



What's up since Summit '20

# Well, RIOT is still...



## ... OPEN

Linux-style community ~300 IoT software developers

## ... FREE

Open source code & free tools ecosystem for IoT

## ... SMALL (is beautiful)

Fits on 32-, 16- and 8-bit microcontrollers, less than 10kB RAM

## ... NEUTRAL (is useful)

No vendor lock-in with specific silo, or HW architecture

## ... VERSATILE

Used in a wide variety of IoT use cases & connectivity



Credits: KindPNG/JoannaAvalos

# Approaching a Decade of Releasing RIOT



RIOT launched!

First Summit

⋮

⋮

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

2013.08	2014.01	2015.09	2016.04	2017.01	2018.01	2019.01	2020.01	2021.01
	2014.05	2015.12	2016.07	2017.04	2018.04	2019.04	2020.04	2021.04
	2014.12		2016.10	2017.07	2018.07	2019.07	2020.07	2021.07
				2017.10	2018.10	2019.10	2020.10	Next up: 2021.10



## *git* Stats Since Summit '20

Commits merged: **+ 4746** of an all-time total 36383 in the main branch

Pull Requests merged: **+ 1410** of which 92% were created + merged

Committers: **90+** of an all-time total 312

Releases: **4**

# Brand New Community Tools!



## New Forum!

[forum.riot-os.org](https://forum.riot-os.org)

## New Website!

[www.riot-os.org](https://www.riot-os.org)

## New Chat!

[matrix](#)

The screenshot shows the RIOT forum interface. At the top, there's a navigation bar with 'all categories', 'all tags', and 'Categories' (selected). Below that, there are filters for 'Latest', 'Unread (2)', and 'Top'. The main content area is divided into a table of categories and a list of posts. The categories table has columns for 'Category', 'Topics', and 'Latest'. The posts list includes 'Security Notifications' (1 topic), 'Announcements' (4 topics), 'Help' (620 topics), 'Development' (1.7k topics), and 'Community' (49 topics). Each category has a brief description and a list of sub-topics with their respective counts.


The screenshot shows the RIOT website homepage. The main heading reads 'Welcome to the friendly Operating System for the Internet of Things.' Below this is a large green button that says 'Join the RIOT!'. The background features a dark, abstract graphic with red and green waves. At the bottom, there's a section titled 'In a nutshell' with the text: 'RIOT powers the Internet of Things like Linux powers the Internet. free, open source operating system developed by a grassroots community of developers, gathering companies, academia, and hobbyists, distributed all around the world.'

The screenshot shows a Matrix chat interface. On the left, there's a sidebar with a search bar 'Filter all spaces' and a list of rooms: '#riot-ci', '#riot-fp', '#riot-sprint', '#riot-summit', and '#riot-os'. The main chat area shows a message from 'Kaspar' at 09:26: 'guys, I need some ideas. for https://github.com/RIOT-OS/riotdocker/pull/104 (upgrade to focal) we need some package files which are not in the public repos. same for the CI changes in check.' The chat interface includes a header with the RIOT logo, a search bar, and a list of participants.

# Array of (pandemic-proof) Community Processes



We successfully developed and refined a combination of :



Increasing inclusivity

- ★ Weekly RIOT Sprint Days & Synch Calls
- ★ Virtual Maintainer Assembly (VMA)
- ★ GitHub daily action
- ★ Matrix live chat
- ★ Forum on-going discussions
- ★ Summit (online) yearly
- ★ ...



# Progress since Summit '20

## HW Support

rpi-pico,  
microbit-v2,  
nucleo-wl55jc...

+20 boards supported

ATxmega (8-bit),  
ARM Cortex M33,  
Stm32mp1,  
SAMD10...

New CPUs supported

sm-pwm-01c dust,  
SGP30 gas, Si705x  
temp ...

+ Dozens of new drivers

# Progress since Summit '20

## Features



DFU support,  
gnrc border router,  
HID ...

### USB

LL security support,  
6LoWPAN selective  
fragments recovery,  
radio\_hal ...

### 802.15.4 wireless

edhoc-c, tinycrypt,  
QR code generator,  
uwb-core...

### pkg: updates & additions



# What's brewing? Next collaboration areas?



## System

more **Rust** integration **Summit**  
more lightweight **virtualization** **Summit**  
enhancing the timer subsystem

## Security & Networking

enhanced **cryptology** subsystem **Summit**  
optimized secure software updates OTA **Summit**  
extended **IETF / W3C** constrained protocols support **Summit**

## Infrastructure

**Kconfig** migration next steps  
**HiL** test framework  
**RIOTctrl** (Python RPC test interface) **Summit**

You have other ideas? Propose a break-out session on the pad at [tinyurl.com/4r72feyv](https://tinyurl.com/4r72feyv).

# What's brewing? Next collaboration areas?

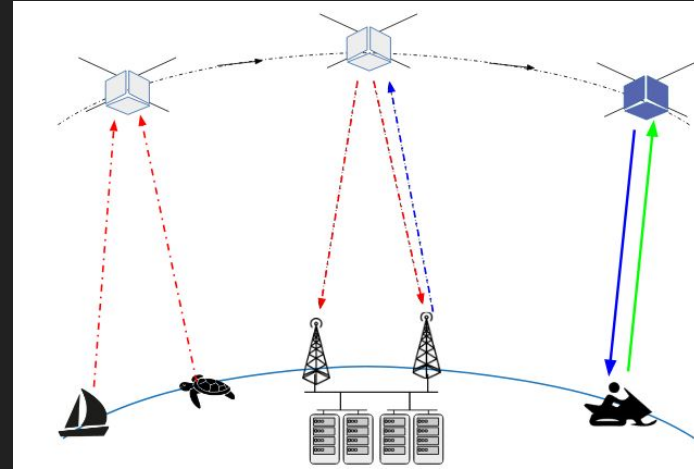


# Space!!

**ThingSat board (STM32) runs RIOT**  
See [github.com/thingsat](https://github.com/thingsat)

- ★ Hosted on CubeSat (STORK)
- ★ Payload on SpaceX flight, launch Dec. 2021
- ★ **Sun-synchronous Orbit (~500km altitude)**

Looking for volunteers listening to LoRa messages from Space!  
→ contact [didier.donsez@univ-grenoble-alpes.fr](mailto:didier.donsez@univ-grenoble-alpes.fr)  
(@donsez on GitHub)



So... enjoy your Summit 2021 !!!



credits: [deviantart.com/asymmetrical-wings](https://www.deviantart.com/asymmetrical-wings)