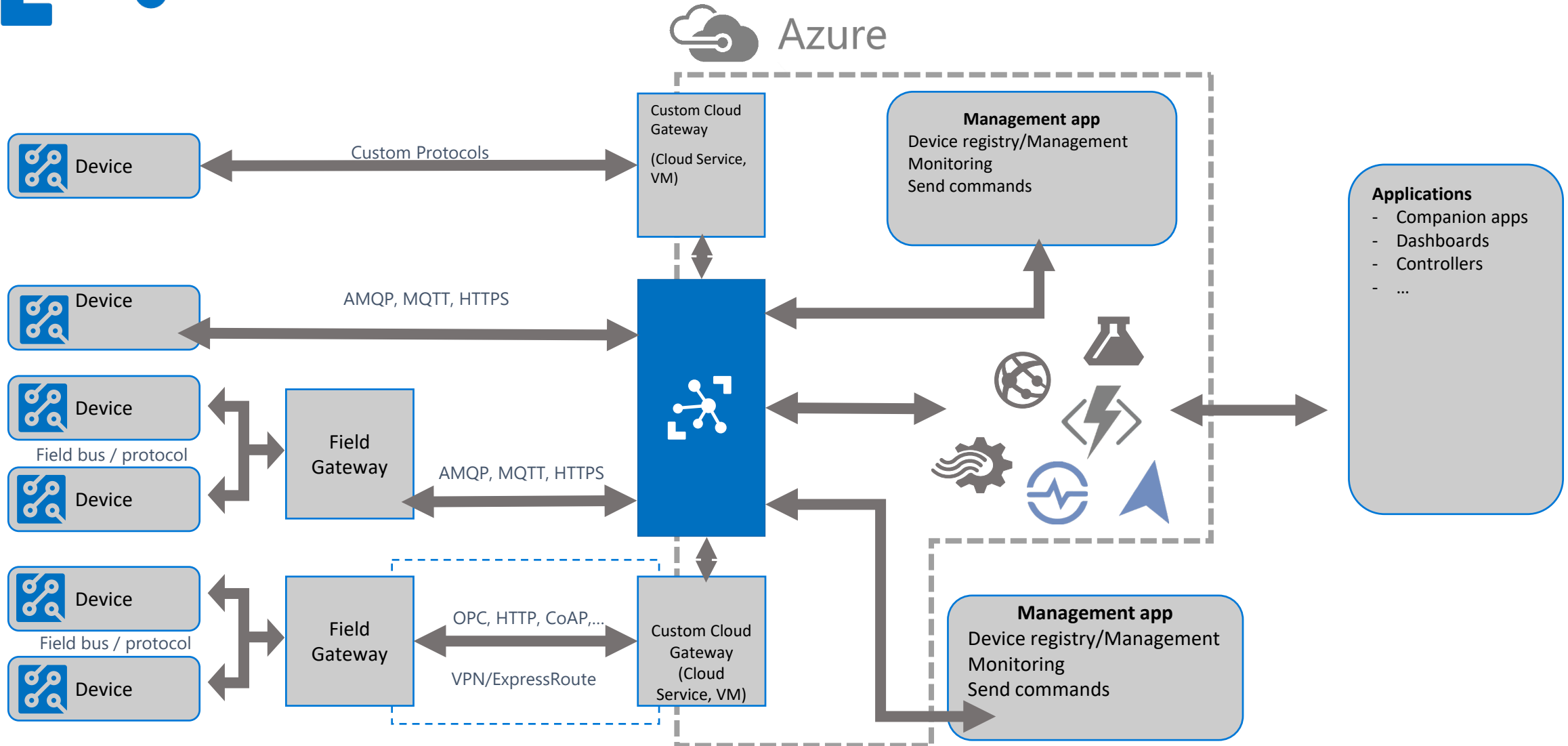
seeed



de:code 2019



Azure IoT Hub - Cloud Gateway -



Azure IoT Hub – クイックスタート

IoT Hub のドキュメント

> 概要

▼ クイックスタート

▼ テレメトリを送信する

C

Node.js

.NET

Java

Python

Android

iOS

Prepare the development environment

For this quickstart, you'll be using the [Azure IoT device SDK for C](#).

You can use the SDK by installing the packages and libraries for the following environments:

- **Linux:** apt-get packages are available for Ubuntu 16.04 and 18.04 using the following CPU architectures: amd64, arm64, armhf, and i386. For more information, see [Using apt-get to create a C device client project on Ubuntu](#).
- **mbed:** For developers creating device applications on the mbed platform, we've published a library and samples that will get you started in minutes with Azure IoT Hub. For more information, see [Use the mbed library](#).
- **Arduino:** If you're developing on Arduino, you can leverage the Azure IoT library available in the Arduino IDE library manager. For more information, see [The Azure IoT Hub library for Arduino](#).
- **iOS:** The IoT Hub Device SDK is available as CocoaPods for Mac and iOS device development. For more information, see [iOS Samples for Microsoft Azure IoT](#).

Azure IoT Hub – クイックスタート

mbed library for mbed Developer Workspace

For developers creating device applications on the [mbed](#) platform, we have published a library and samples that will get you started in minutes with Azure IoT Hub. This library and the samples have been tested with the following boards:

- Freescale FRDMK64-F
- Renesas GR-PEACH
- SADE.IO GSM Gateway

To use the samples and the Azure IoT device SDK library in your mbed applications, here are the basic steps:

- Prepare your device as instructed by the device manufacturer to connect it to the mbed development environment
- In the [mbed Developer Workspace](#) click **Import** on the main menu. Then click the **Click here to import from URL** link next to the mbed globe logo.
- In the popup window, enter the link for the sample code you want to try (you can find Azure IoT Hub samples [here](#)).
- Adapt the code to use the right credentials for your device, and click **Compile** to generate the binary for your board.
- Download the binary to your device and run.

You can find detailed instructions for each of the tested devices in the Azure IoT [device catalog](#):

- [Freescale FRDMK64-F](#)
- [Renesas GR-PEACH](#)
- [SADE.IO GSM Gateway](#)

Azure IoT Central - ハウツーガイド

▼ ハウツーガイド

▼ デバイスの接続

デバイス接続文字列の生成

Node.js (汎用) アプリケーションを準備して接続する

MXChip IoT DevKit を準備して接続する

Raspberry Pi (Python) を準備して接続する

Raspberry Pi (C#) を準備して接続する

Windows IoT Core デバイスを準備して接続する

SensorTile.box デバイスを準備して接続する

To prepare the DevKit device

1. Download the latest pre-built Azure IoT Central firmware for the MXChip from the [releases](#) page on GitHub.
2. Connect the DevKit device to your development machine using a USB cable. In Windows, a file explorer window opens on a drive mapped to the storage device. For example, the drive might be called **AZ3166 (D:)**.
3. Drag the **iotCentral.bin** file onto the drive window. When the copying is complete, the device reboots with the new firmware.
4. When the DevKit device restarts, the following screen displays:

```
Connect HotSpot:  
AZ3166_?????  
go-> 192.168.0.1  
PIN CODE xxxxx
```

Configure the Raspberry Pi

The following steps describe how to download and configure the sample Python application from GitHub. This sample application:

- Sends telemetry and property values to Azure IoT Central.
- Responds to setting changes made in Azure IoT Central.

1. Connect to a shell environment on your Raspberry Pi, either from the Raspberry Pi desktop or remotely using SSH.

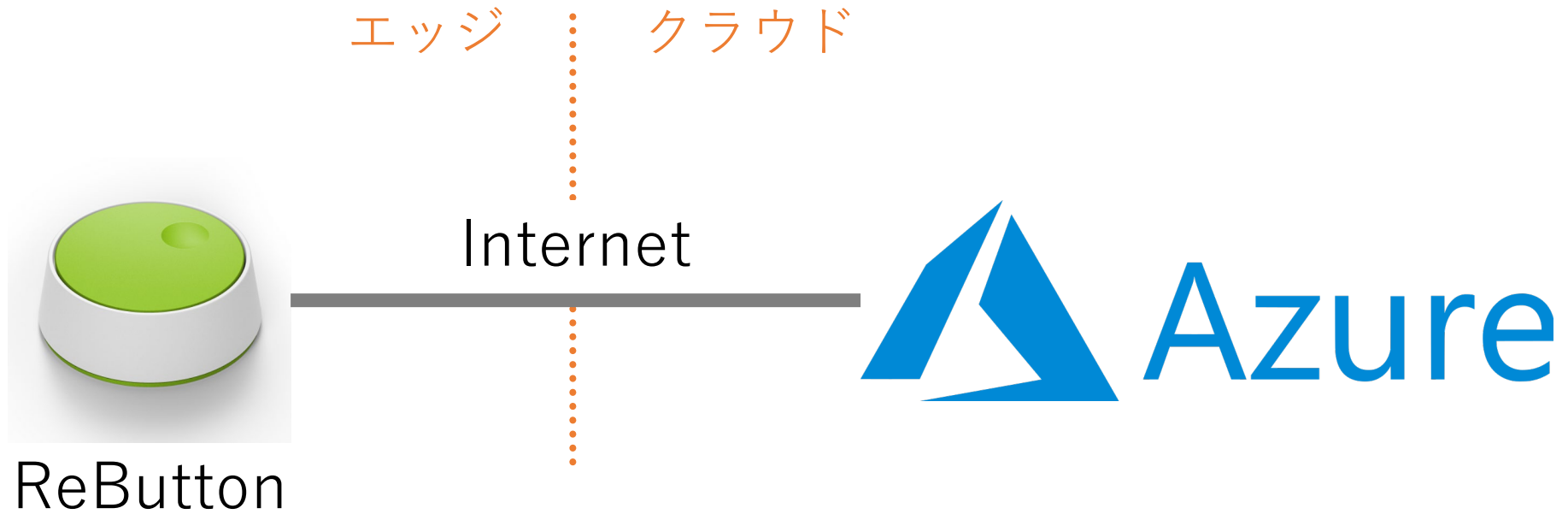
2. Run the following command to install the IoT Central Python client:

```
sh  
pip install iotc
```

3. Download the sample Python code:

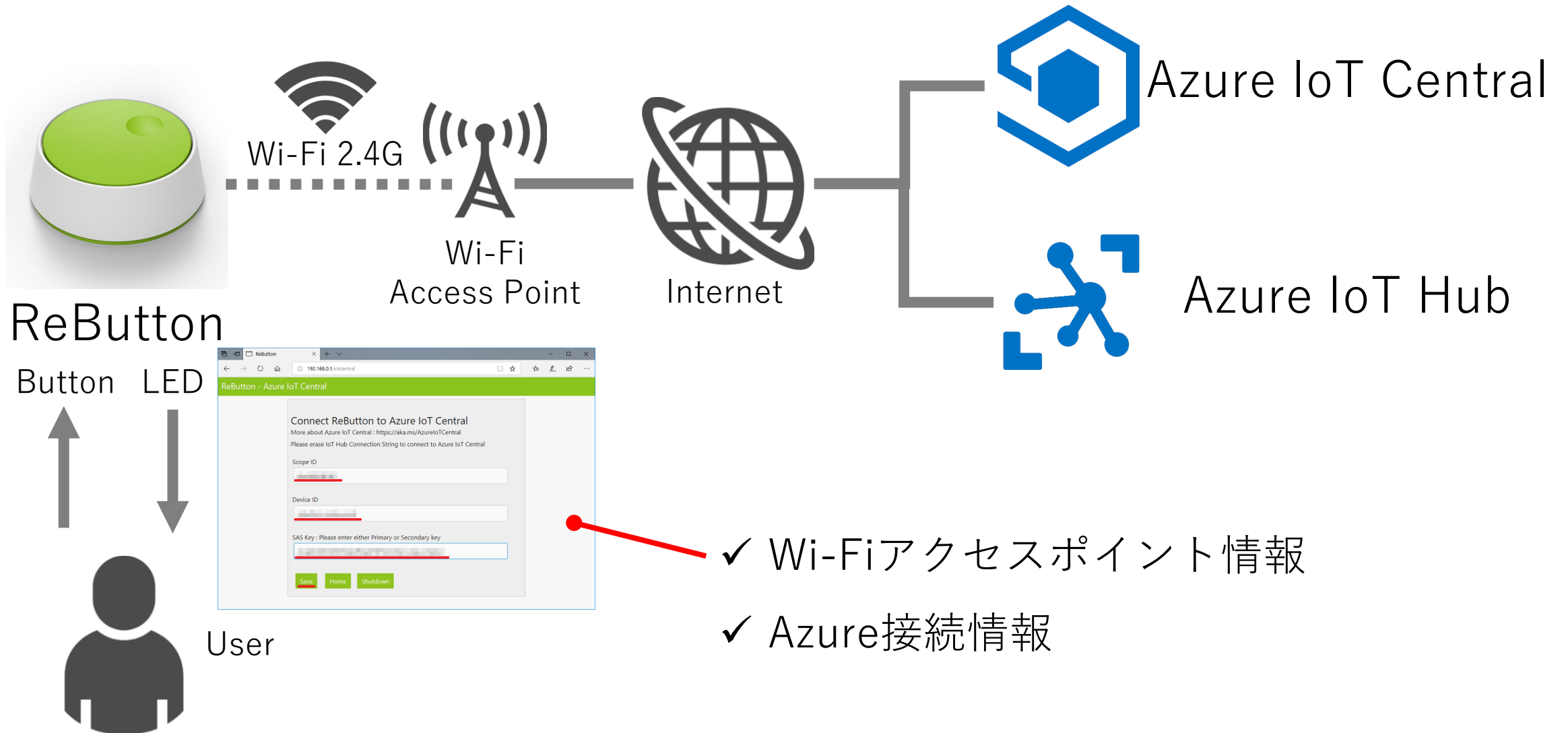
```
sh  
curl -O https://raw.githubusercontent.com/Azure/iot-central-firmware/master/Ras
```

4. Edit the `app.py` file you downloaded and replace the `DEVICE_ID`, `SCOPE_ID`, and `PRIMARY/SECONDARY device KEY` placeholders with the connection values you made a



- ✓ Azure IoT Hub/Azure IoT Central
- ✓ **最小限のセットアップ**
- ✓ 低価格
- ✓ 電池駆動
- ✓ **グローバル**
- ✓ **カスタマイズ**

最小限のセットアップ



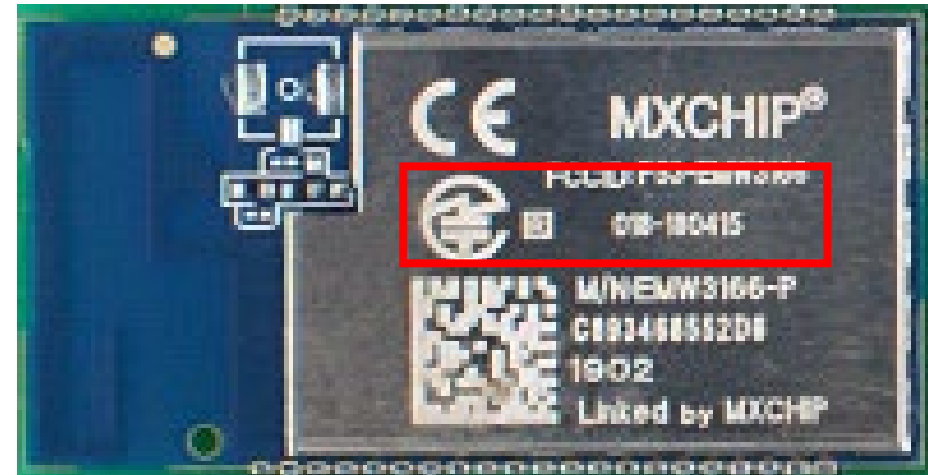
グローバル



IoT in Action

Barcelona, Spain
Santa Clara, USA
Taipei, Taiwan
Shenzhen, China
New York, USA
Seoul, South Korea
Tokyo, Japan
Orlando, USA
Nuremberg, Germany
Sydney, Australia
Hanover, Germany
Taipei, Taiwan

グローバル



グローバル

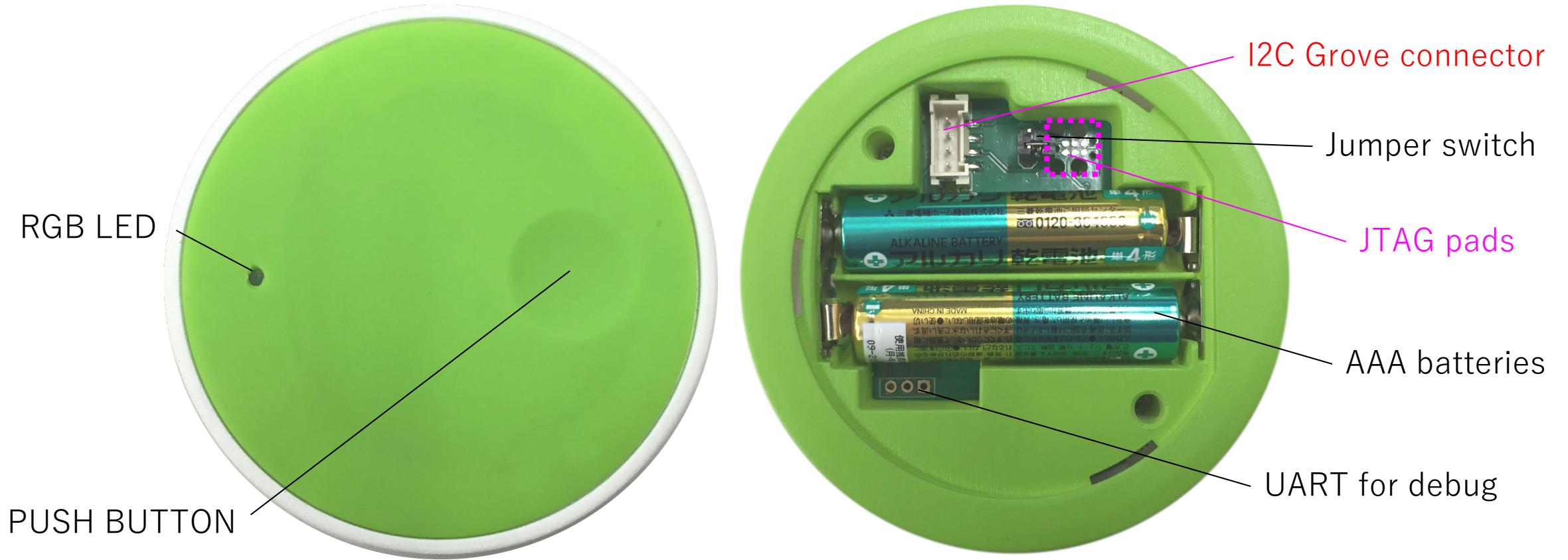
The screenshot shows a web browser window displaying the product page for the Seeed ReButton. The browser's address bar shows the URL `seedstudio.com/ReButton-p-2930.html`. The website header includes the Seeed logo, navigation links for Shop, Fusion PCB/PCBA, and Community, a search bar, and a Sign in button. The breadcrumb trail reads: Home / User Interface / Button / ReButton.

The main content area features a large 3D rendering of the ReButton, which is a green circular button with a grey base. To the left of the main image is a vertical gallery of smaller images showing different views and components of the device. On the right side, the product details are displayed:

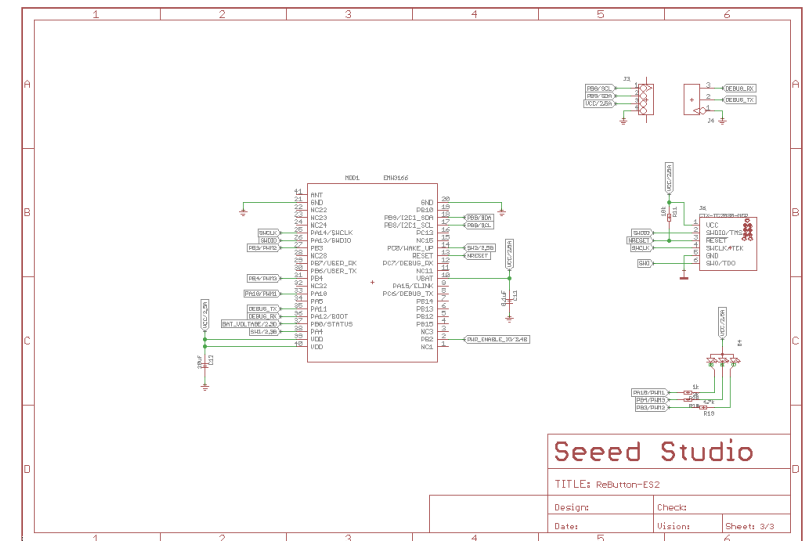
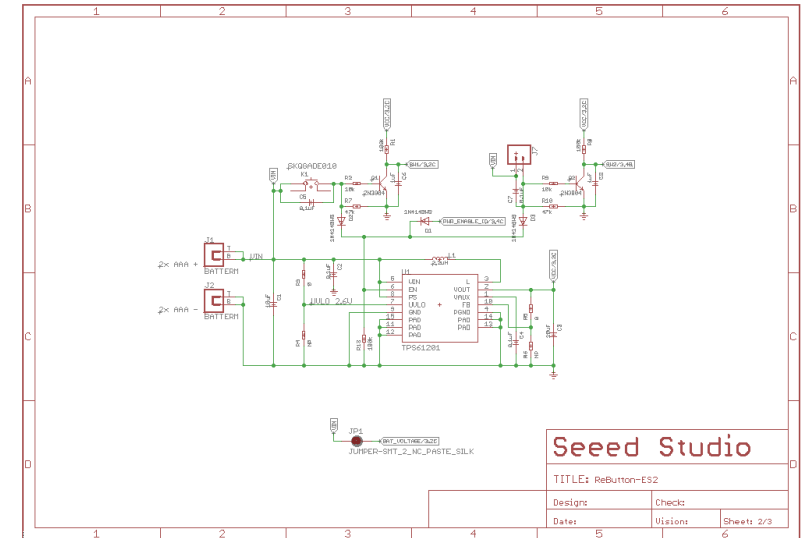
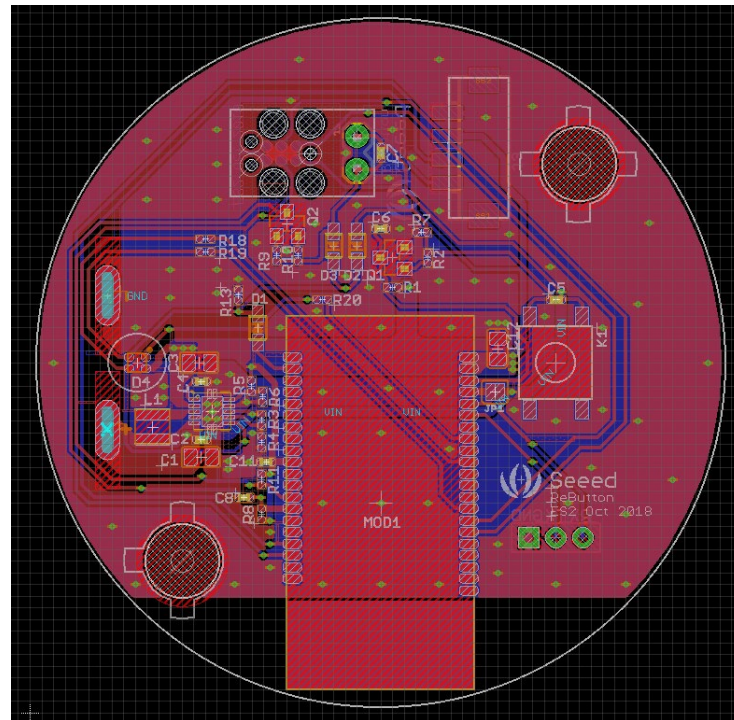
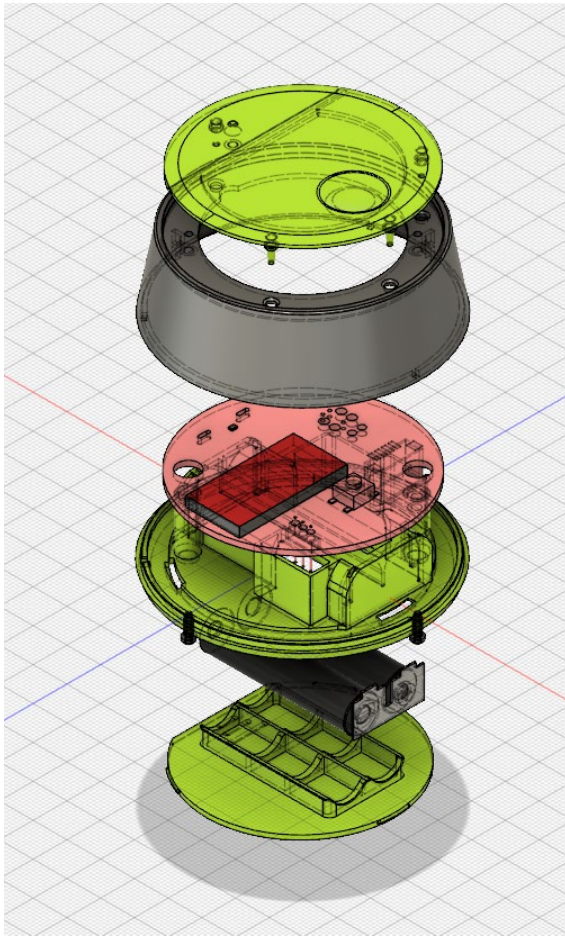
- ReButton** (SKU 114991735)
- 5-star rating
- Description: "Seeed ReButton is a developer device for simple trigger actions, supporting multiple clicks and long press."
- Price: **\$24.90** (70+ In Stock)
- Quantity options: 10+ at \$22.45, 20+ at \$21.15 (with a "More" link)
- Quantity selector: 1 (with minus and plus buttons)
- Warehouse: CN Warehouse
- "Add to Cart" button
- Tags: REBUTTON, IOT BUTTON, IOT, GROVE, AZURE

At the bottom of the page, there is a "Who Viewed This Also Viewed" section with a horizontal carousel of related products. A "CONTACT SUPPORT" button is visible in the bottom right corner.

カスタマイズ - ハードウェア



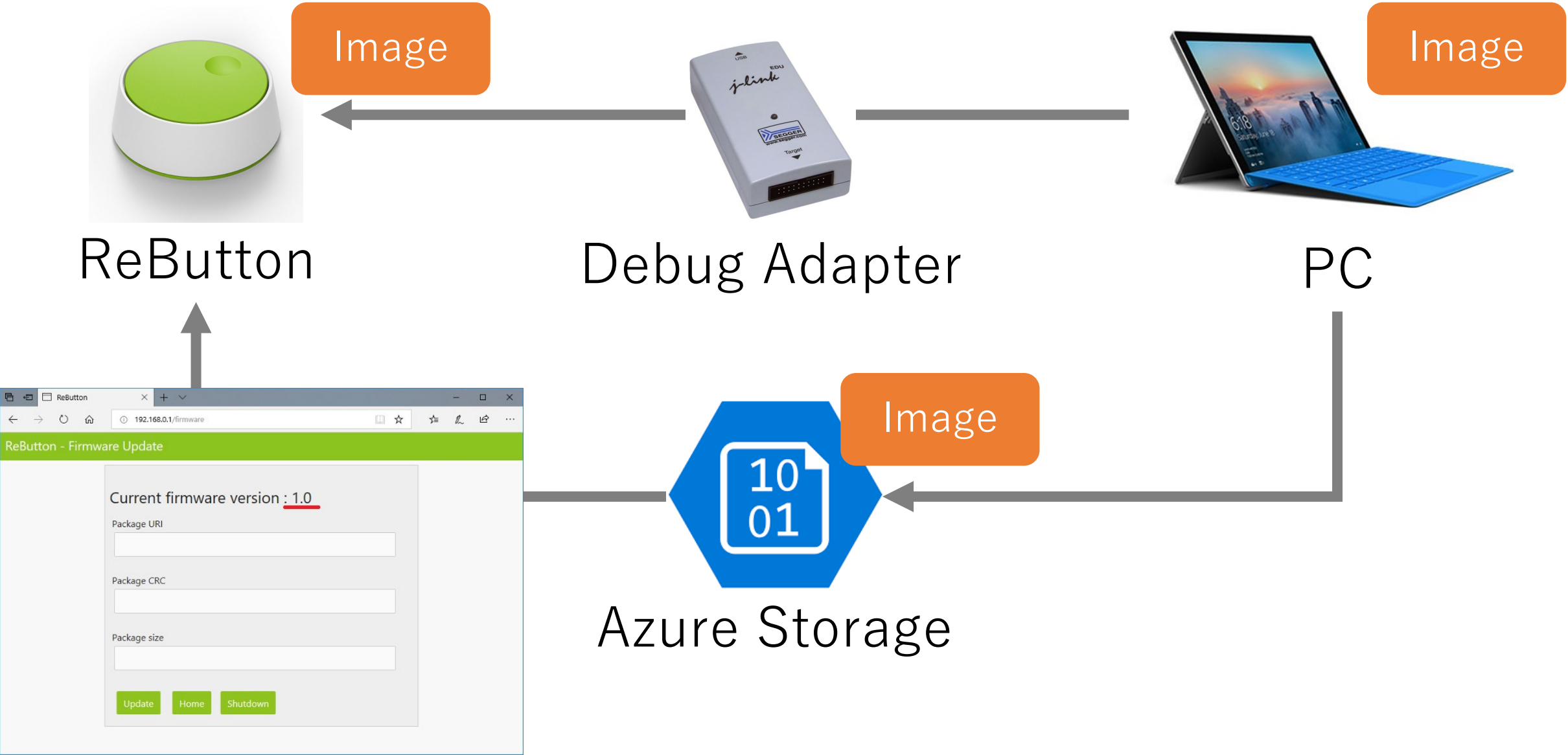
カスタマイズーハードウェア



<https://github.com/SeeedJP/ReButton/tree/master/mechanicals>

<https://github.com/SeeedJP/ReButton/tree/master/electronics>

カスタマイズソフトウェア



カスタマイズ - ソフトウェア

アプリケーション

ReButtonApp

<https://github.com/SeeedJP/ReButtonApp>

ライブラリ

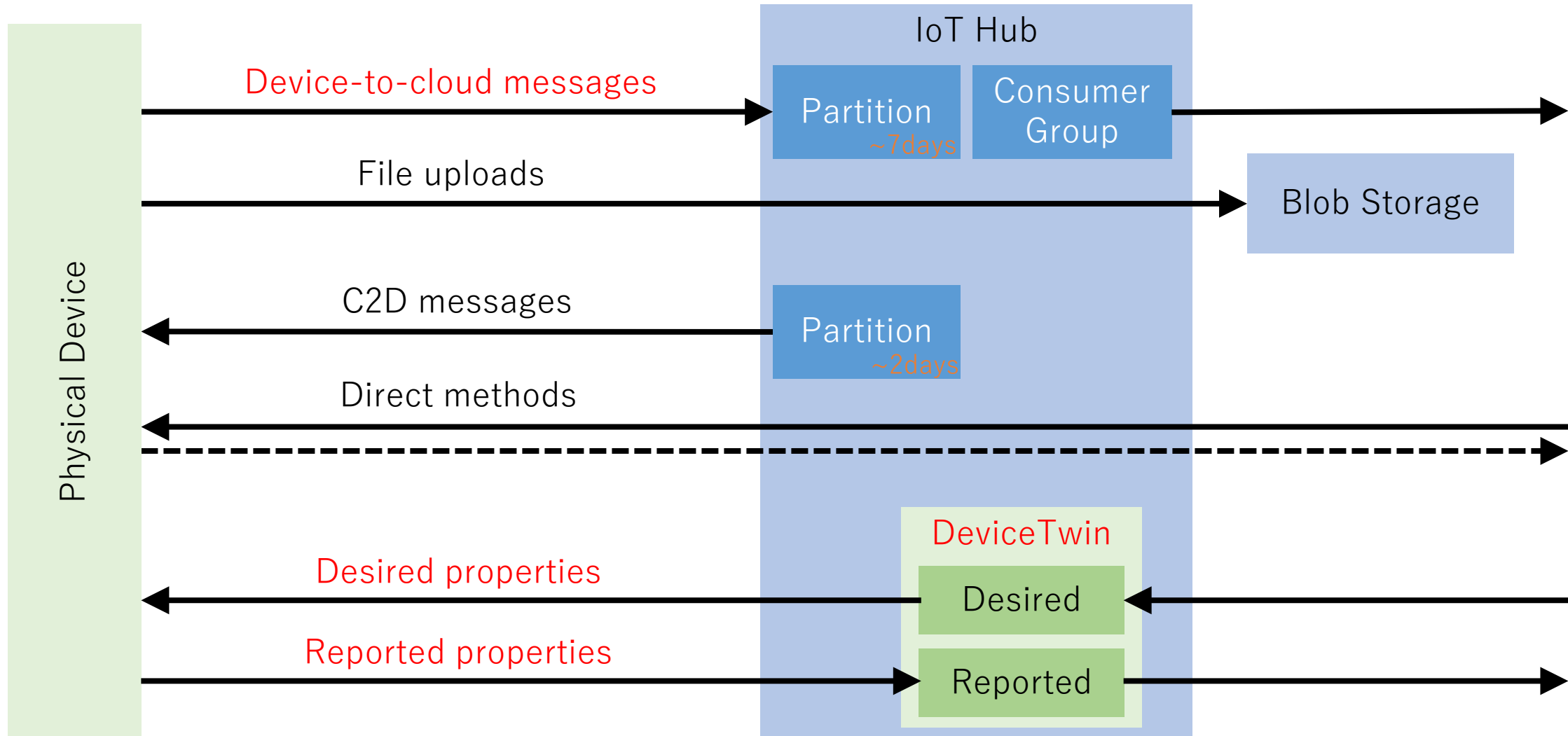
ボード・プラットフォーム

SeeedJP ReButton by Seeed K.K.

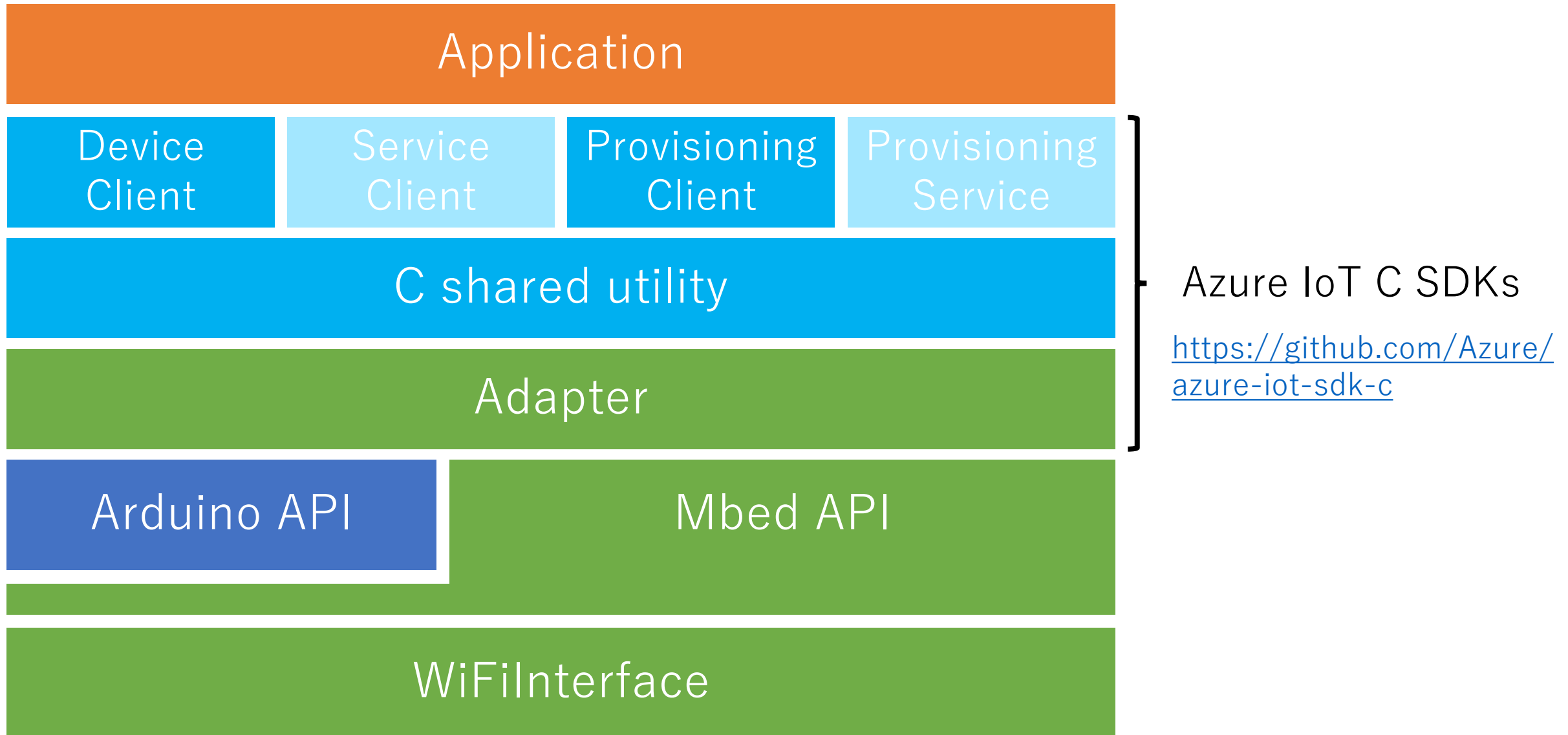
<https://github.com/SeeedJP/ReButtonArduinoPlatform>

Arduino IDE

Communicate a Device and Azure IoT Hub



Azure IoT SDK in ReButton



Azure IoT Device Client API

IoT Hub接続先を指定：

```
IoTHubClient_LL_CreateFromConnectionString()
```

```
ConnectionStateCallbackFunc
```

D2Cメッセージを送信：

```
IoTHubMessage_CreateFromByteArray()  
IoTHubClient_LL_SendEventAsync()
```

```
SendEventCallback
```

DeviceTwinのReportedを変更：

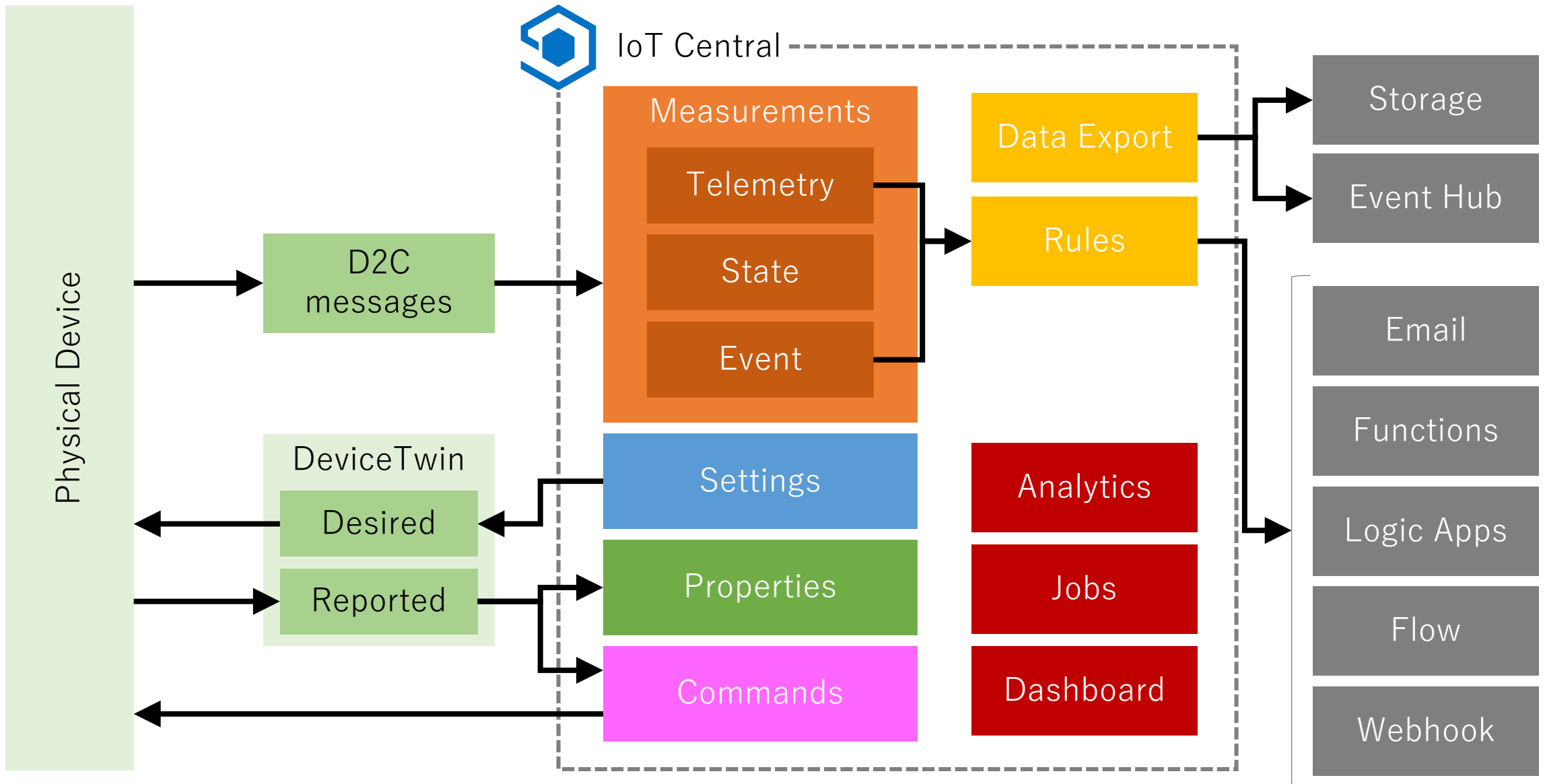
```
IoTHubClient_LL_SendReportedState()
```

```
DeviceTwinReportCallbackFunc
```

DeviceTwinのDesiredの変更通知を受ける：

```
IoTHubClient_LL_SetDeviceTwinCallback()
```

```
DeviceTwinCallbackFunc
```



ReButton and IoT Central Configuration

ReButton Configuration:

Wi-Fi

- ✓ SSID / Passphrase

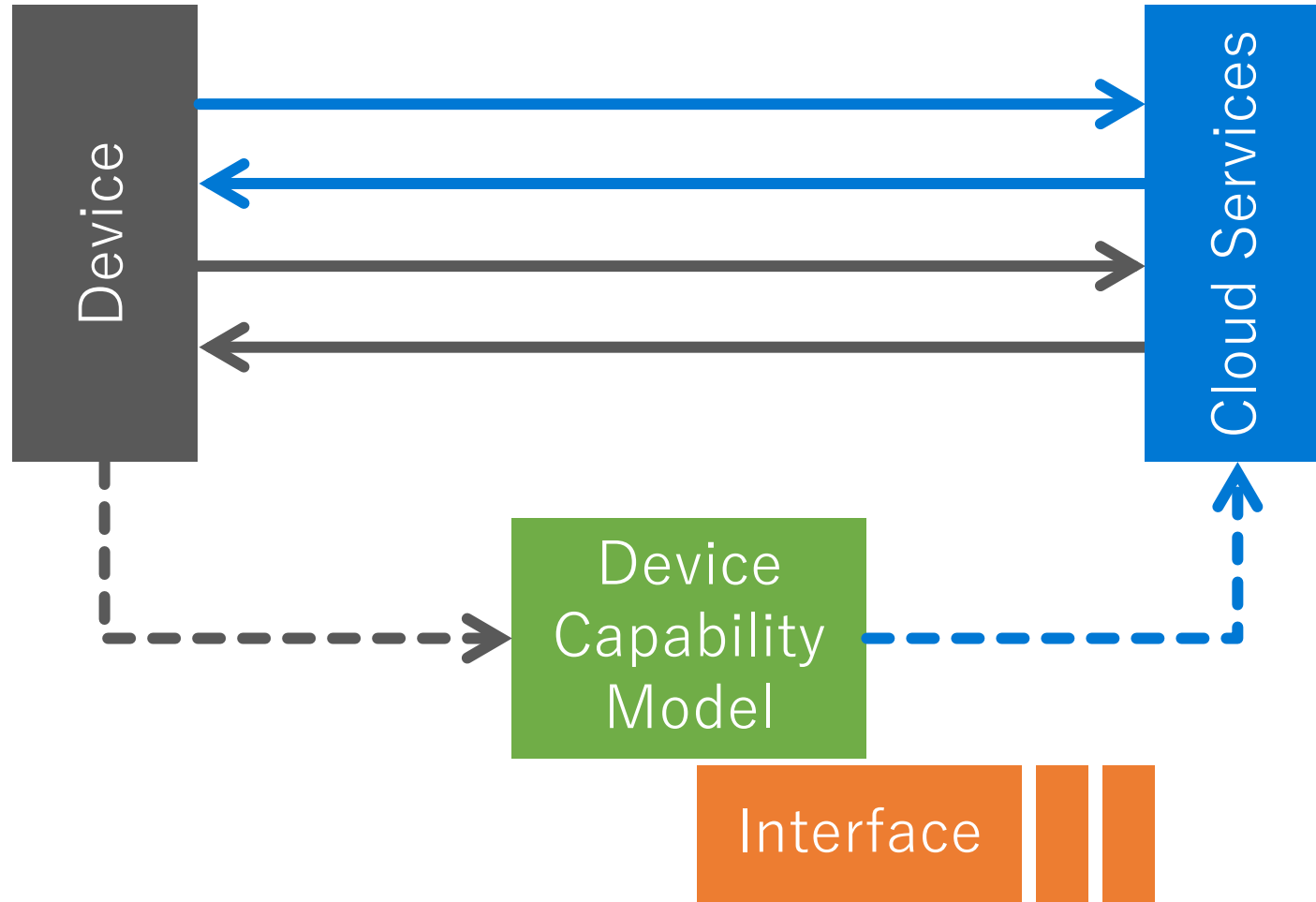
IoT Central

- ✓ Scope ID
- ✓ Device ID
- ✓ SAS Key

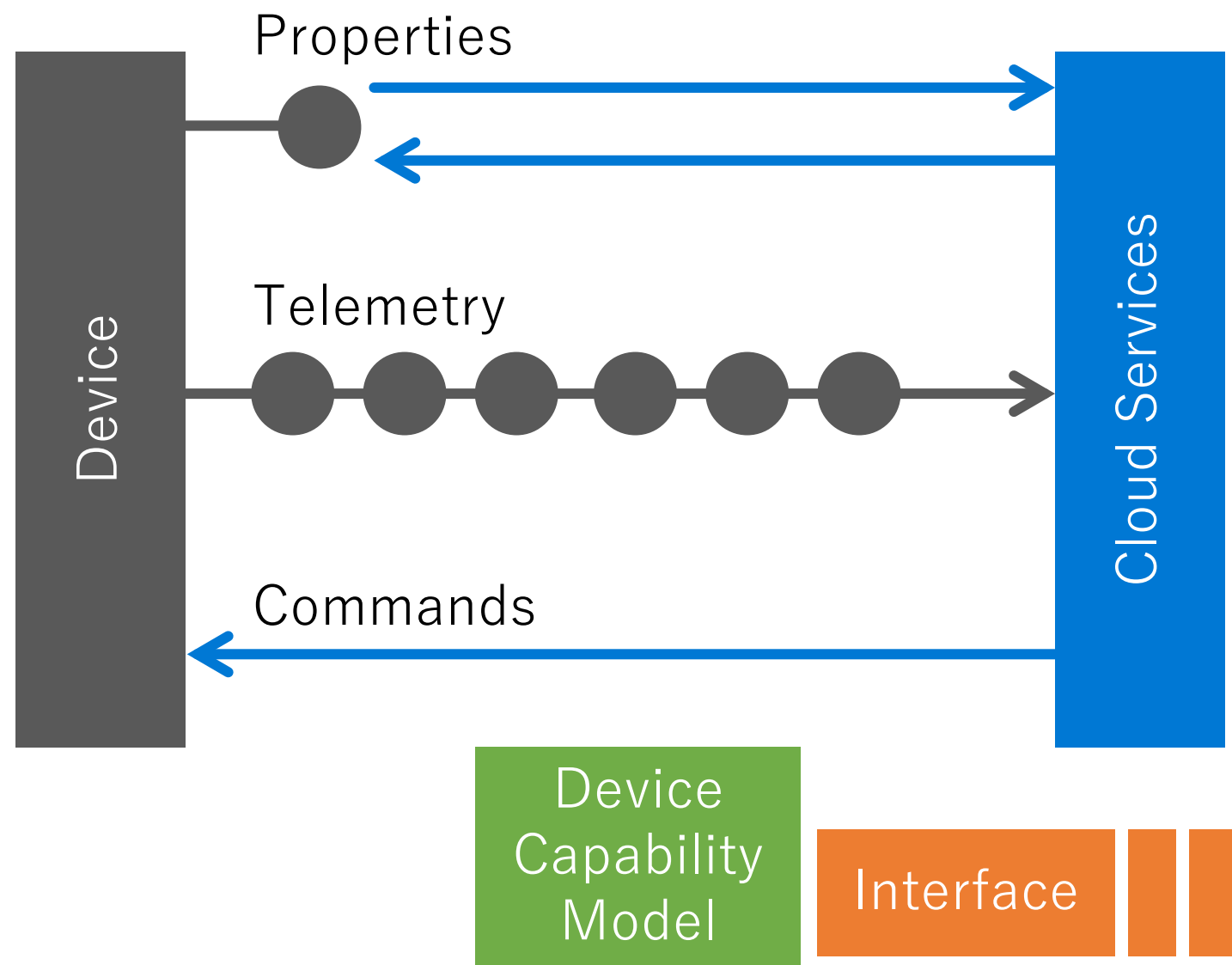
IoT Central Configuration:

- ✓ Create device template
- ✓ Add telemetry/state/event
- ✓ Add real device
- ✓ Copy Scope ID/Device ID/SAS Key

IoT Plug and Play Overview



IoT Plug and Play Contents





Takashi Matsuoka

9月3日 16:03

ReButton、IoT Plug and PlayのPre-certified取れました。
(IoT Plug and Play、チョットデキルようになった)

デバイス仕様

はじめに



ReButton

発行済み: 2019/9/3

ツイート

LinkedIn

電子メール

Get device



Pre-certified IoT Plug and Play 詳細情報

To review device capabilities, download the JSON file. To get firmware for the device, visit the manufacturer's website.

概要

Seed ReButton is a developer device for simple trigger actions.

DEMO: IoT Plug and Play

まとめ

ReButton:

- ✓ Azure IoTを体験する最も簡単なデバイス
- ✓ カスタマイズ可能

Azure IoT Central / Azure IoT Hub:

- ✓ 体験はIoT Central、デバイス開発はIoT Hub

デバイス開発:

- ✓ Azure IoT SDK
- ✓ IoT Plug and Play