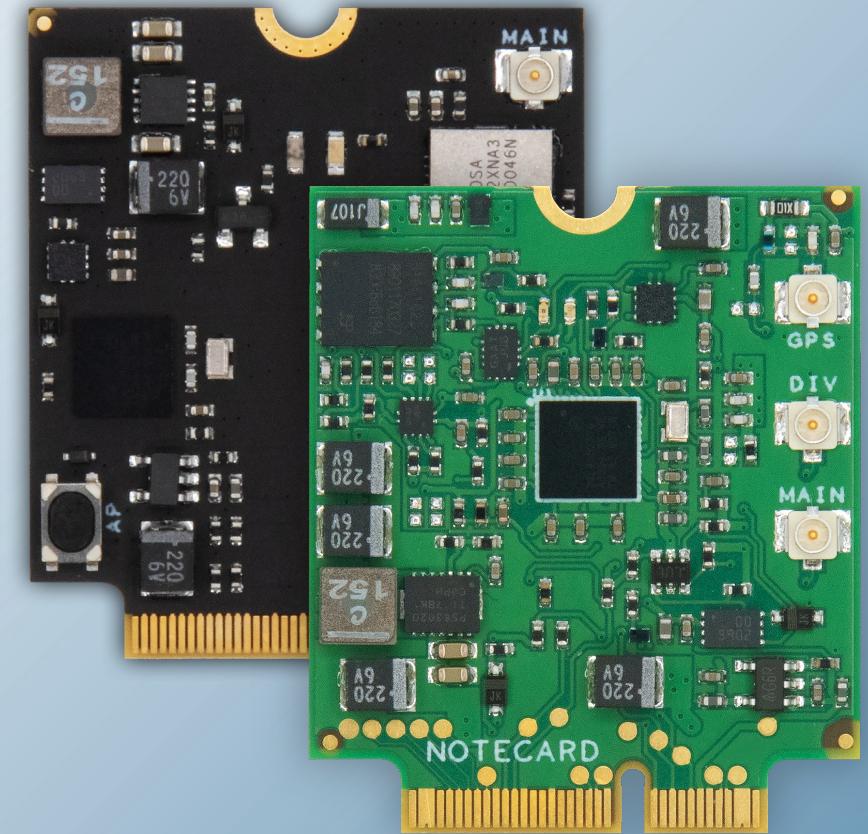


# Introducing Dev-Friendly Wireless IoT with the Notecard

**Rob Lauer**

Director of Developer Relations



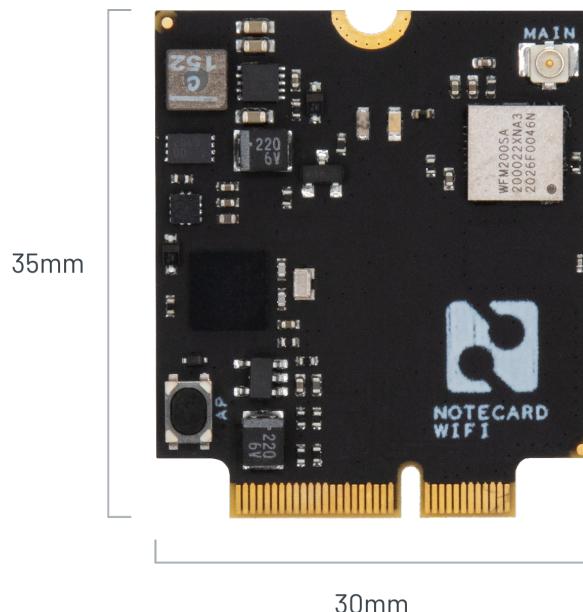
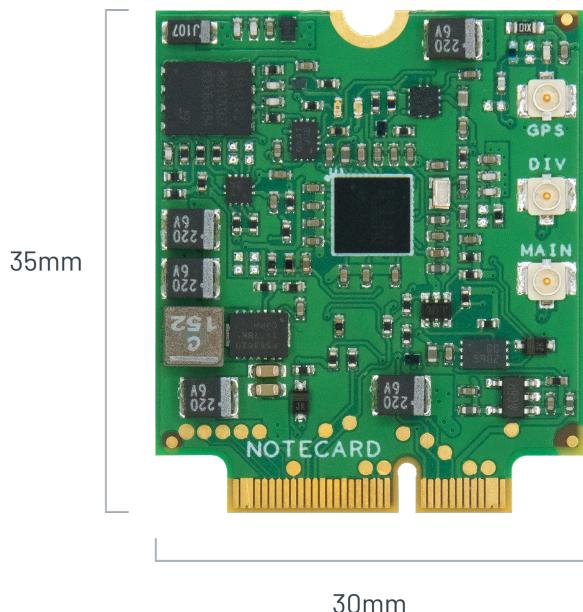
“

**Complexity kills.** It sucks the life out of developers, it makes products difficult to plan, build, and test.

Ray Ozzie - CEO of Blues Wireless

# Section Agenda

- Intro to the Notecard and Blues Wireless
- Lab: Hands-on Wireless IoT
- Lab: Collect Sensor Data and Send to Cloud



 blues wireless



**"Making wireless IoT easier for developers  
and more affordable for all"**

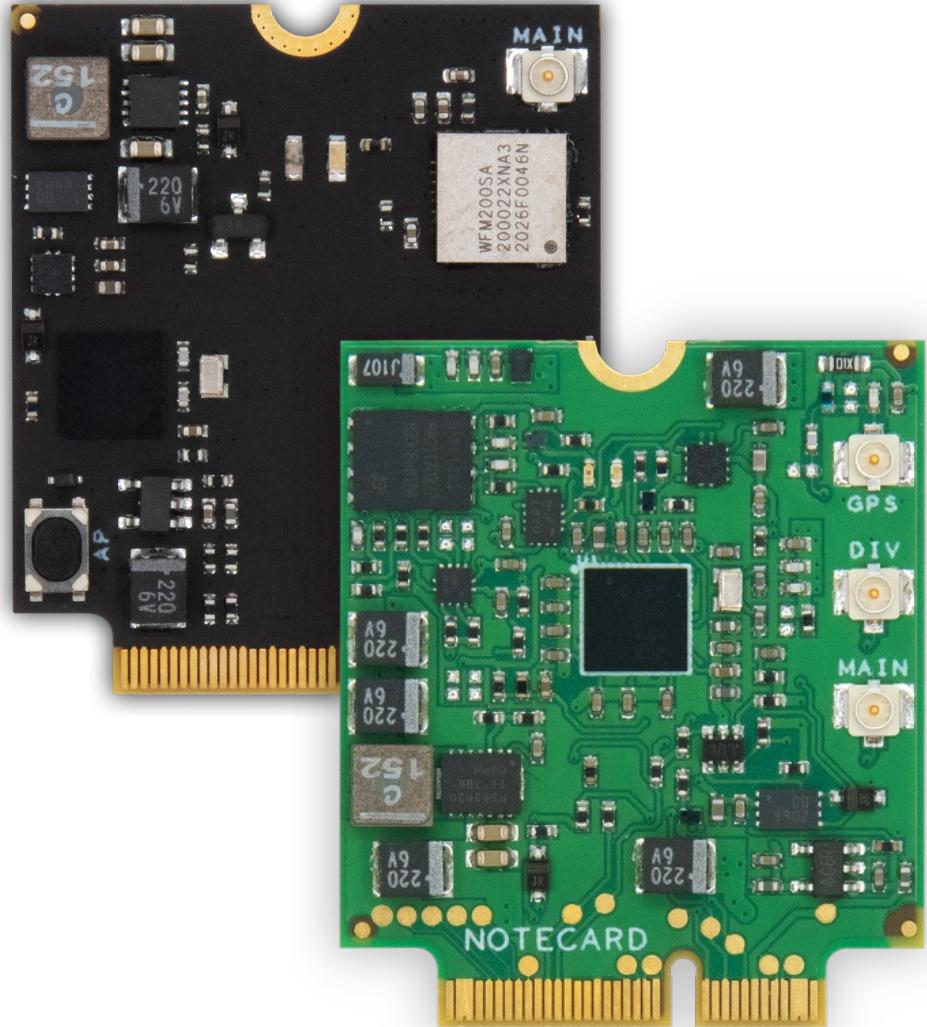


**Easy** for developers and **affordable** for all.

- 🔒 Securing your data from device to cloud
- 🔋 Building zero-config low-power hardware
- 💻 Providing an unmatched developer experience

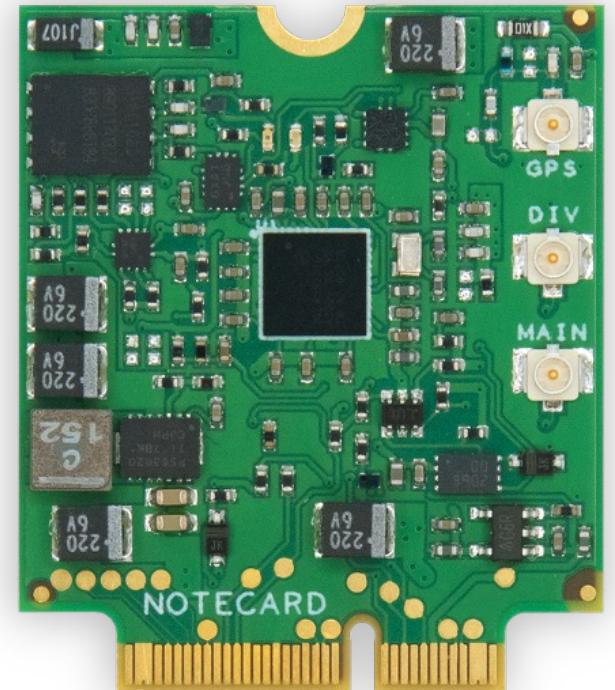
# Notecard

- Low-power system-on-module
- Global cellular/GPS or Wi-Fi
- 500MB cell data + 10 years service
- JSON-based API
- Python, Go, Arduino, C/C++
- Cellular: NB-IoT, LTE-M, Cat-1



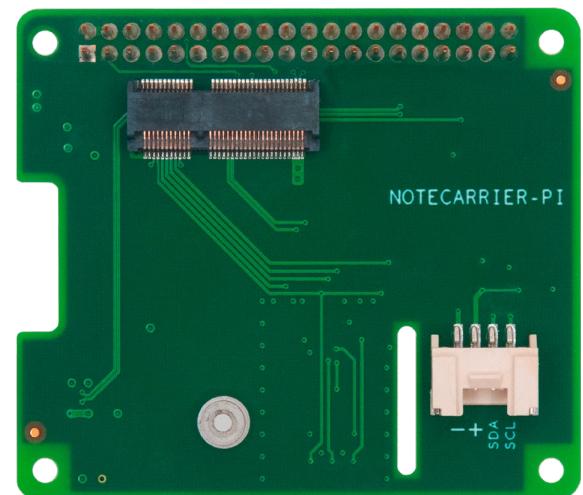
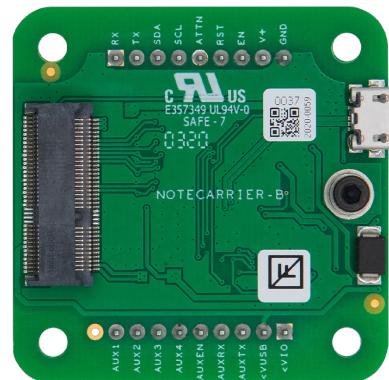
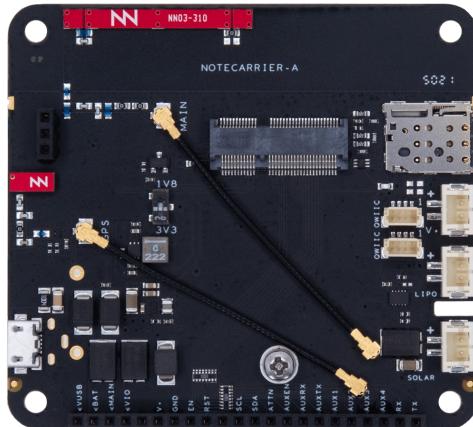
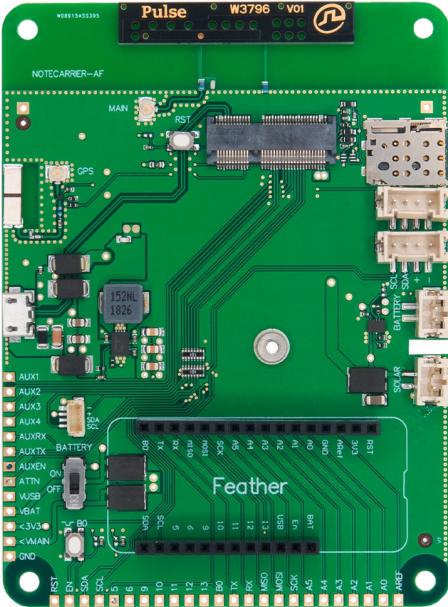
# What don't you need with the Notecard?

- SIM or Separate Mobile Plan
- AT Commands or Cellular Connection Management
- Custom Security Implementation
- OTA DFU
- Power Management
- Cloud Integration



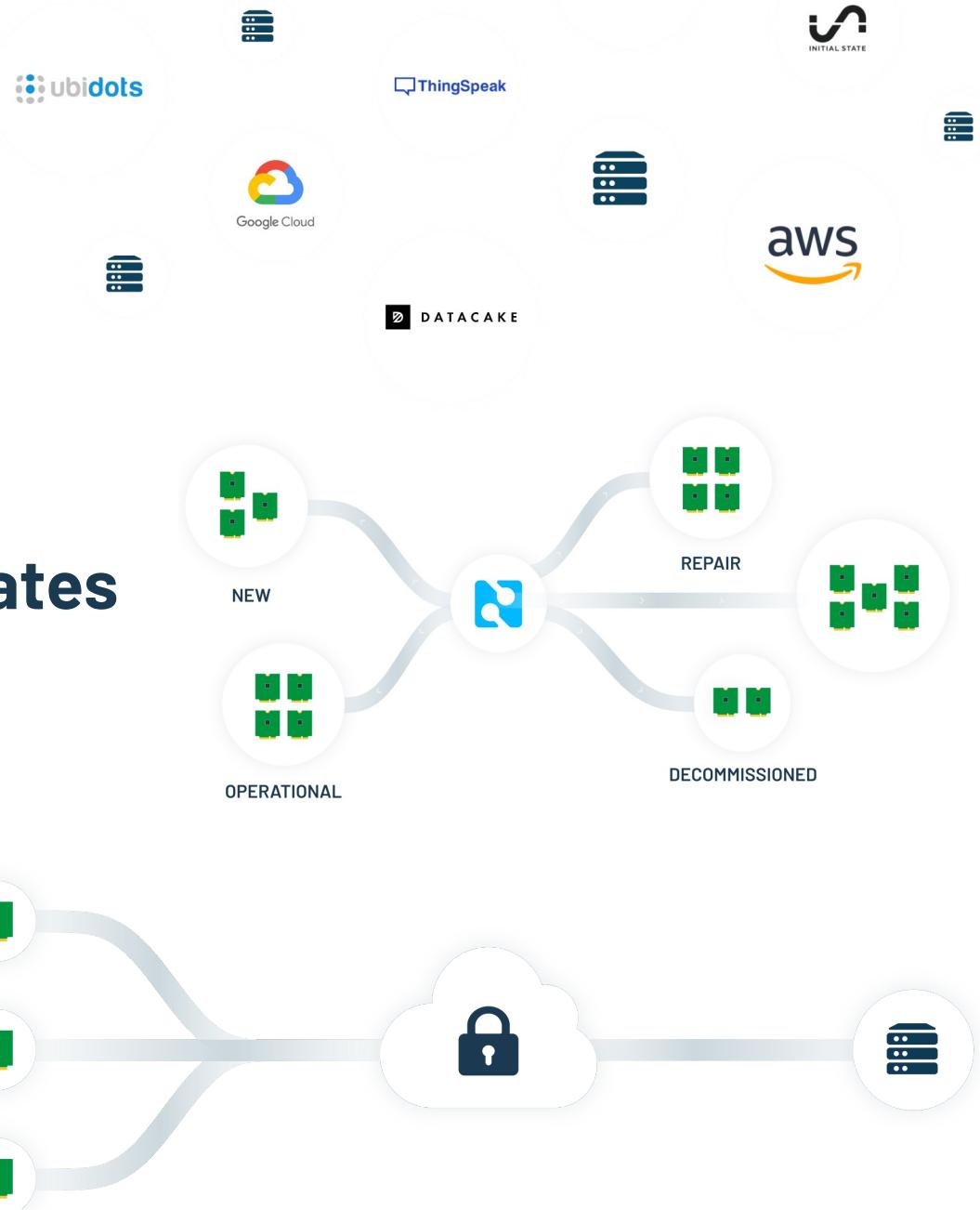
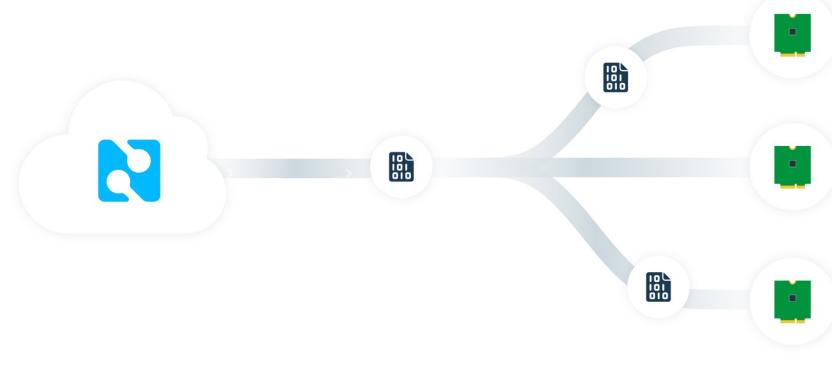
# Notecarrier

- Dev boards for easy prototyping
  - Notecarrier for every scenario:
    - **A**F – Feather-compatible socket
    - **A** – Any MCU, onboard antennas
    - **B** – Small form factor
    - **Pi** – Raspberry Pi SBC



# Notehub

- Route data to **any cloud** app
- Manage **fleets** of devices
- OTA MCU/Notecard **firmware updates**
- **Secure** communications



# Example: *card.location* API

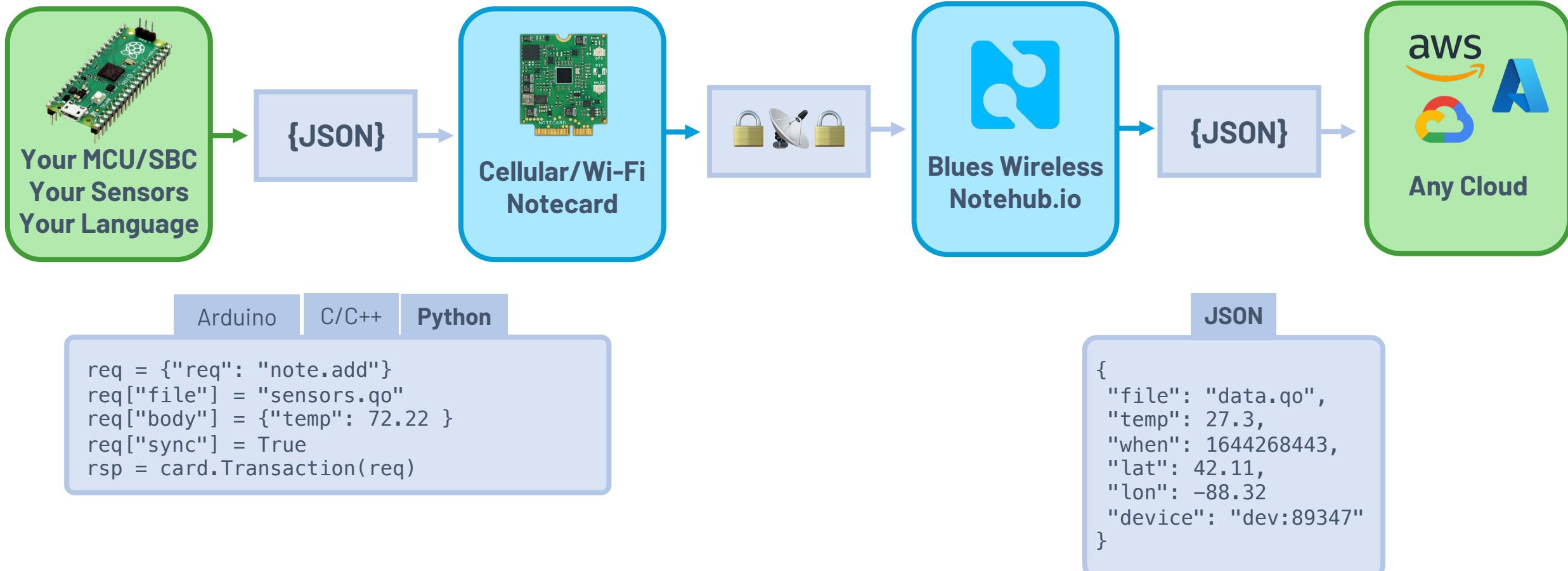
*Request*

```
{ "req": "card.location" }
```

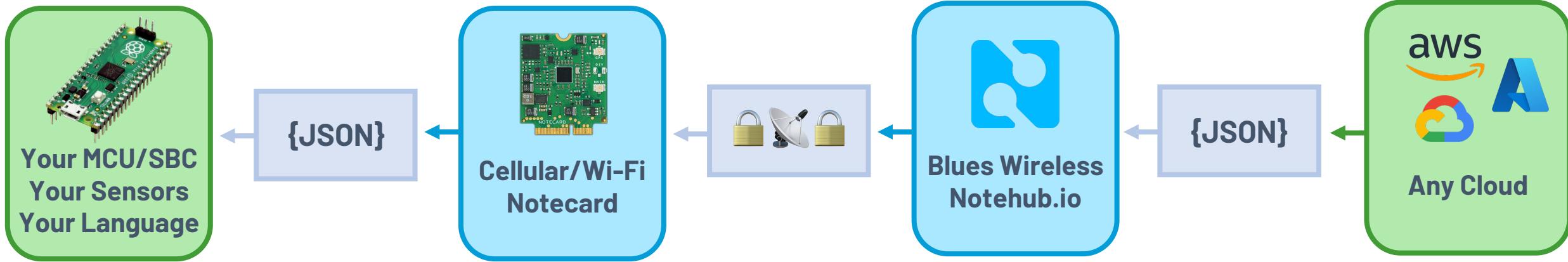
*Response*

```
{  
    "status": "GPS updated (58 sec, 41dB SNR, 9 sats),  
    "mode": "periodic",  
    "lat": 42.577600,  
    "lon": -70.871340,  
    "time": 1598554399  
}
```

# Outbound Communication (from MCU to Cloud)



# Inbound Communication (from Cloud to MCU)



Arduino   C/C++   Python

```
req = {"req": "note.get"}  
req["file"] = "data.qi"  
req["delete"] = True  
rsp = card.Transaction(req)
```

JSON

```
{  
  "file": "data.qi",  
  "sample_freq": 5,  
  "notify": true  
}
```

# Lab 1/4



- Chromium-based Browser
  - (e.g. Chrome or Edge)
- Micro USB Cable
- The Hammer of Blues

*[dev.blues.io/quickstart](https://dev.blues.io/quickstart)*

# Lab 2/4



- VS Code + PlatformIO Extension

*[dev.blues.io/quickstart/swan-quickstart](https://dev.blues.io/quickstart/swan-quickstart)*

# Lab 3/4



No More Tools to Install!

*Sensor Tutorial @ [dev.blues.io](http://dev.blues.io)*

# Lab 4/4



No More Tools to Install!

*Routing Tutorial @ [dev.blues.io](http://dev.blues.io)*