

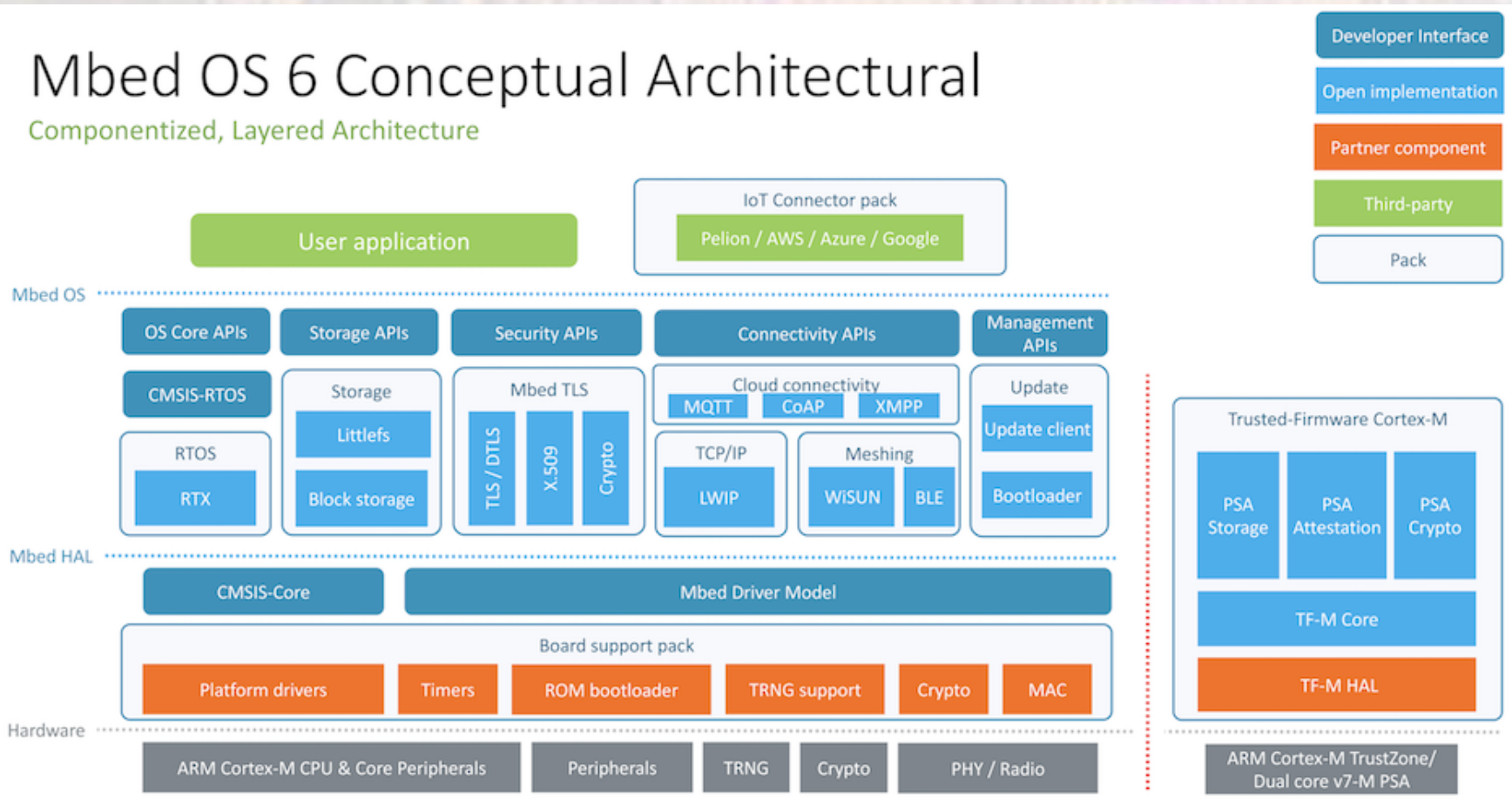
# MBED OS

Last updated 6/1/22

# MBED OS

## Mbed OS 6 Conceptual Architectural

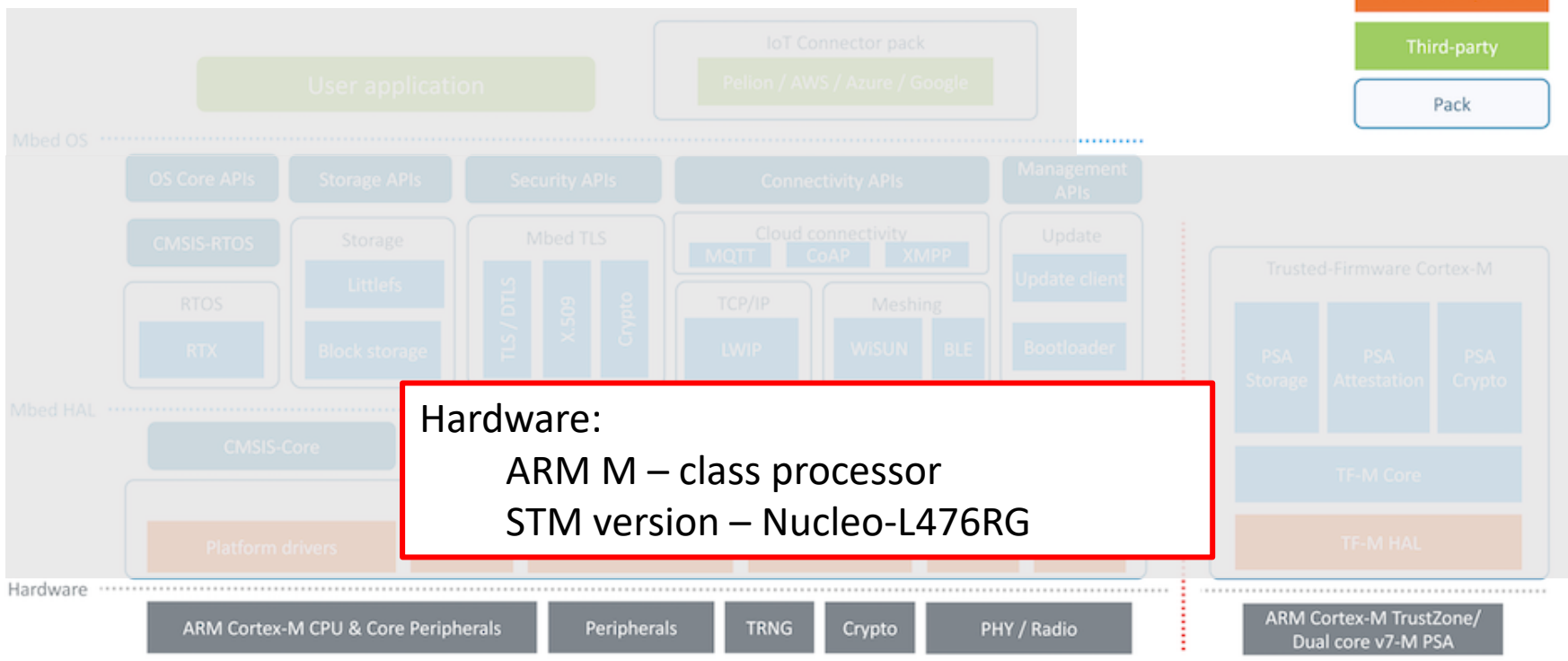
Componentized, Layered Architecture



# MBED OS

## Mbed OS 6 Conceptual Architectural

Componentized, Layered Architecture



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## Mbed OS 6 Conceptual Architectural

Componentized, Layered Architecture

Developer Interface

Open implementation

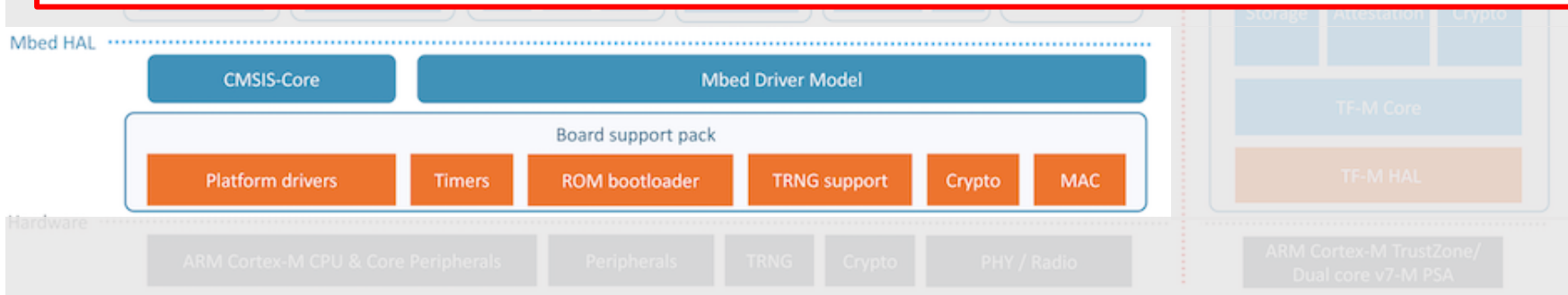
Partner component

HAL – Hardware Abstraction Layer - Code written for a specific processor (family) with a “generic” interface

BSP – Board support package – hardware specific code (functions)

CMSIS – Common Microcontroller Software Interface Standard - ARM M-core “generic” interface functions

MBED Drivers – MBED specific interface functions



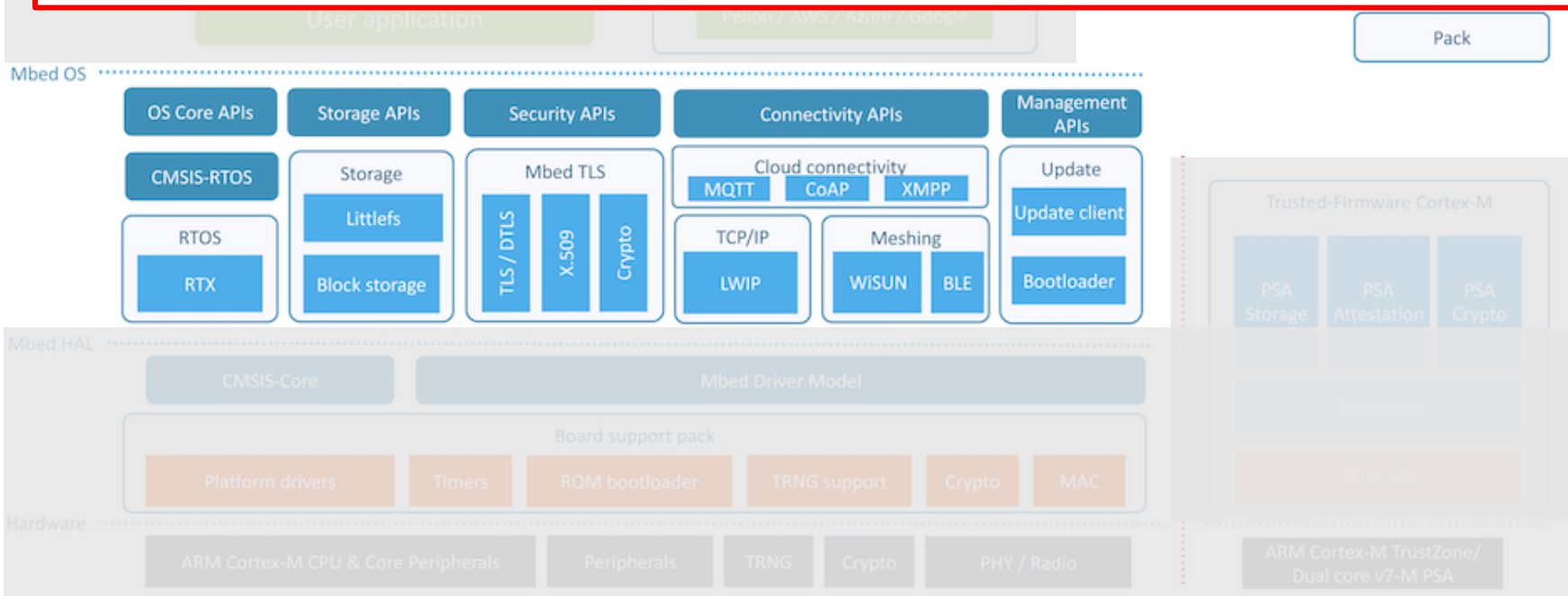
# MBED OS

## MBED OS – Operating System

RTOS – Real Time Operating System – based on RTX – provides response time guarantees

OS features – storage, security, connectivity

API – Application Programming Interface – functions, classes, ... for users to use in application programs



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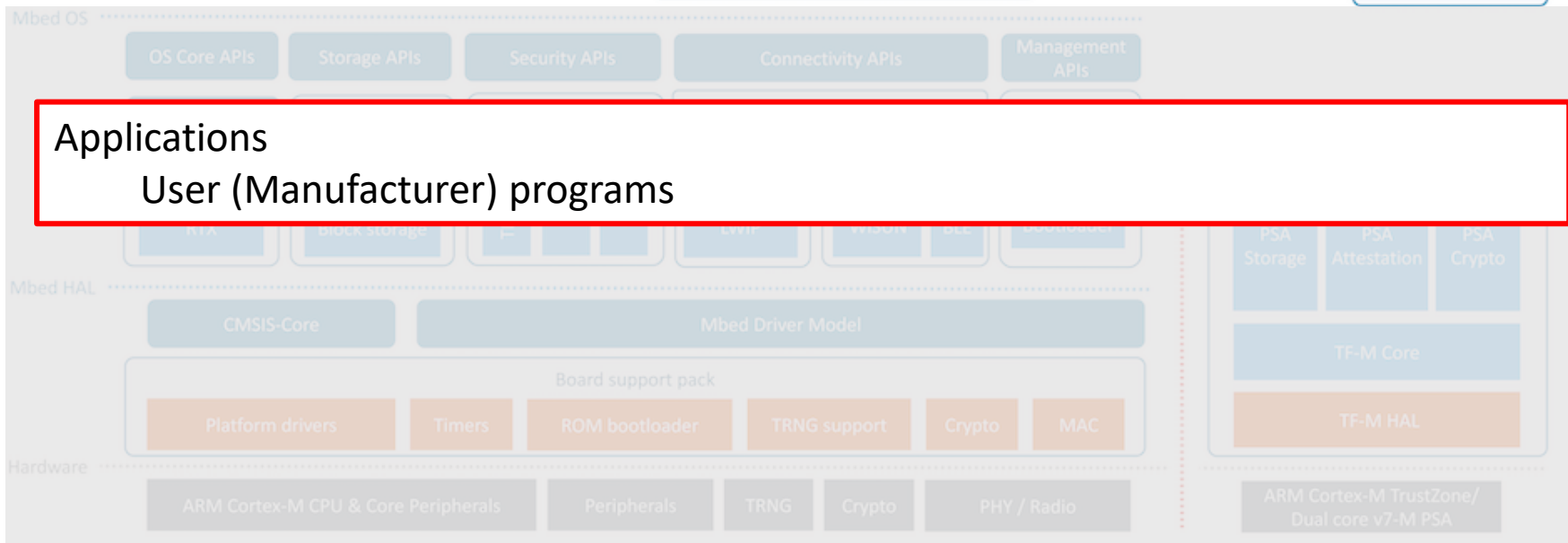
## Mbed OS 6 Conceptual Architectural

Componentized, Layered Architecture

- Developer Interface
- Open implementation
- Partner component
- Third-party
- Pack



Applications  
User (Manufacturer) programs





# MBED OS

- Bare Metal Profile
  - Not an OS at all
  - Does not have an RTOS
    - No scheduler
    - No threads
    - Uses polling and interrupts
  - Implements **SOME** of the MBED OS APIs
    - Most (if not all) the hardware interfaces we use
    - Some may need to be enabled, e.g. Bluetooth
- Smaller, faster