Trusted Firmware Community Project

TrustedFirmware
.org

Trusted Firmware

Open Governance Community Project

Evolution of former Open Source
Arm Trusted Firmware project

Reference implementation of Secure world software for Armv7 & Armv8 architectures (both A/M-Profiles)

Membership open to all

Governance overseen by a board of member representatives

Technical direction overseen by TSC

~~Arm Trusted Firmware~~

↓

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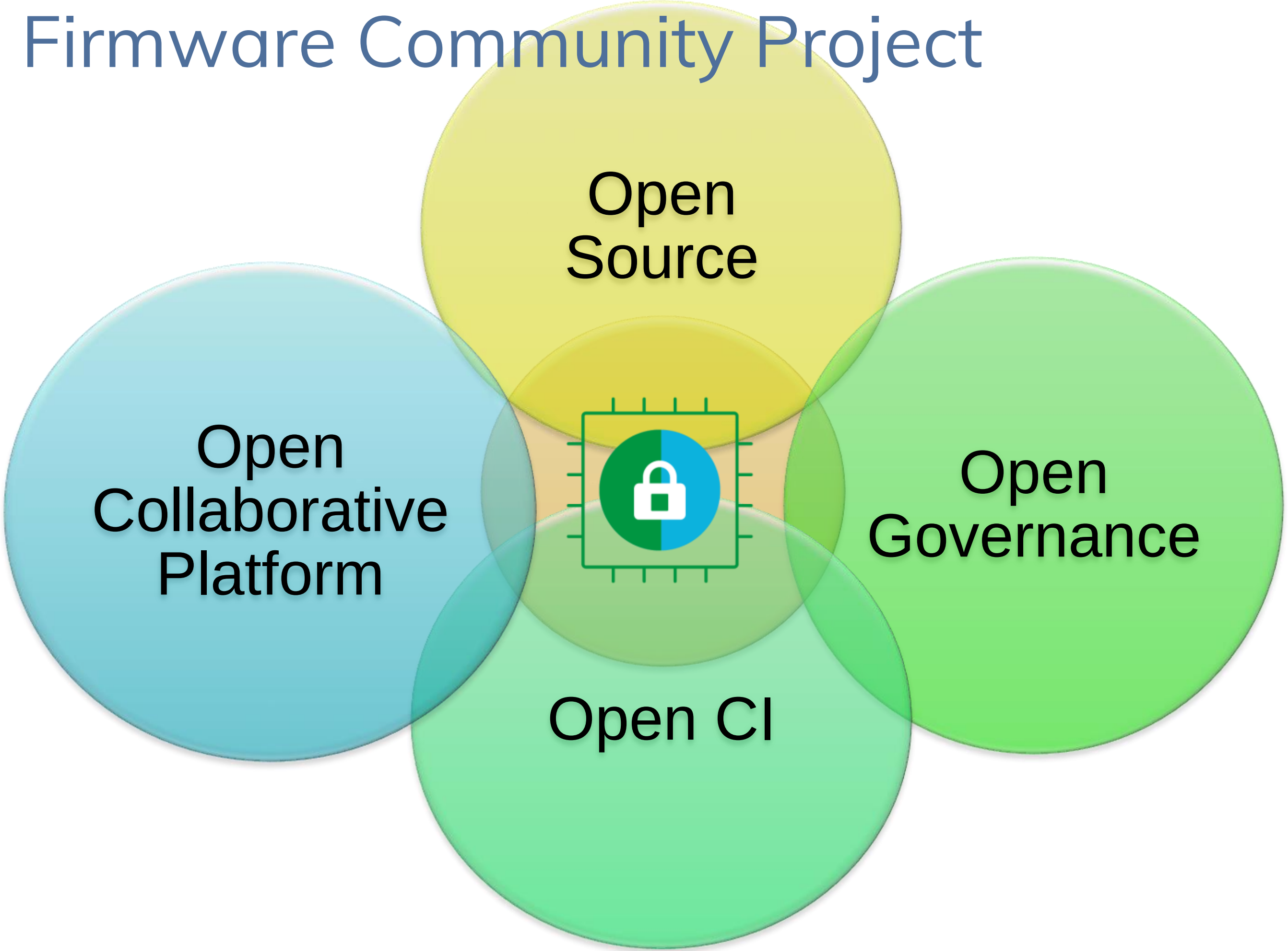


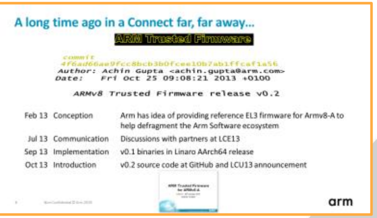
Open Source

Open Collaborative Platform

Open Governance

Open CI

Trusted Firmware History



A long time ago in a Connect far, far away...

ARM Trusted Firmware

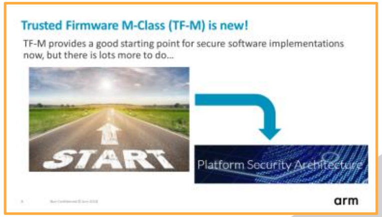
```
commit
4f6ad66ae9fcc8bcb3b0fcee10b7ab1ffcaf1a56
Author: Achin Gupta <achin.gupta@arm.com>
Date:   Fri Oct 25 09:08:21 2013 +0100

    ARMv8 Trusted Firmware release v0.2
```

Feb 13	Conception	Arm has idea of providing reference EL3 firmware for Armv8-A to help defragment the Arm Software ecosystem
Jul 13	Communication	Discussions with partners at LCE13
Sep 13	Implementation	v0.1 binaries in Linaro AArch64 release
Oct 13	Introduction	v0.2 source code at GitHub and LCU13 announcement

arm

Oct 2013

Arm Trusted Firmware



Trusted Firmware M-Class (TF-M) is new!

TF-M provides a good starting point for secure software implementations now, but there is lots more to do...

START
Platform Security Architecture

arm

Mar 2018

Trusted Firmware-M

Trusted Firmware-A

Oct 2018

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Sept 2019

OP-TEE joins TrustedFirmware

Current members

arm

Data I/O

FUTUREWEI Technologies

CYPRESS EMBEDDED IN TOMORROW™

RENESAS

Linaro

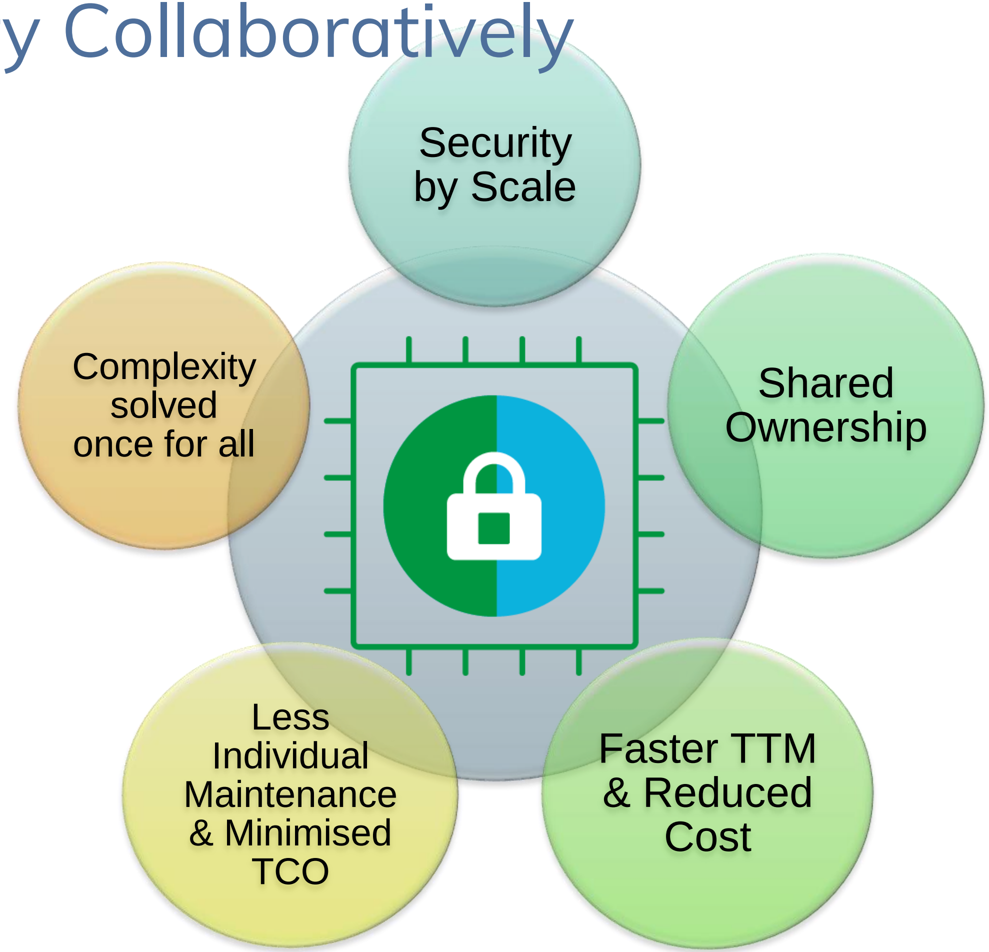
Google

Texas Instruments

ST life.augmented

NXP

Build Security Collaboratively



Security by Scale

Shared Ownership

Faster TTM & Reduced Cost

Less Individual Maintenance & Minimised TCO

Complexity solved once for all

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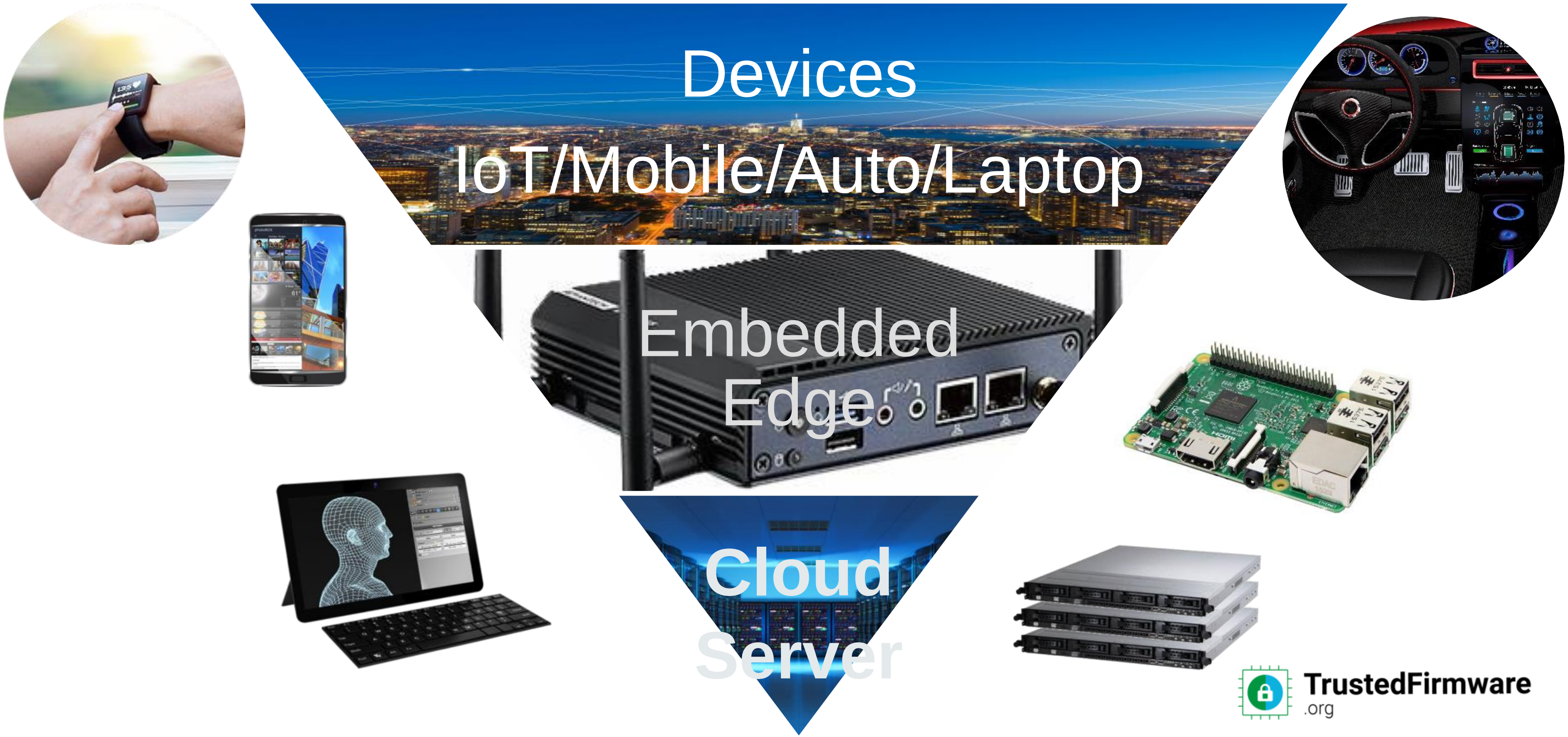
All market segments



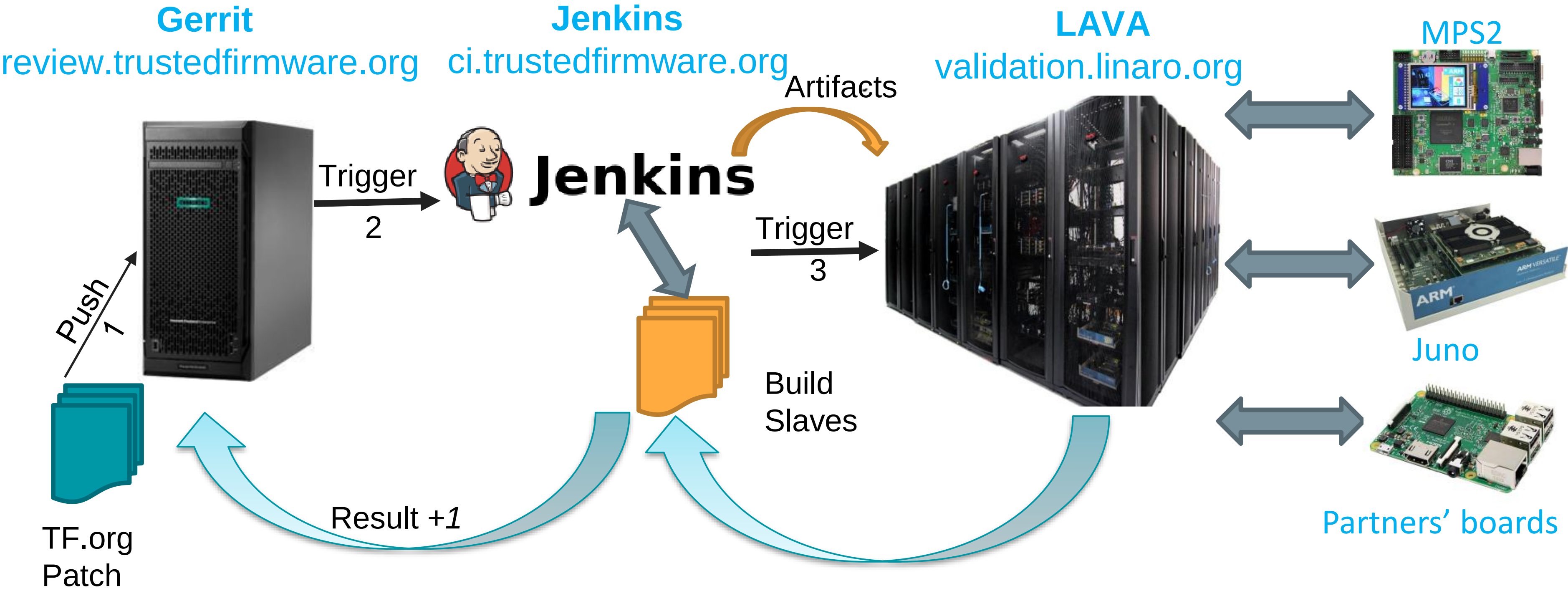
Devices

IoT/Mobile/Auto/Laptop

Embedded Edge

Cloud Server

Open CI & Board Farm



Gerrit
review.trustedfirmware.org

Jenkins
ci.trustedfirmware.org

LAVA
validation.linaro.org

TrustedFirmware
.org

Details & Resources

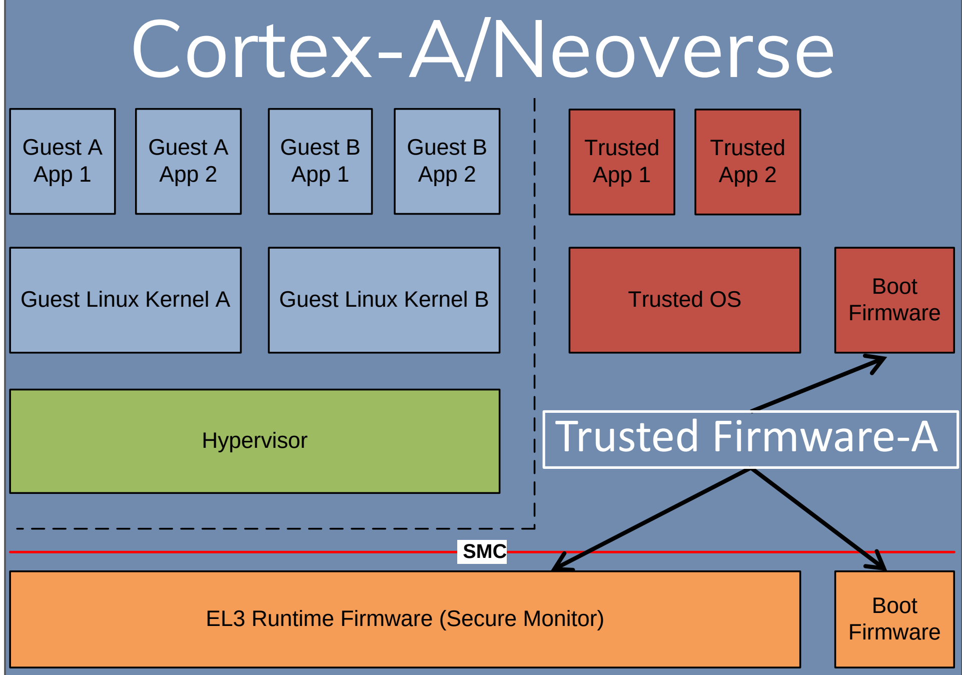
- Open Source permissive **BSD 3-clause license**
- All contributions accepted under the terms of **DCO**
- Project mailing lists for technical discussions
- Git & Gerrit for open reviews
- Monthly project status updates
- Board meeting minutes
- Project Charter

Trusted Firmware-A

Secure world reference software for all Arm Cortex-A & Neoverse processors across all market segments.

Trusted boot flow and runtime firmware providing standard implementation of Arm specifications:

- SMCCC (SMC Calling Convention)
- TBBR (Trusted Board Boot Requirements)
- PSCI (Power State Coordination Interface)
- SCMI (System Control & Management Interface)
- SPCI (Secure Partitions Client Interface)



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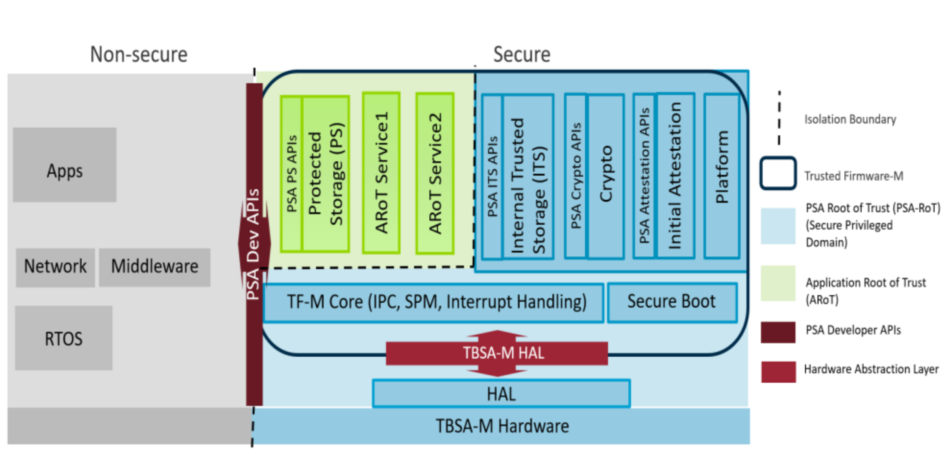
Trusted Firmware-M

Reference implementation of Arm Platform Security Architecture (PSA) It provides Trusted Execution Environment for Arm Cortex-M processors.

It consists of Secure Boot and a set of Secure Services such as Secure Storage, Crypto etc. for Applications accessible via PSA Developer APIs.

Cortex-M



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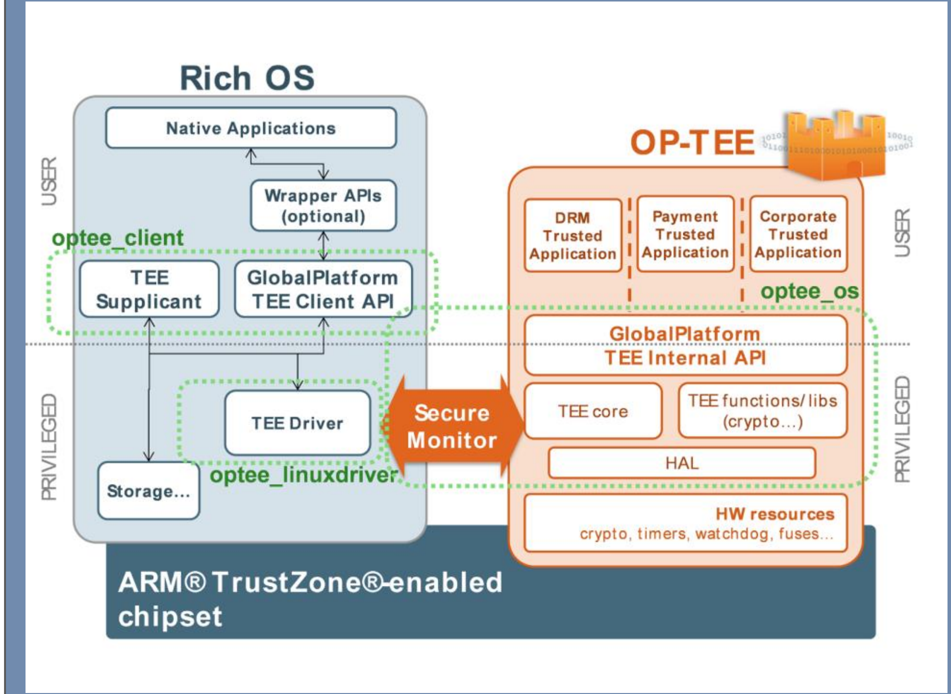
OP-TEE

A reference implementation of a Trusted Execution Environment (TEE), designed as companion to a non-secure Linux kernel running on Arm Cortex-A cores using the TrustZone technology.

Implements TEE Internal Core API v1.1.x and the TEE Client APIv1.0, as defined in the GlobalPlatform API specifications.



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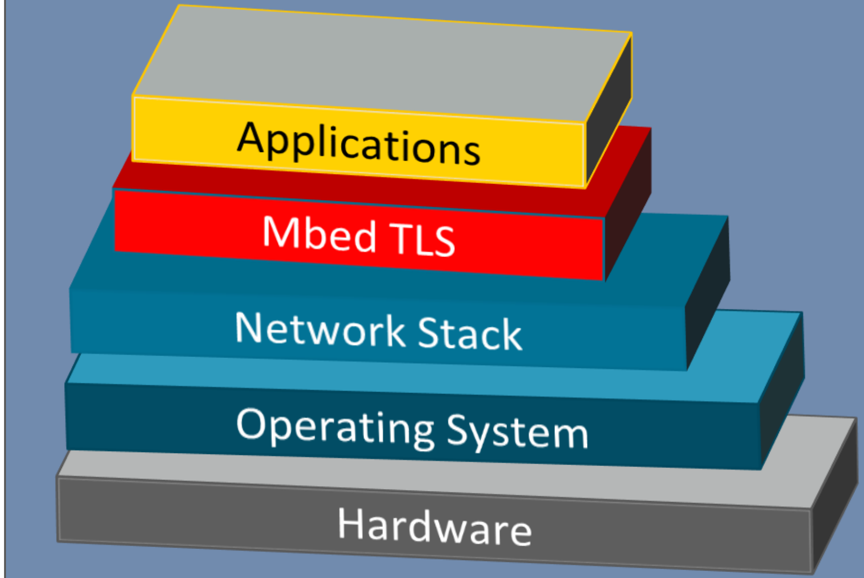
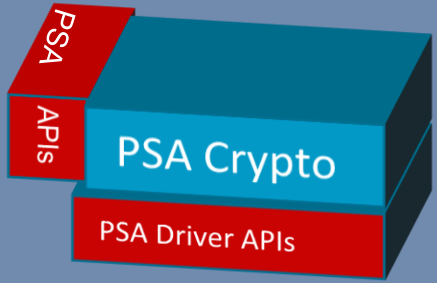
Mbed TLS & PSA Crypto

- Portable, highly modular, easy-to-use TLS and X.509 library
- Extensively used in various market segments
- Distributed under Apache2.0 License
- Components –
  - Cryptography
  - Protocol (TLS, DTLS)
  - Certificates (X.509, PKI)
- **PSA Crypto** (Mbed Crypto)**,** derived from Mbed TLS library, brings together Crypto primitives and makes them available via. PSA Crypto APIs.
- PSA Crypto library will also support driver APIs to integrate with Secure Elements and Crypto Accelerators.





How to Get Involved

Become a project member

Platinum Board members define the mission and strategy: $50K/year

General members receive project updates, make requests to the board and have joint representation at Board meetings: $2.5-25K*/year

Read the project Charter

* Fee according to company size and type

Contact:

enquiries@TrustedFirmware.org

for more information

TrustedFirmware
.org

Thank you

Adopt Trusted Firmware to build your next secure platform

Visit www.TrustedFirmware.org or email enquiries@trustedfirmware.org for more information