



[OTA] Update and Security

Day 1

📦 Update concepts for Embedded Devices

Redundancy (A/B based), "Android" style, Delta Images, Bandwidth limited devices
Image based or file / packet based? Or a combination of both worlds?
Bootloader based concepts versus operating system based

📦 Short overview about existing solutions

Open source solutions like swupdate, RAUC et altera, Mender.io, file system based, container based

📦 Requirements on memory layout, supported tools et altera

- 📦 Simultaneous use of different methods (USB, SDcard, network, OTA ...)
- 📦 Security requirements

Signed modules, hardware (TPM, HSM...) support

📦 Tooling zur Erstellung eines Updates auf Development Machines (generate, sign)

📦 Additional requirements

Gateway support, FPGA support

📦 Update server (deployment, device management)

Open source example: hawkbit



[OTA] Update and Security

Hands-On

Requirement:

Nothing on Hardware; Programming knowledge with Linux and C

Software:

Linutronix provides an USB HDD with an x86 64-bit based Debian system for the host system, a Debian toolchain and for the target system an ARM Linux, running on a running on an embedded device. The HDD is a gift for the participant and can be taken home for further studies.

Number of participants:

Due to our experience, we know that a single instructor could coach a maximum of 6 persons. Our courses are therefore limited to this number of individuals.