

Cortex-M0でお手軽IoTしてみる

 **SWITCHSCIENCE**

TSUBOI Yoshihiro (@ytsuboi)

会社紹介



- 株式会社スイッチサイエンス
- 2010年に設立
- 社員15名
- オンラインショップ



<https://www.switch-science.com/>

@ssci_official

自己紹介



坪井義浩 (つぼいよしひろ) @ytsuboi

薬屋、ときどきスイッチサイエンス

Make:は趣味



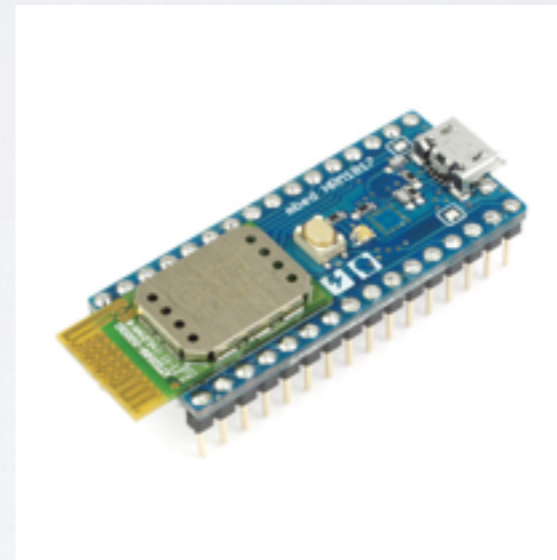
2009



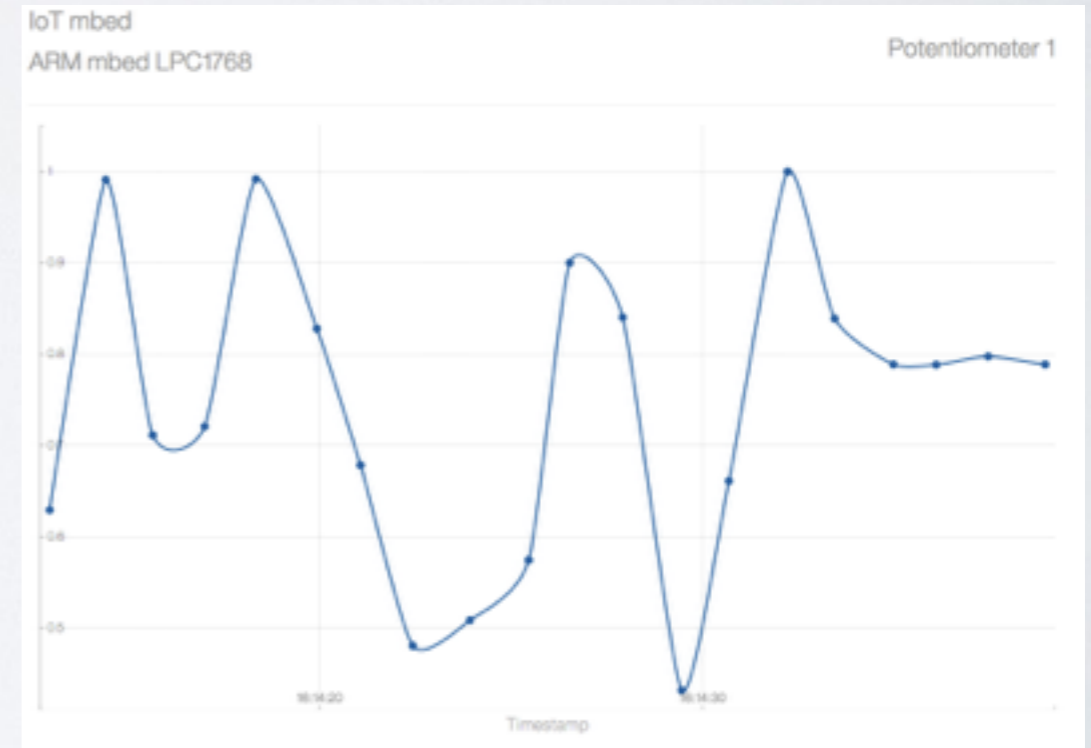
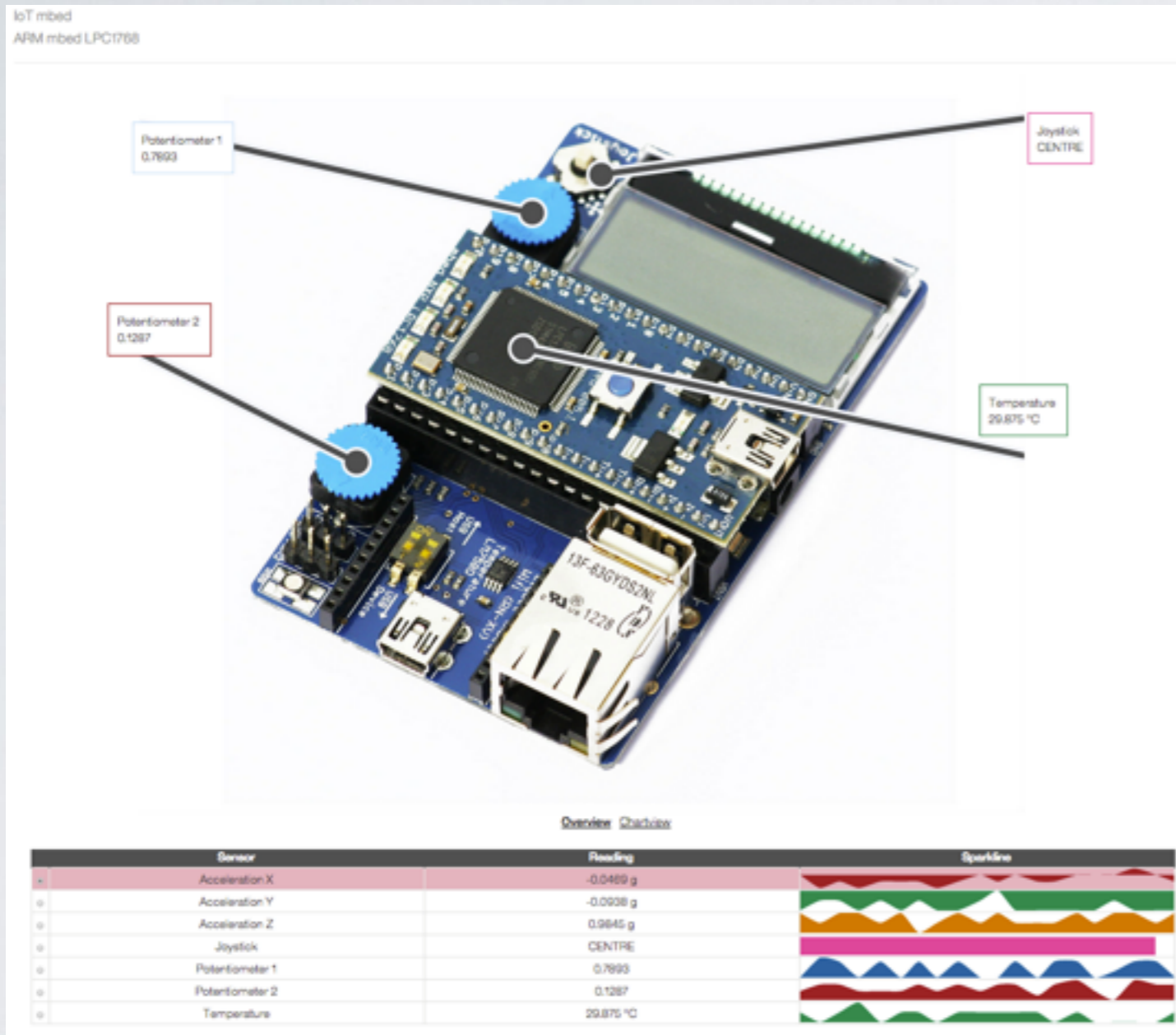
2010-2015



2015-



お手軽IoT



IFTTT (イフト)



[My Recipes](#)

[Browse](#)

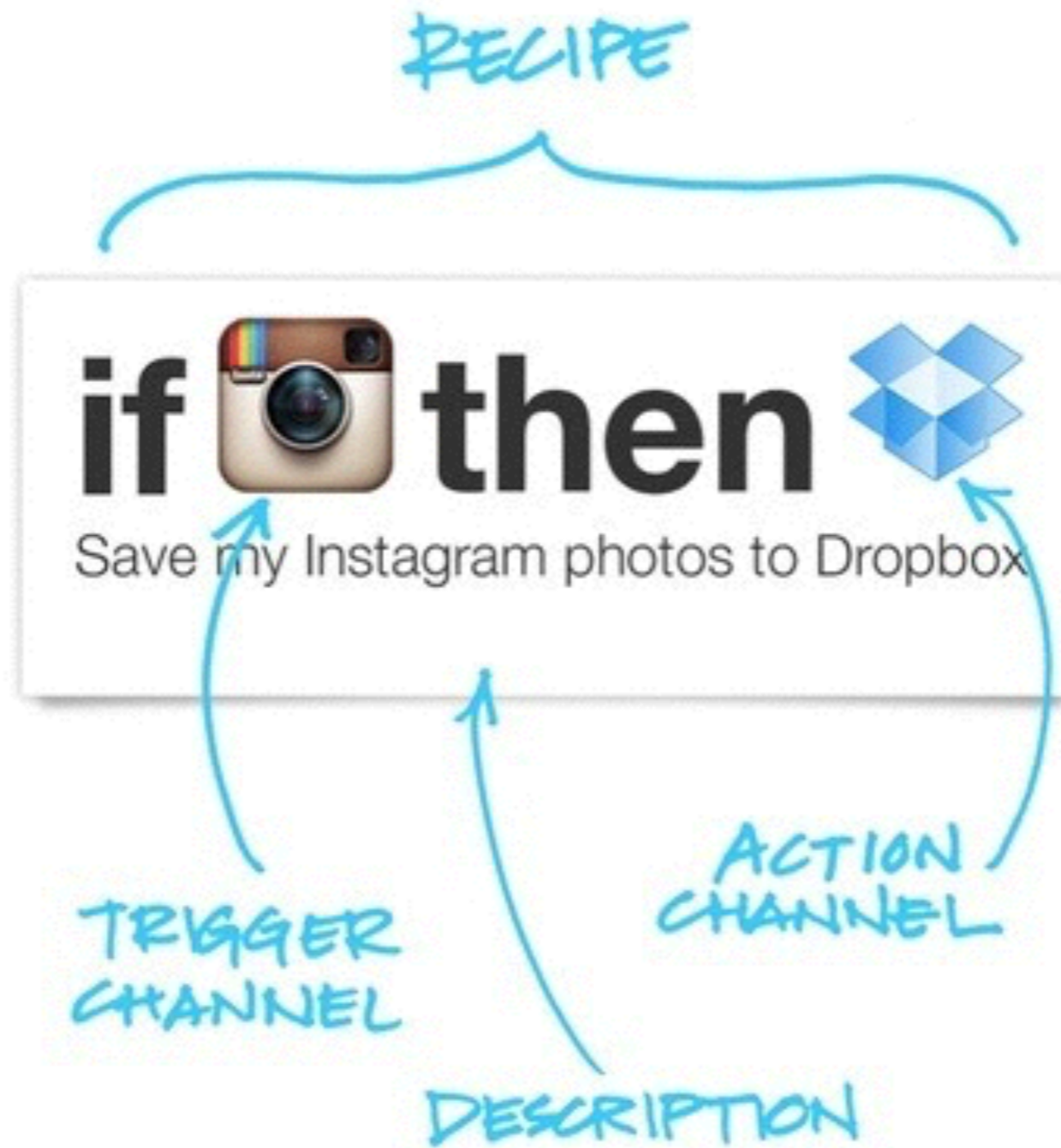
[Channels](#)

[ytsuboi](#) ▾

[Create a Recipe](#)


if this then that

IFTTT




IFTTT

if




then




Notify when mbed SDK tagged

Notes: watching tags on mbed SDK repository

 **Feed URL**

for feed URL requirements, [visit the help page](#)

 **Title**

 **Link URL**

Pushbullet

IFTTT sent you a link
2015/06/09 23:36

mbed: new version! mbed_lib_rev101
http://ifttt.com/missing_link?1433860591

IFTTT sent you a link
2015/06/09 22:31

Pull request [mbedmicro/mbed] Added Nordic SoftDevice license agreement
<https://github.com/mbedmicro/mbed/pull/1170>

IFTTT sent you a link
2015/06/09 21:43



Pull request [mbedmicro/mbed] Fix asynch methods constness
<https://github.com/mbedmicro/mbed/pull/1169>

IFTTT sent you a link
2015/06/09 5:53

Pull request [mbedmicro/mbed] Consolidate waterfall test results
<https://github.com/mbedmicro/mbed/pull/1168>

IFTTT sent you a link
2015/06/09 3:04

IFTTT



Notify when mbed SDK tagged

by ytsuboi

Add

IFTTT

https://ifttt.com/view_embed_recipe/290757-notify-when-mbed-sdk-tagged

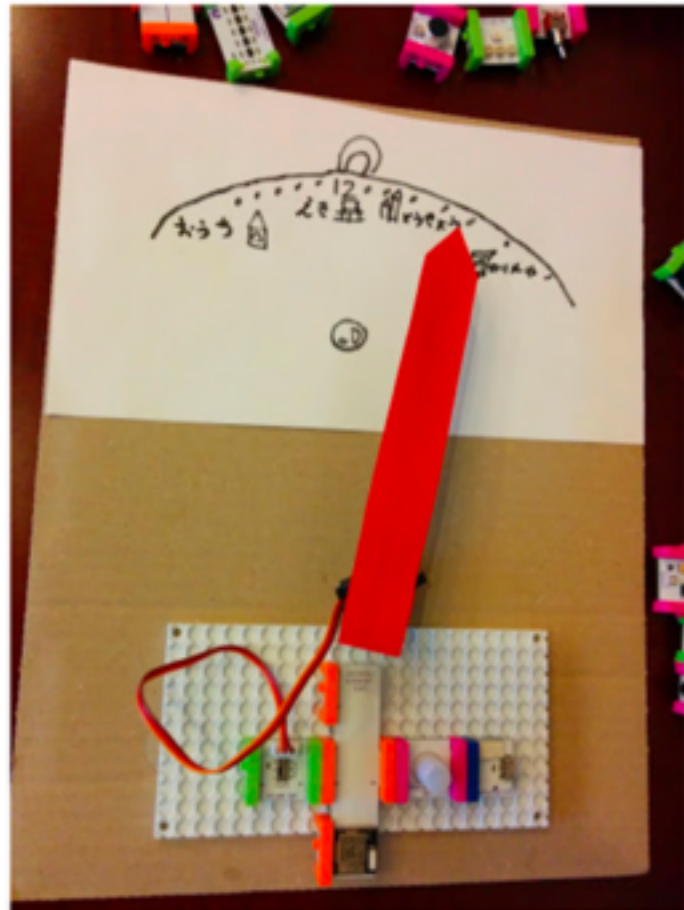
IFTTTでフィジカル



cloudBitとIFTTTで「おとうさんいまどこメーター」を作る

littleBits 9 ifttt 13 IoT 163 cloudBit 7

kazunori279が2014/09/08にKobitoから投稿(2014/09/09に編集)

うちの息子(9)はいつも「おとうさんいつ帰ってくる?」と聞いてくるので、おとうさんいまどこメーターを日曜工作で作ってみた(最初却下された)。



if  **then** 

Recipe Title
家
use '#' to add tags

Receive notifications when this Recipe runs

Trigger
Connects to a specific WiFi network
This Trigger fires every time your Android device connects to a WiFi network you specify.

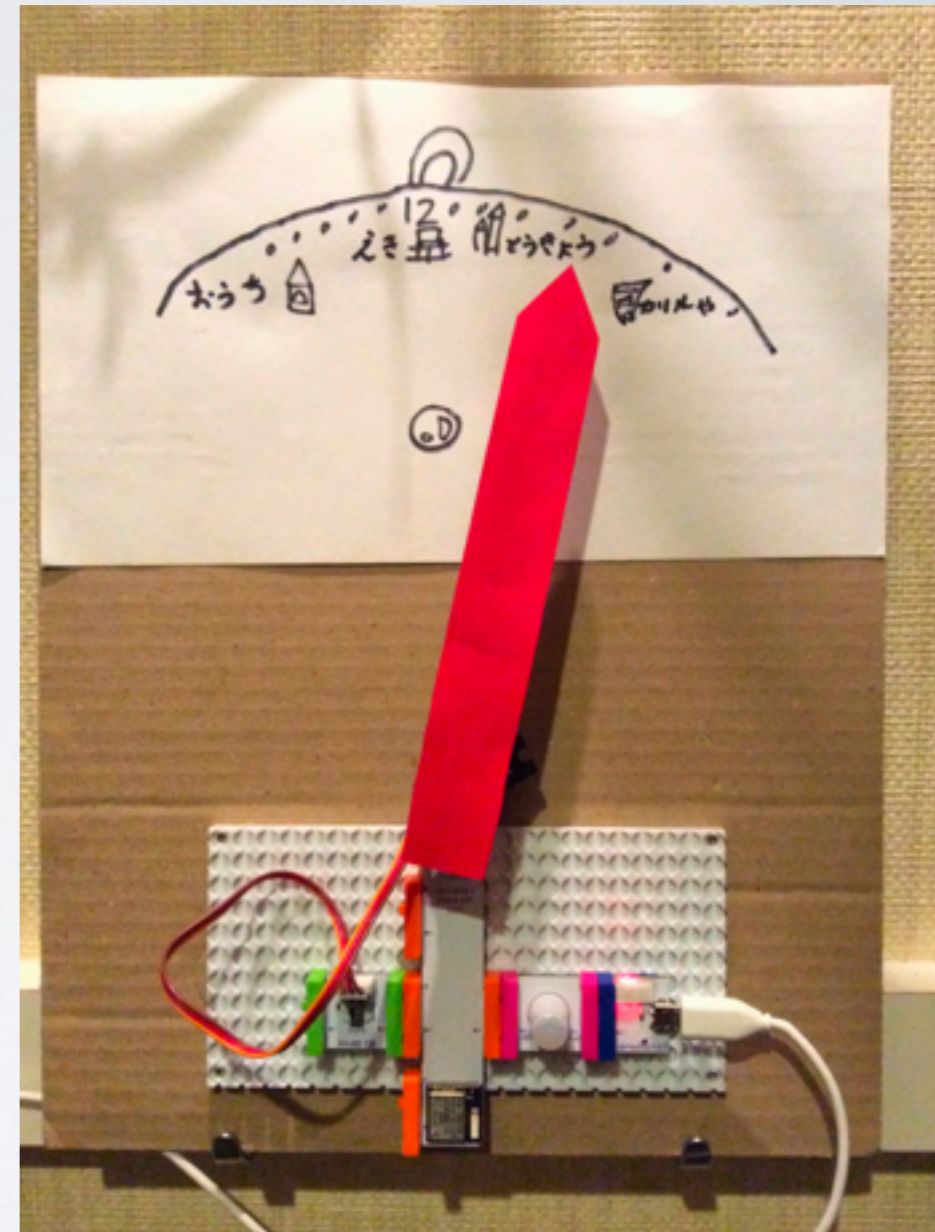
Network name
uchi-no-ssid
Case sensitive e.g. Funny WiFi Name

Action
Set output level
This Action will set the output of your cloudBit to a level you specify for the selected duration.

Which cloudBit?
cloudbits

Output level (0-100%)
50
e.g. 80

Duration
Forever



<http://qiita.com/kazunori279/items/7dbbb525ab0cf6d5d9b5>

Channels

Connected Home



blink(1)



Bttm



ecobee



Energenie
MiHome



Garageio



Greenwave
Systems



Harmony



Homeboy



HomeSeer



Honeywell
evohome



Honeywell Single-
zone Thermostat



HP Print



iSmartAlarm



LIFX



littleBits



Lutron Caséta
Wireless



Anything



Myfox

Channels



[My Recipes](#)

[Browse](#)

[Channels](#)

[ytsuboi](#) ▾

[Contact](#)

Blog

Get a sense for the big picture on the official IFTTT Blog.

@IFTTT on Twitter

For service status updates, new features and good new-fashioned conversation, follow @IFTTT on Twitter.

IFTTT on Facebook

If you like IFTTT and want fancy feature updates, click the like button!

Partnership inquiries

Interested in an IFTTT Channel for your product or service? [Get in touch!](#)

Press inquiries

For inquiries or assets, please visit [our Press page](#).

Help

We're happy to help! What is your question?

スルーされませんでした!

orz

The Maker Channel



The
Maker
CHANNEL

The Maker Channel



My Recipes

Browse

Channels



Maker Channel

← All Channels



The Maker Channel allows you to connect IFTTT to your personal DIY projects. With Maker, you can connect a Recipe to any device or service that can make or receive a web request.

Connect

Triggers

Receive a web request

This Trigger fires every time the Maker Channel receives a web request to notify it of an event. See "How to Trigger Events" on the Maker Channel page (<https://ifttt.com/maker>) for more information.

Trigger fields

Event Name

Actions

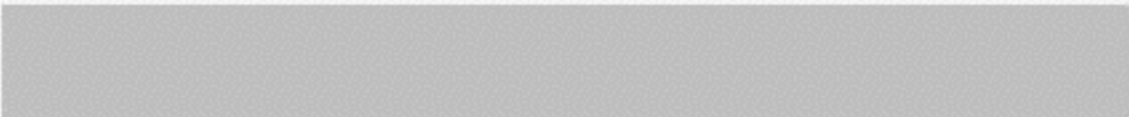
Make a web request

This Action will make a web request to a publicly accessible URL. NOTE: Requests may be rate limited.

Action fields

URL
Method
Content Type
Body


The Maker Channel

Your secret key is: 

[◀ Back to Channel](#)

To trigger an Event

Make a POST or GET web request to:

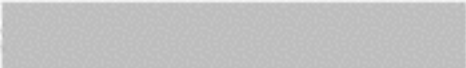
```
https://maker.ifttt.com/trigger/{event}/with/key/
```

With an optional JSON body of:

```
{ "value1" : " ", "value2" : " ", "value3" : " " }
```

The data is completely optional, and you can also pass `value1`, `value2`, and `value3` as query parameters or form variables. This content will be passed on to the Action in your Recipe.

You can also try it with `curl` from a command line.

```
curl -X POST https://maker.ifttt.com/trigger/{event}/with/key/
```

[Test It](#)

Recipe



Maker Event "button_pressed"

Send a notification

Recipe Title

If Maker Event "button_pressed", then send a notification

use '#' to add tags

Trigger


Receive a web request


This Trigger fires every time the Maker Channel receives a web request to notify it of an event. See "How to Trigger Events" on the Maker Channel page (<https://ifttt.com/maker>) for more information.


Event Name

button_pressed


The name of the event, like "button_pressed" or "front_door_opened"

 Turn off

 Publish

 Check

 Log

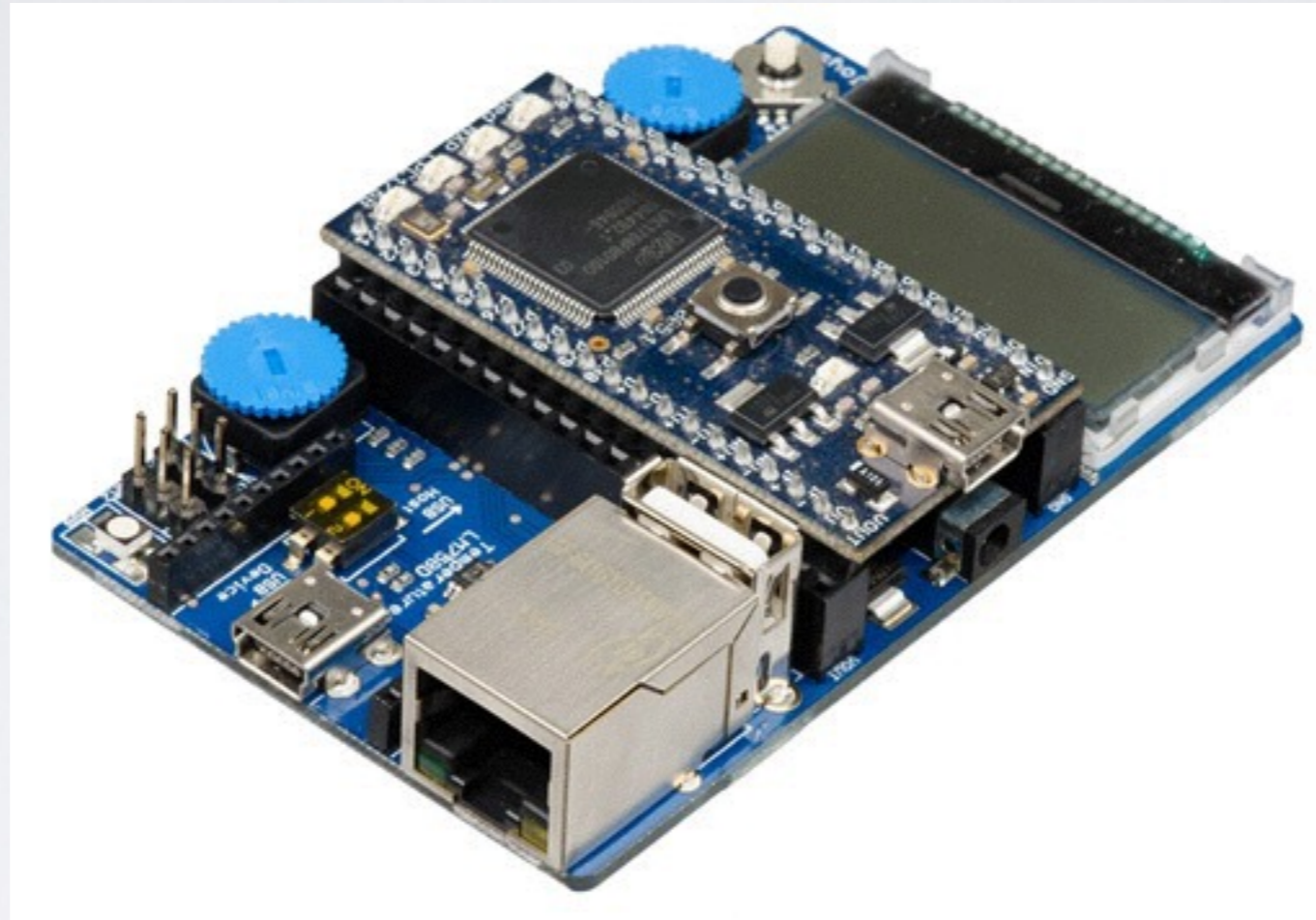
 Delete

created about 5 hours ago

last run about 1 hour ago

run 14 times

mbed LPC1768 + App Board

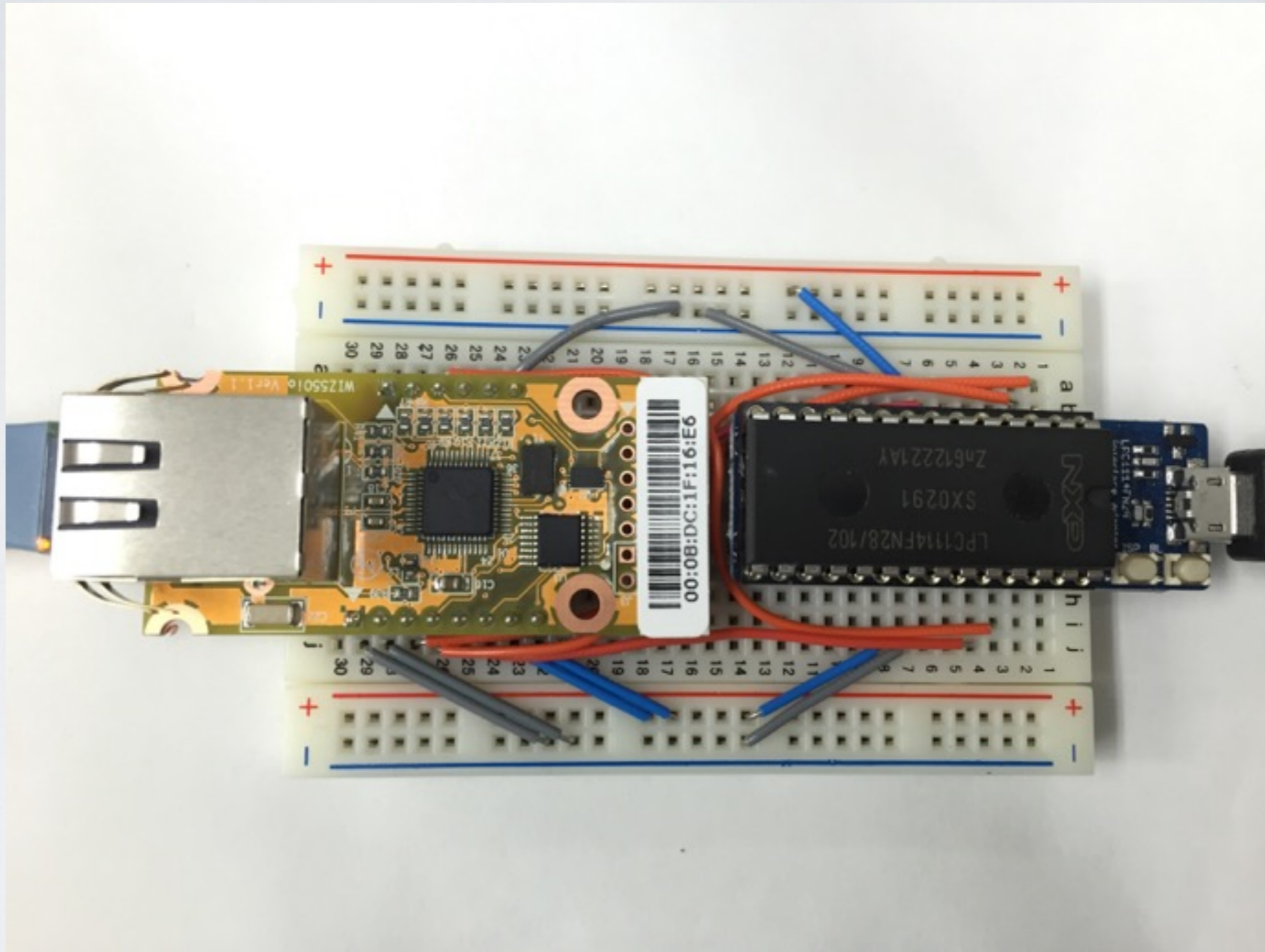


<http://mag.switch-science.com/2015/06/26/ifttt-maker-channel-mbed-raspberrypi-intel-edison/>



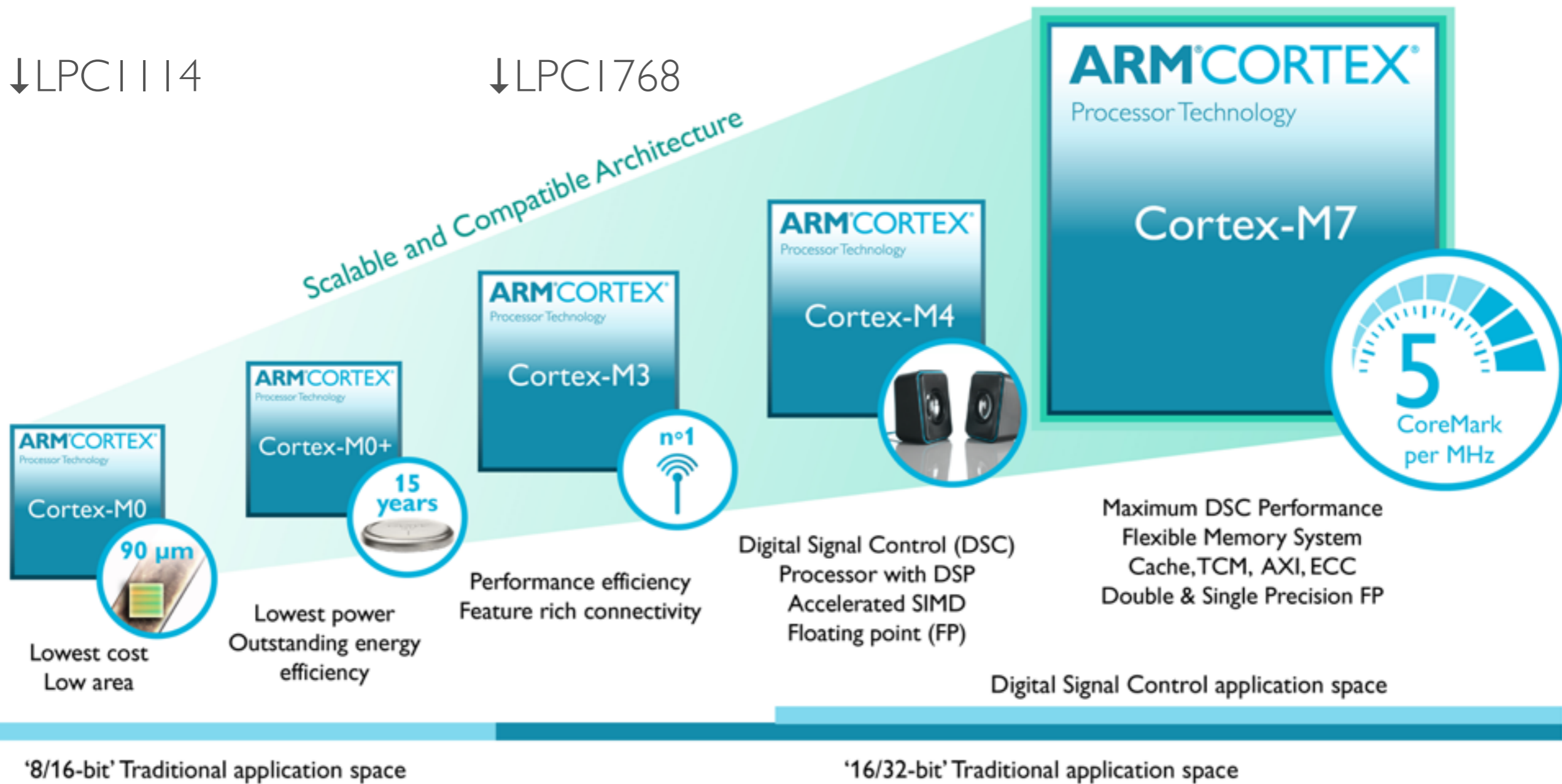
特にLPC1114FN28!!

LPC1114FN28 + WIZ550io

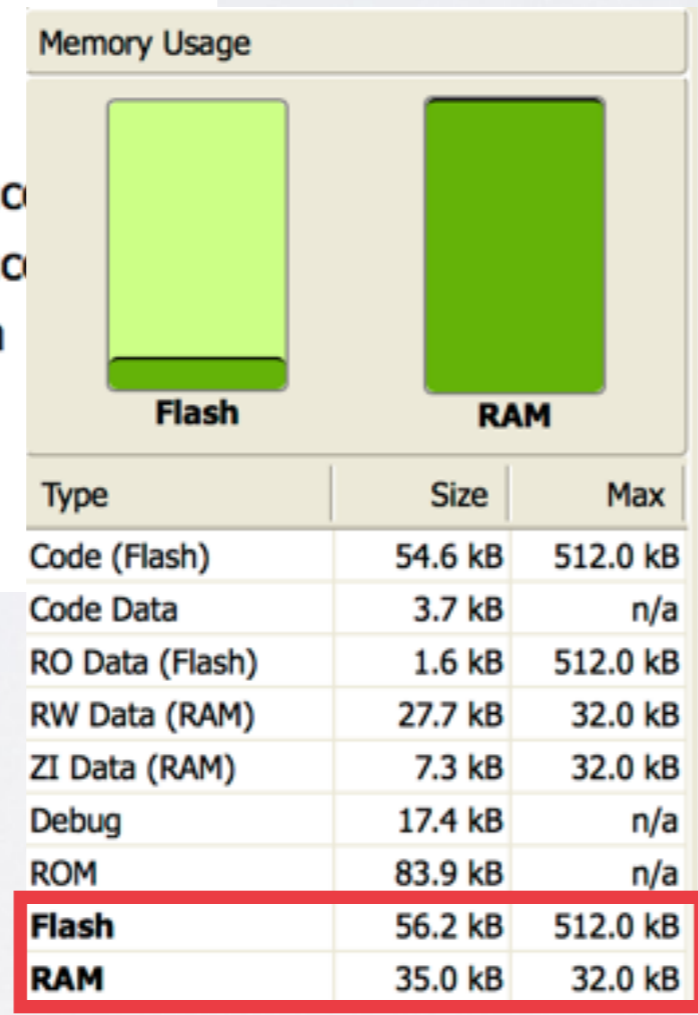
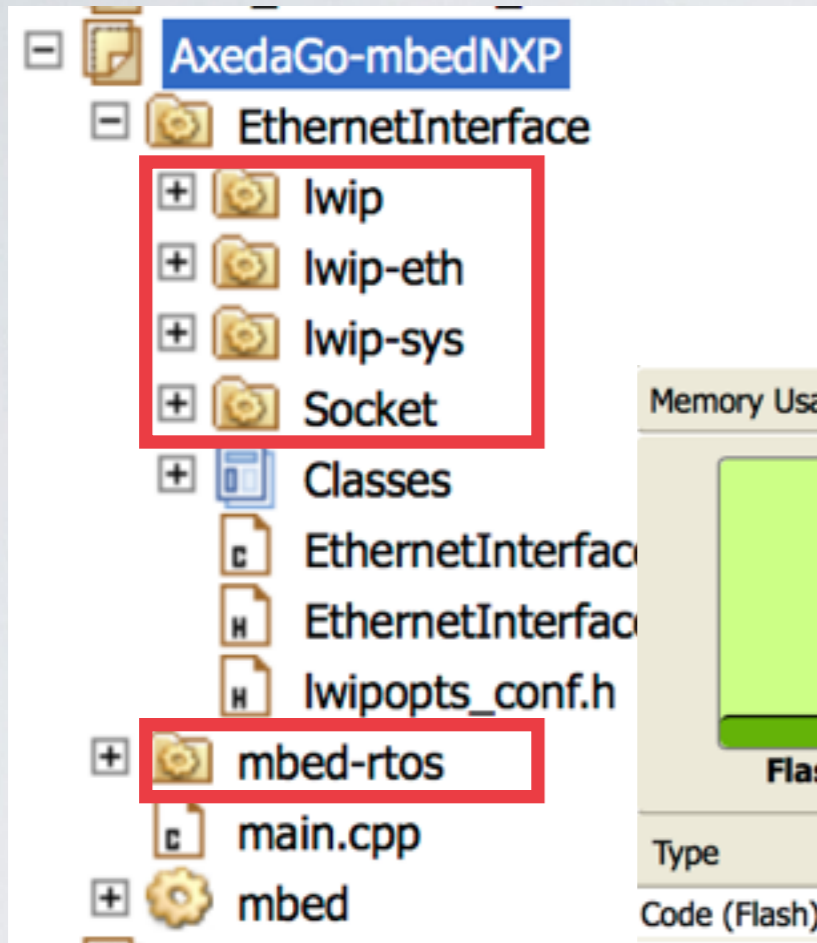


2,160円(216円) + 1,944円 = 4,104円(2,160円)

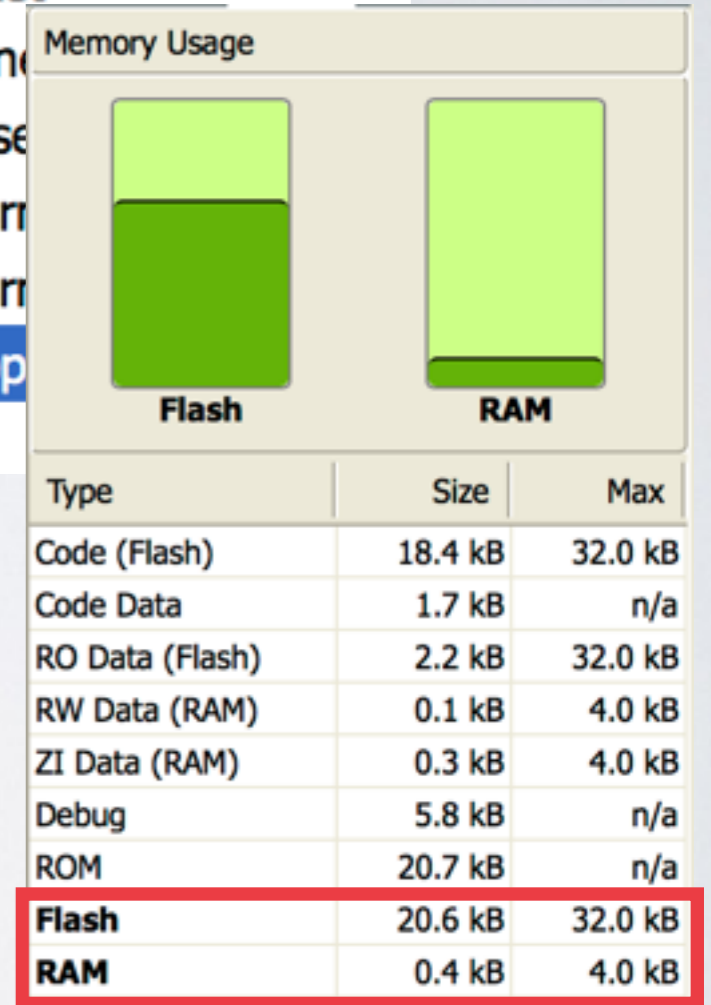
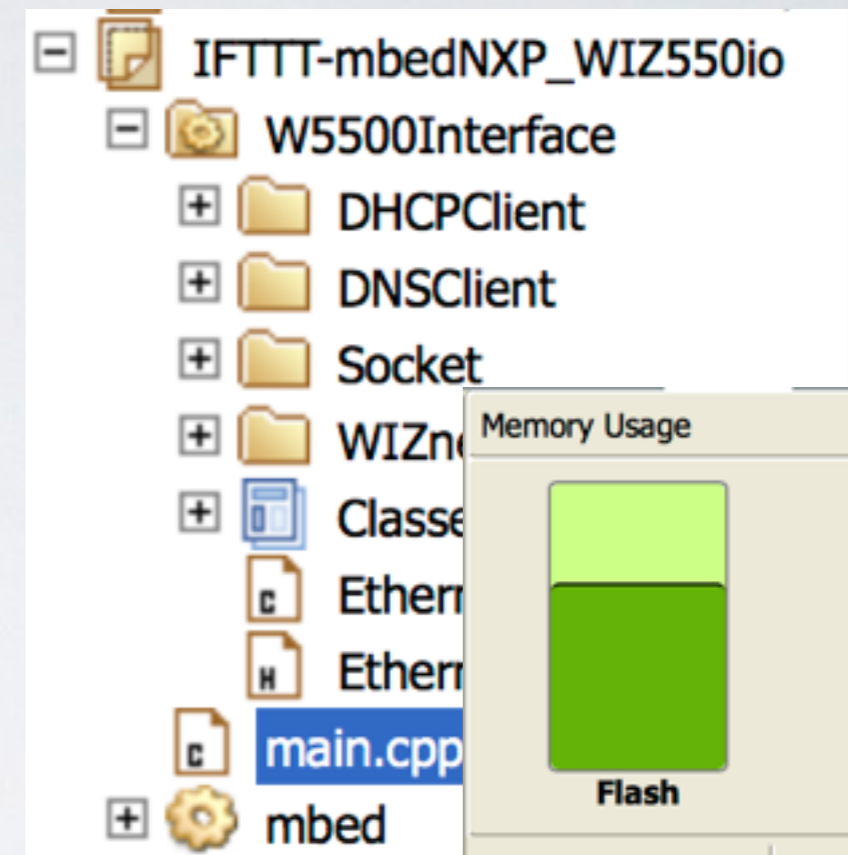
Cortex-M



Hardware offload

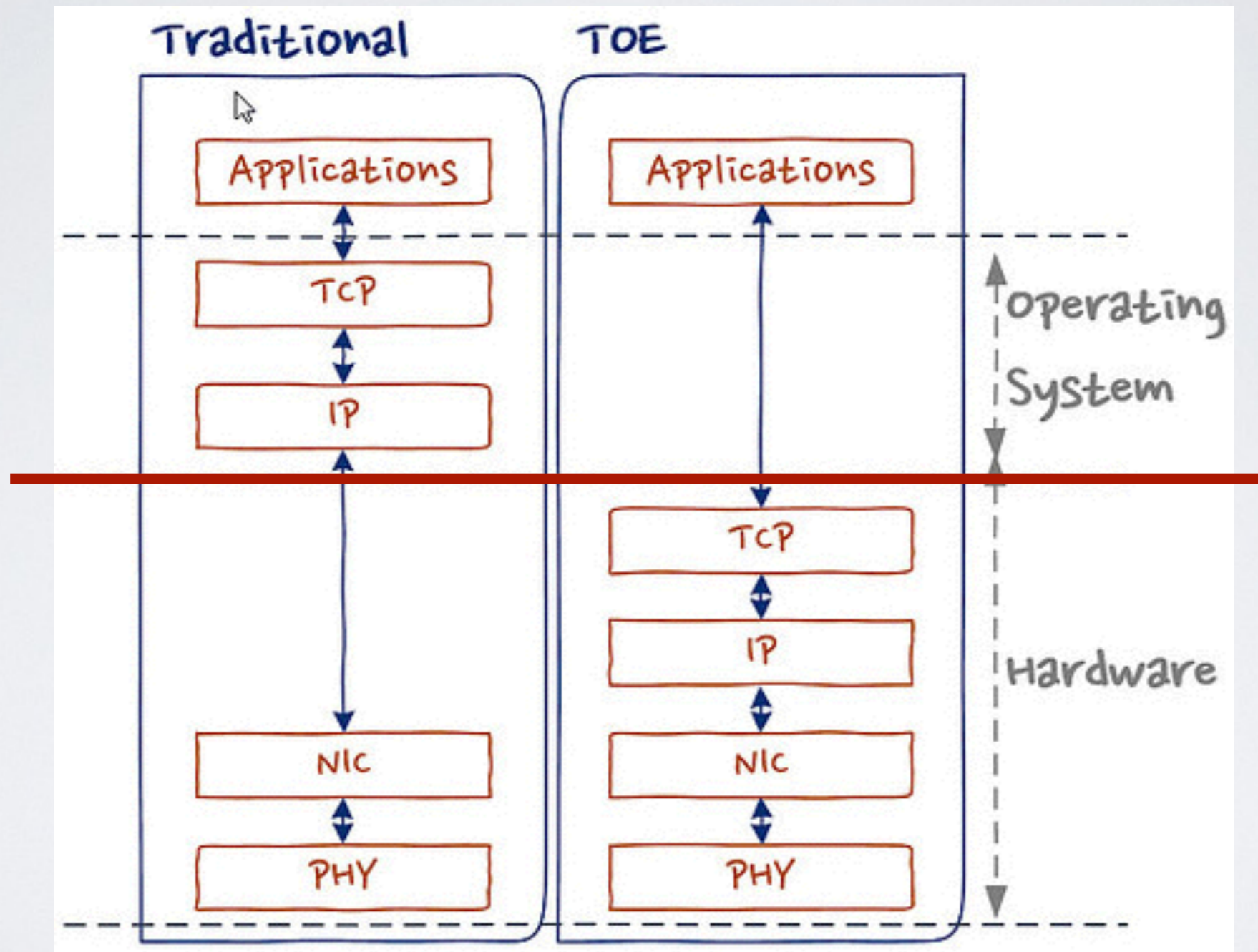


mbed LPC1768



mbed LPC1114FN28
+ WIZ550io

TOE

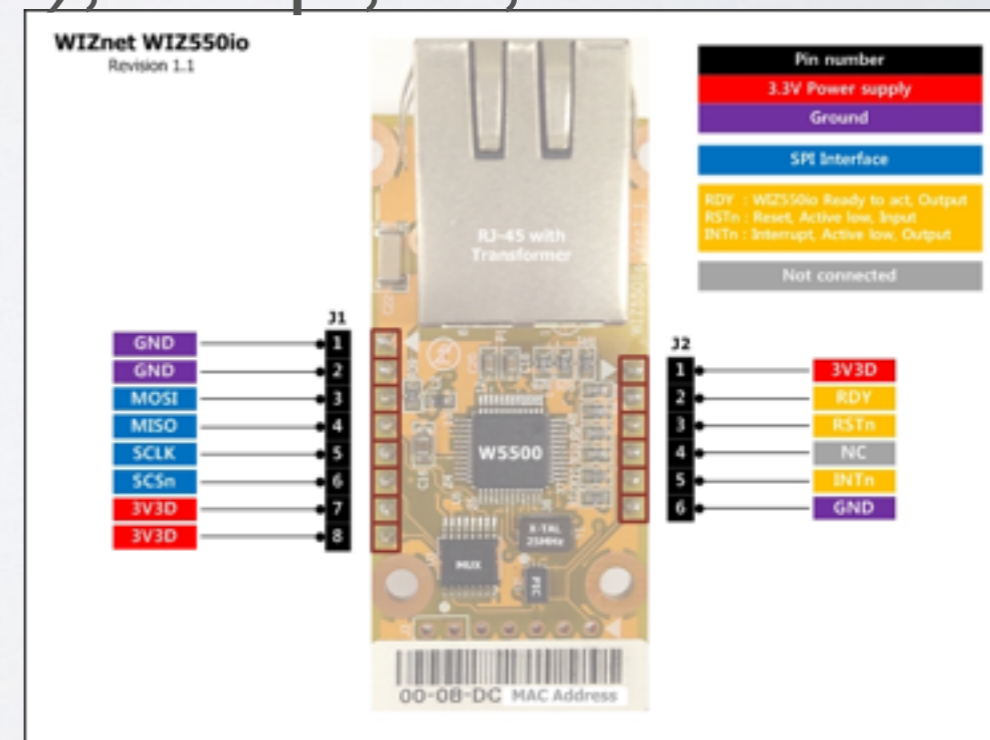
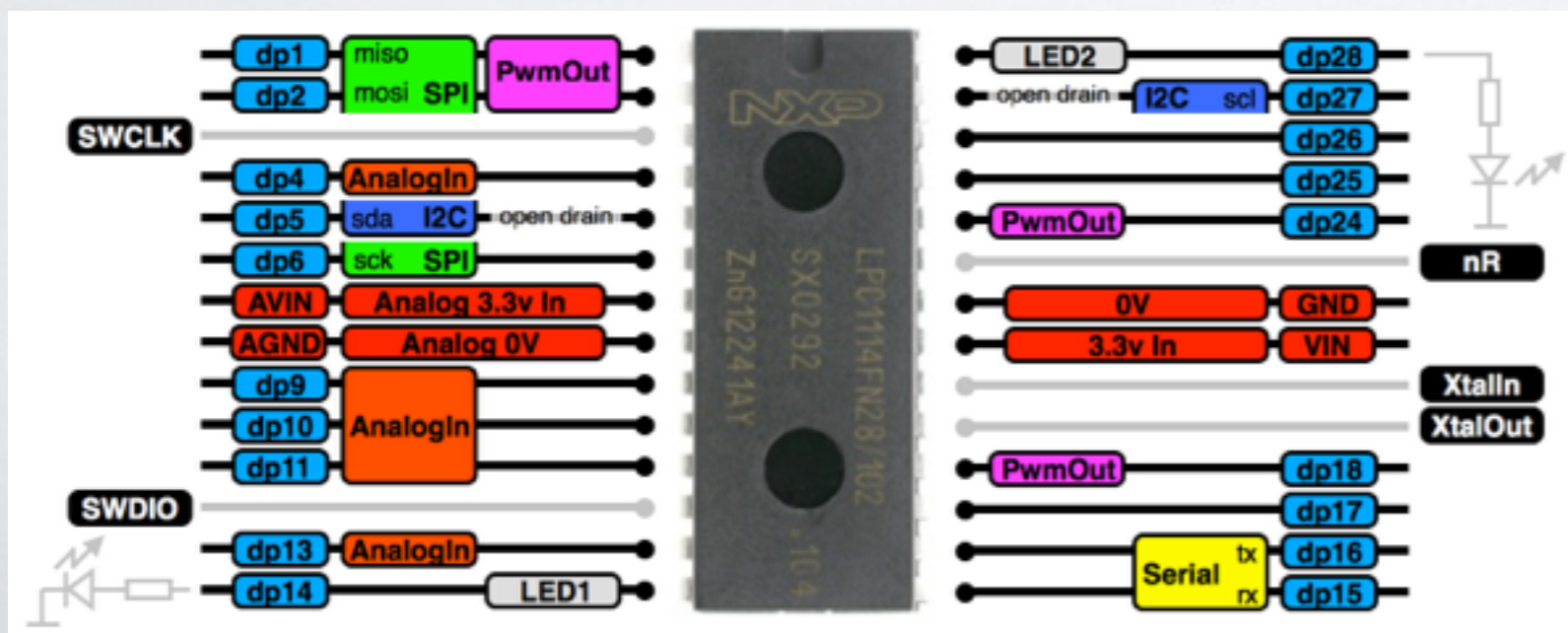


LPC1114FN28 + WIZ550io

	LPC1114FN28	WIZ550io
MISO	dp1	J1:4
MOSI	dp2	J1:3
SCLK	dp6	J1:5
CS	dp25	J1:6
nRST	dp26	J2:3

SPI spi(dp2, dp1, dp6); // mosi, miso, sclk

EthernetInterface eth(&spi, dp25, dp26); // spi, cs, reset



LPC1114FN28 + WIZ550io

```
returnCode = eth.init(); //Use DHCP
returnCode = eth.connect();
ip = eth.getIPAddress();

sock.connect("maker.ifttt.com", 80);

snprintf(http_cmd, http_cmd_sz, "GET /trigger/%s/with/key/%s
HTTP/1.1\r\nHost: maker.ifttt.com\r\n\r\n", EVENT, KEY);
sock.send_all(http_cmd, http_cmd_sz-1);

while ( (returnCode = sock.receive(buffer, buffer_sz-1)) > 0)
{
    buffer[returnCode] = '\0';
    printf("Received %d chars from server:\n\r%s\n", returnCode,
buffer);
}
sock.close();
```


Sample code

[https://developer.mbed.org/users/ytsuboi/code/
IFTTT-mbedNXP_WIZ550io/](https://developer.mbed.org/users/ytsuboi/code/IFTTT-mbedNXP_WIZ550io/)

11:19

6月26日金曜日

IF

IF 今

The event named "button_pressed"
occurred on the Maker Channel

スライドで表示



FRDM-K64F

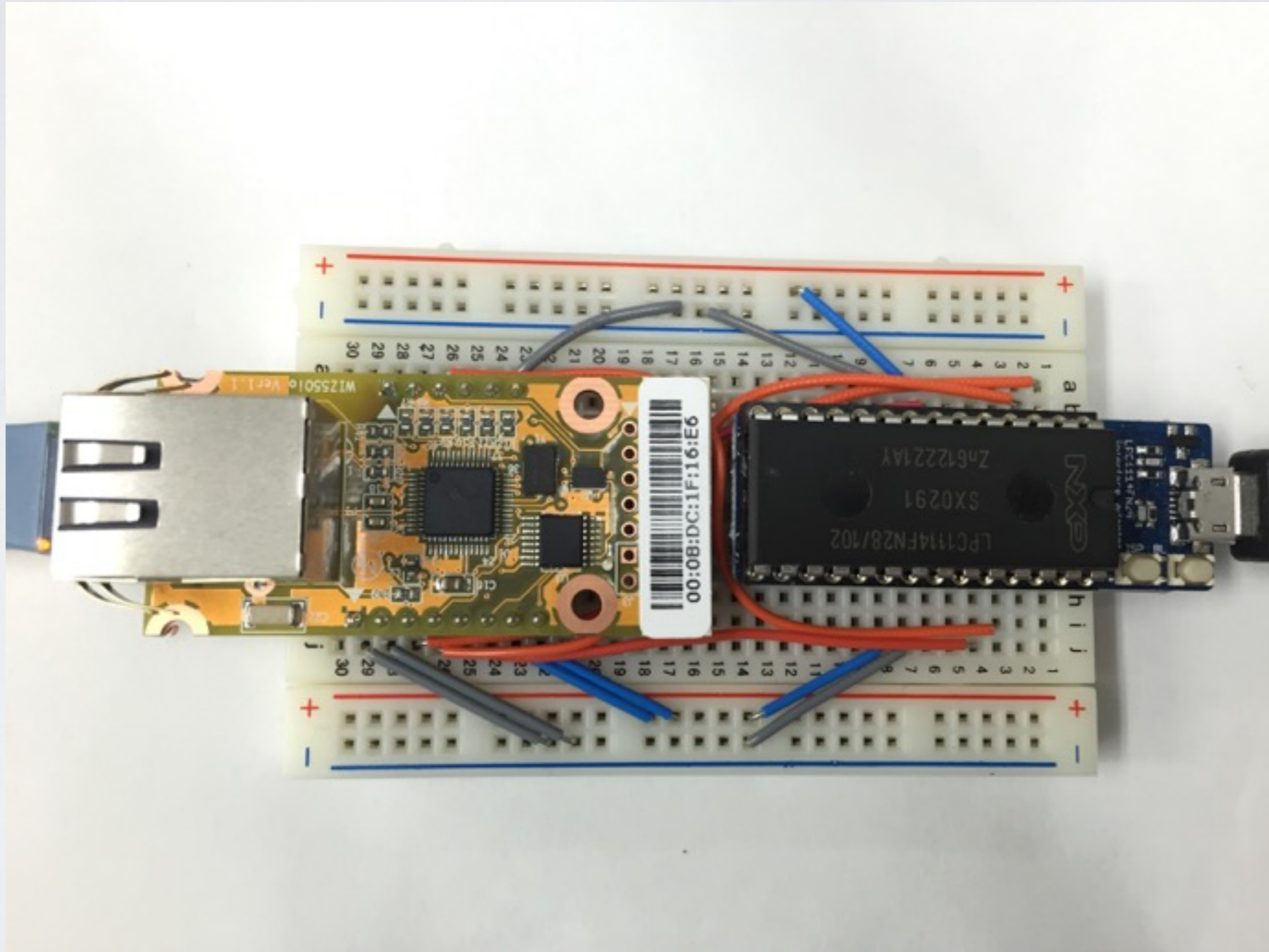


FRDM-K64F



https://developer.mbed.org/users/mbedAustin/code/IFTTT_Ethernet_Example/

LPC1114FN28 + WIZ550io



W7500

ARM[®] mbed[™]

Search developer.mbed.org...

Go

Platforms » WIZwiki-W7500

WIZwiki-W7500

WIZwiki-W7500 is a SoC platform board based on the W7500 chip = ARM Cortex-M0 that integrates 128KB Flash and hardwired TCP/IP core. If you use WIZwiki-W7500 board, you can easily evaluate the W7500 and test its performance and all functions.



Overview

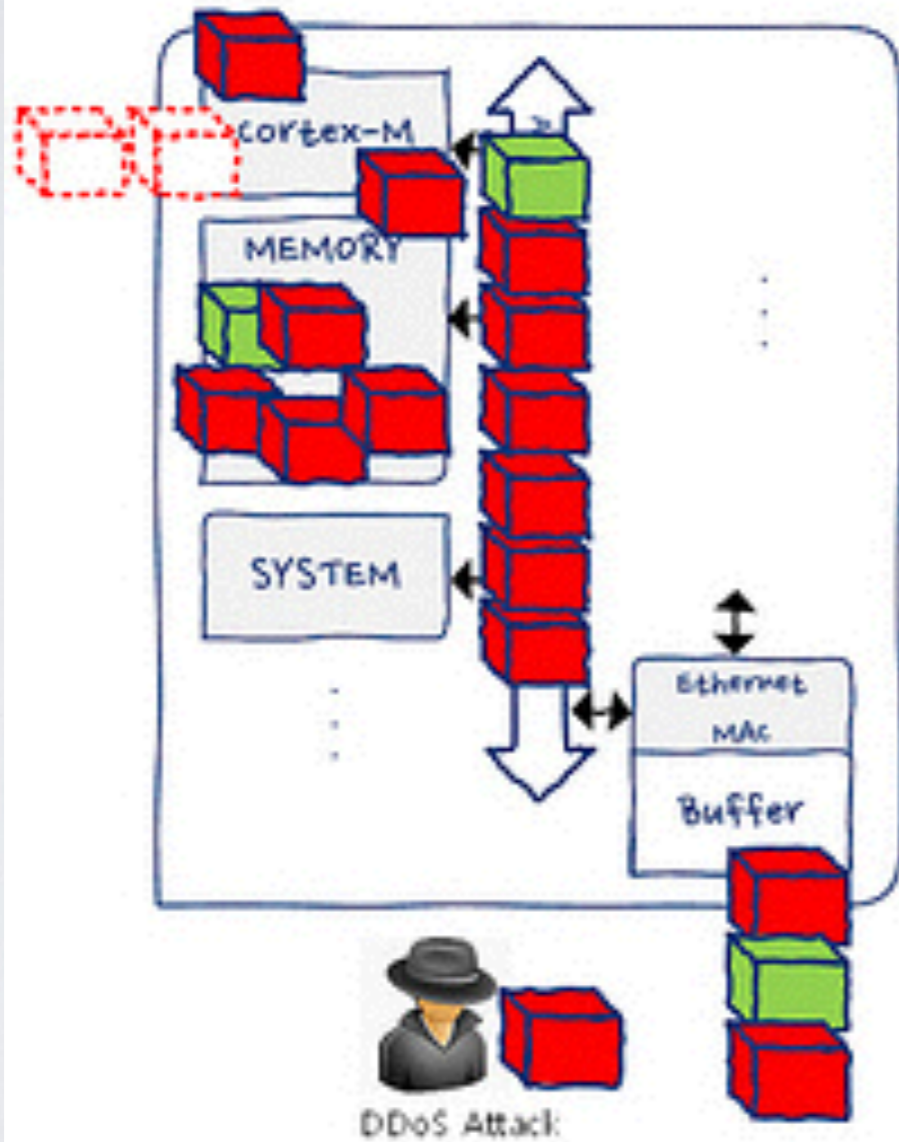
WIZnet WIZwiki Platform based on WIZnet's W7500 MCU. The IOP4IoT "Internet Offload Platform for IoT" W7500 chip is the SoC one-chip solution which integrates an ARM Cortex-M0, 128KB Flash and hardwired TCP/IP core for various embedded application especially for Internet of things and Gateways. If you use WIZwiki-W7500 you will be able to easily develop a prototype. It can be used as an Arduino shield because its Arduino pin Compatible. This is using the CMSIS-DAP USB and ISP Header for easy firmware writing in the mbed.org compiler environment.

Table of Contents

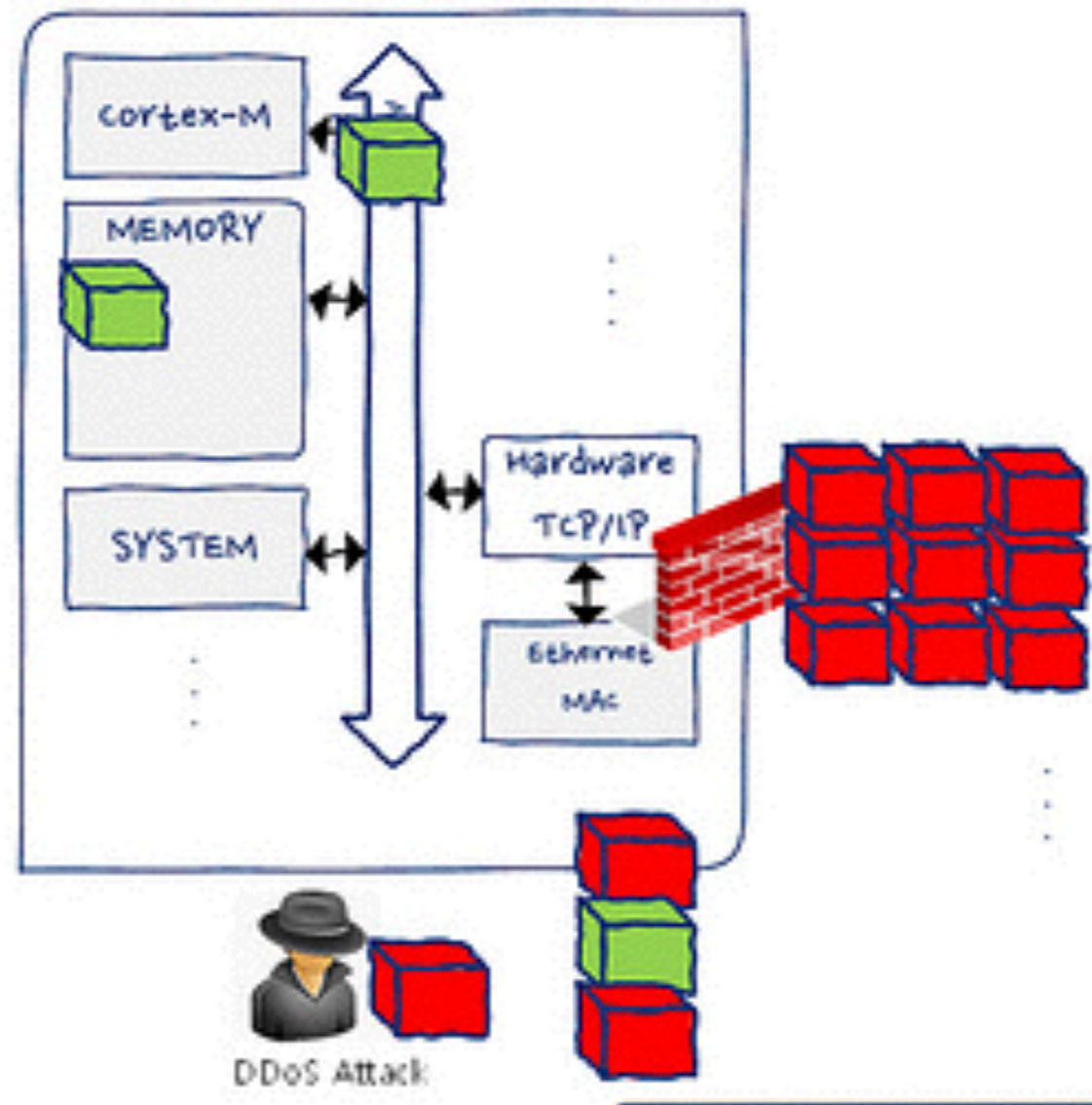
1. [Overview](#)
2. [Features](#)
3. [Pinout](#)
4. [Get Started](#)
5. [Update or Restore](#)

W7500

Software TCP/IP stack



Hardware TCP/IP TOE



せんでん

WIZwiki-W7500

WIZwiki-W7500は、ARM Cortex-M0コアのWIZnet W7500を搭載したマイコンボードです。 [mbed](#) への対応を予定しています。

USBコネクタがminiBです。

2015年6月26日現在、弊社出荷しているバージョンはver1.0の不具合が修正されたものです。

スペック

- ARM Cortex-M0 48MHz
- 128kB Flash
- 16kB RAM
- 32kB RAM for TCP/IP - Can be extended to system RAM
- Hardwired TCP/IP Core
- MII Interface
- ADC (8)
- GPIO (53)
- SWD (Serial Wire Debug)
- Timer/PWM
- UART (3)
- SPI (2)
- I2C (2)

資料



名前	WIZwiki-W7500
コード番号	WIZNET-WIZWIKI-W7500
PLU#	2324
送料区分	<u>185</u>
価格	5,940 円
数量	<input type="text" value="1"/> カートに追加
在庫	3
短縮URL	ssci.to/2324

Thanks!