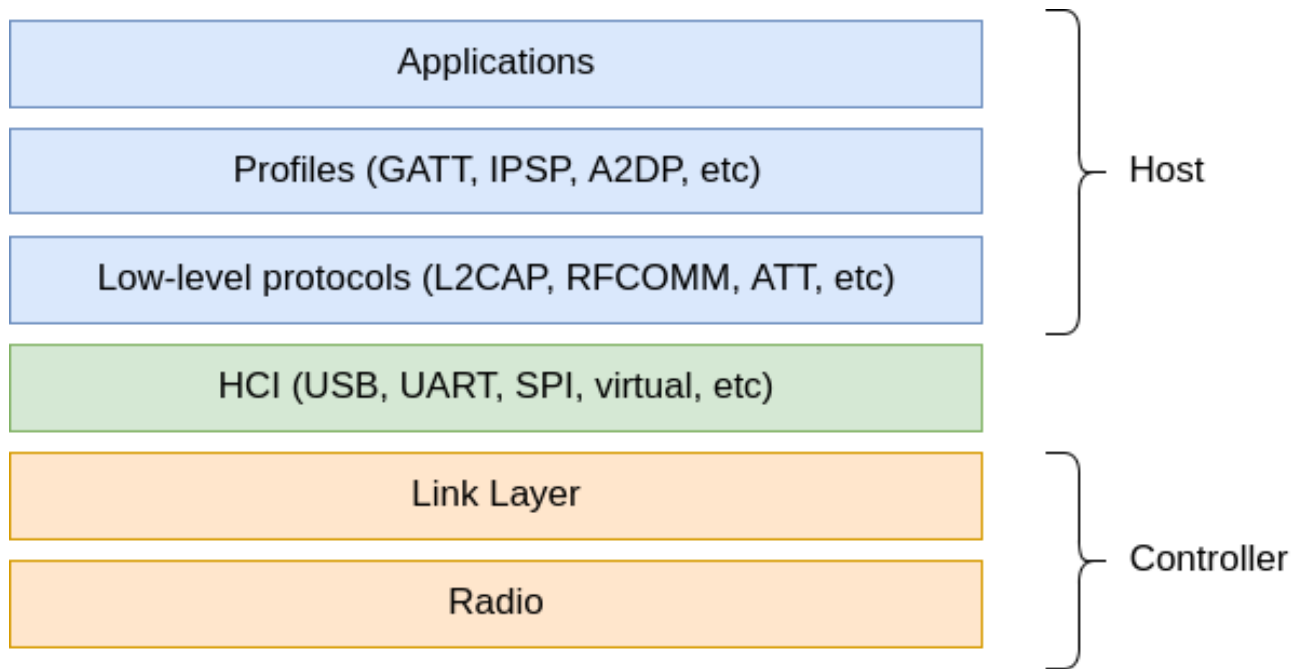


Zephyr Bluetooth Controller

Johan Hedberg
Intel Corporation

Bluetooth layered architecture



History of Open Source Bluetooth Controllers

- ▶ 2 years ago, there was nothing
- ▶ MyNewt, early 2016
- ▶ Nordic Semiconductor, mid-2016
 - ▶ Ported to Zephyr
 - ▶ Became the Zephyr Bluetooth Controller
- ▶ Not just Open Source, but also bleeding edge

Bluetooth Controller implementation

- ▶ Contributed by Nordic Semiconductor
- ▶ Available since Zephyr 1.6
- ▶ Bluetooth 5.0 capable
- ▶ As many instances of connected LE roles as RAM & configuration permits
- ▶ Bluetooth Qualified as subsystem
- ▶ Radio abstraction, currently nRF5x supported
- ▶ Exposes HCI to the Host stack

Possible configuration options

Controller-only

UART/SPI/USB

Raw HCI API

Controller

Host-only

Bluetooth app

Host stack

HCI Driver

Combined Host & Controller

Bluetooth app

Host stack

Controller

Future plans

- ▶ Vendor HCI extensions
 - ▶ Get controller-stored addresses
 - ▶ Set public address
 - ▶ Bluetooth Mesh optimizations
- ▶ Bluetooth 5.0 Advertising Extensions
- ▶ Prototyping future Bluetooth specification features



Questions?