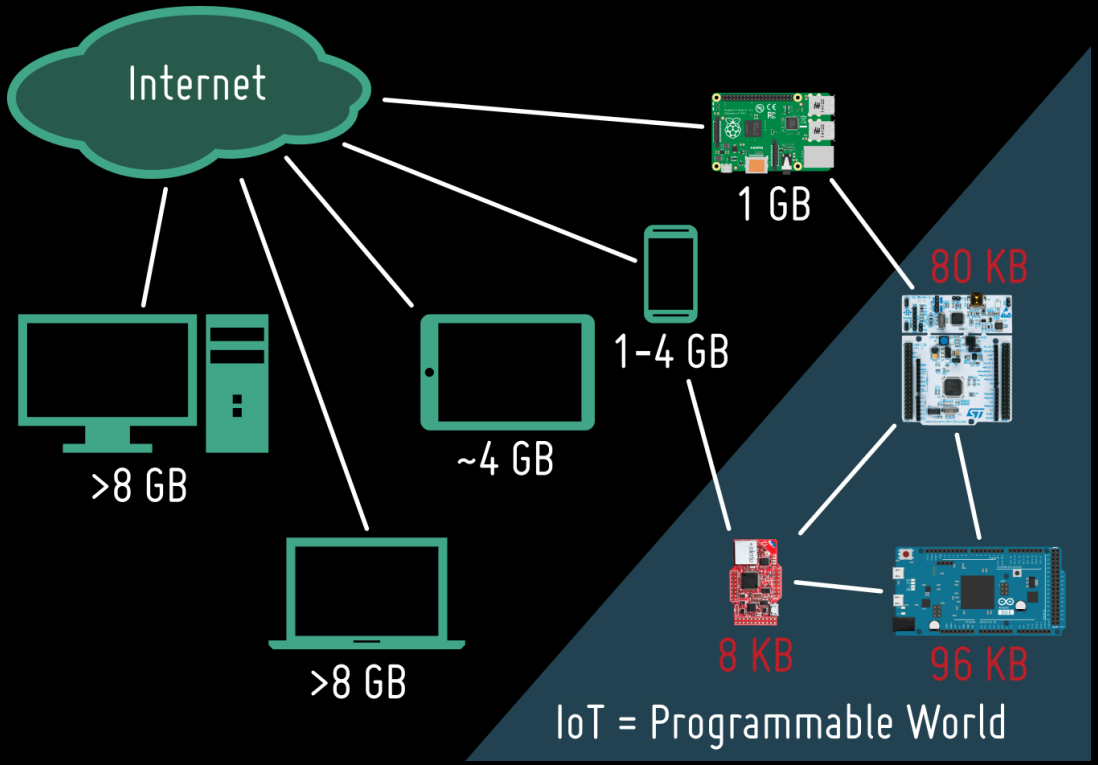
The friendly IoT OS

Martine Lenders (m.lenders@fu-berlin.de)

Why?


Internet
1 GB
80 KB
1-4 GB
~4 GB
>8 GB
>8 GB
8 KB
96 KB
IoT = Programmable World

RIOT in a Nutshell

> "If your device cannot run Linux, run RIOT!"

- Requires only a few kB of RAM/ROM
- Code once & run on heterogeneous IoT hardware
  - 8-bit (e.g. AVR)
  - 16-bit (e.g. MSP430)
  - 32-bit (e.g. ARM Cortex-M, MIPS)
- Support for ~100 platforms
- Support for tooling and several libraries out-of-the-box
- Peer-reviewed, LGPLv2.1-licensed code
- Grassroots governance (> 150 contributors)

Kernel Fact Sheet

- µ-kernel-like architecture (for robustness)
- Modular design (for adaptivity)
- Tickless scheduler (for energy efficiency)
- Deterministic, preemptive O(1) scheduling (for real-time capabilities)
- Low latency interrupt handling (for reactivity)

Getting started

- https://riot-os.org/
- https://api.riot-os.org/
- https://github.com/RIOT-OS/Tutorials