Status of MCUboot alignment

TF-M Tech Forum

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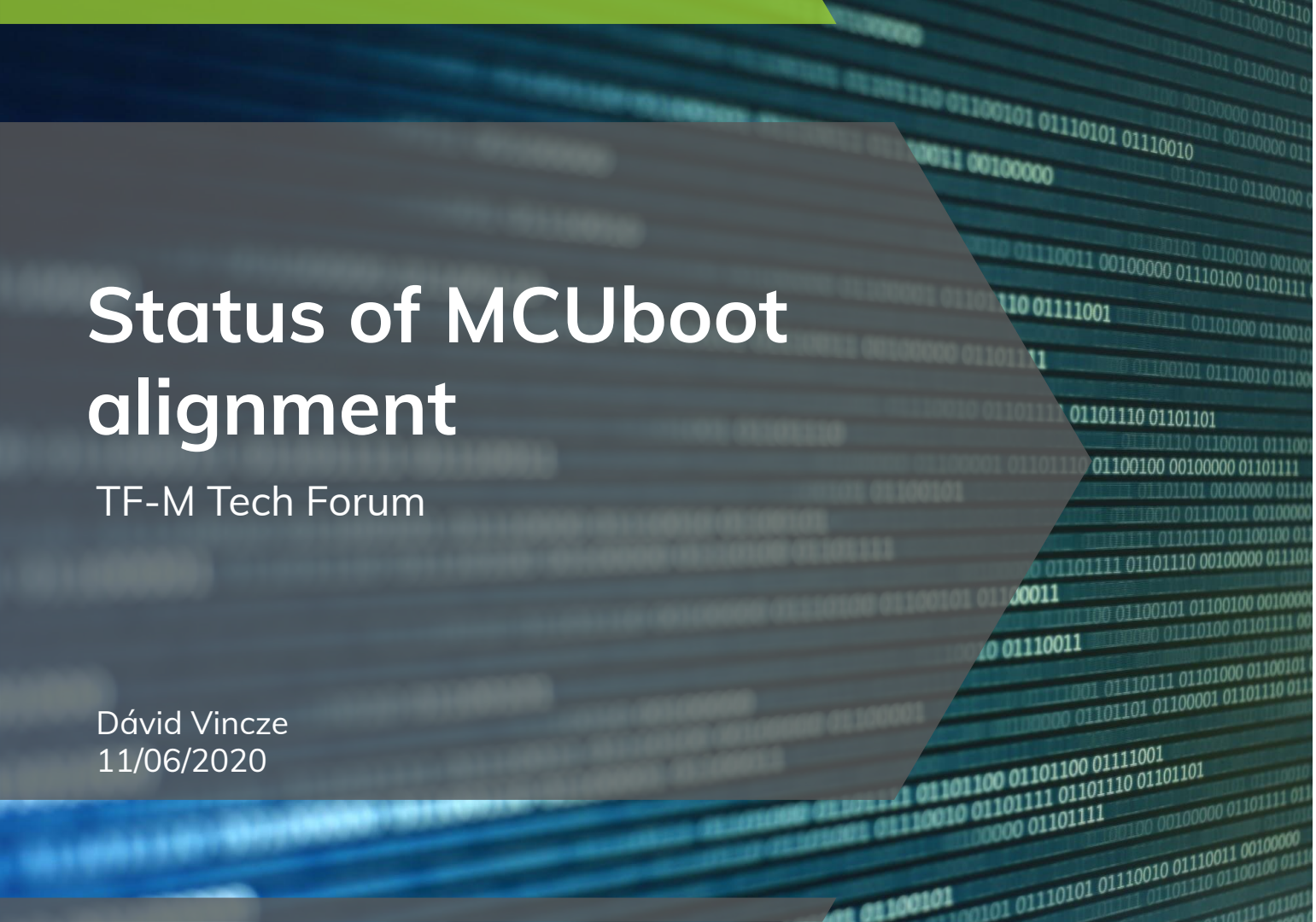

MCUboot + TF-M

Old way of working

- MCUboot fork in TF-M repository
- Code has diverged, features available only in one of the repos
- Occasional code base synchronizations (MCUBoot → TF-M fork)

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"This is the way"

- Support of upstream MCUboot (v1.4.0) from 01/2020
  (`MCUBOOT_REPO` CMake variable)
  - Joint development in one place..
  - Simulator environment to test new features and regression

Transition to upstream MCUboot

TF-M v1.0
(released in March)

+ MCUboot v1.4.0

- Support of upstream MCUboot in TF-M with limitations
- Multi-image boot (SWAP and Overwrite-only)

- Available bootloaders:
  - **TF-M's fork** (default)
  - MCUboot v1.4.0

TF-M v1.1
(in progress)

+ MCUboot v1.6.0

- **HW Rollback protection**
- **Boot data sharing** (measured boot)
- **Hardware key** support

- Available bootloaders:
  - **MCUboot v1.6.0** (default)
  - TF-M's fork

TF-M v1.x

+ MCUboot v1.x.x

- Single-image boot only:
  - **NO_SWAP** support (PR #739)
  - **RAM_LOADING** for Musca-A (in progress)

- Available bootloaders:
  - MCUboot v1.x (default)
  - ~~TF-M's fork~~

Linaro

Notes on important differences

- Boot data sharing:
  - Definition of tlv_len in TLV entry header (will be handled in TF-M)
  - `boot_save_shared_data()` for target specific data
- “`NO_SWAP`” has been renamed to “`direct-xip`”
- Using the “official” imgtool package from PyPI
  - Slightly different argument list
  - Usually released at the same time as MCUboot

Future activities

- Enabling new MCUboot features in TF-M:
  - Encrypted image support (in progress)
  - Image update over serial port
  - etc.
- Supporting the multi-image scenario with direct-xip mode ?
- Completely remove the MCUBoot fork from the TF-M repo

Linaro

Thank you