The Mulle platform & Internet of Things

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Internet of Things (IoT)

- networked embedded system
- wireless communication
- small size
- low power consumption
The Mulle

- low-power platform for IoT

- Renesas M16C 16-bit MCU at 10 MHz
- 31 kB RAM, 384 kB flash
- On board temp. sensor and accelerometer
- High density expansion port
- analog and digital I/Os, SPI, I2C, UART, timers, interrupts, etc ...
The Mulle

- low-power platform for IoT

- only 26x24 mm

- 4 µA in sleep

- used in research, education, and commercially
IoT Networks
- Communication architecture

- IP all the way
- 6LoWPAN
- CoAP / EXI
Mobile IoT Networks
- Communication architecture

- World-wide mobility
- Interoperability
- Standard protocols
- Consumer devices
Applications

- Patient monitoring, sports monitoring
- Industrial monitoring and control
- Home automation
- Safety and security
Research areas

- Industrial Internet of Things (IoT)
- Mobile IoT networks
- Service Oriented Architecture (SOA)
- Low-power design
Research areas

- Interoperability
- Mobility
- Wireless sensors in harsh environments
Mulle v3.2

- Personal- and Body area networks
- Bluetooth 2.0 + full IP stack
- HCI, L2CAP, SDP, BNEP, RFCOMM, PPP
- TCP/IP, UDP, ICMP
- DHCP, NTP, OLPv2, HTTP
Mulle v5.2

- Wireless sensor networks / Internet of Things
- IEEE 802.15.4 at 2.45 GHz
- TinyOS
- Contiki
Mulle v6.2

- Internet of Things

- IEEE 802.15.4 at 868 MHz

- Contiki

- TinyOS
Contact

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