

The background features a dark blue, futuristic aesthetic with a central image of a smartphone. The phone is shown from a slightly elevated, angled perspective. A glowing cyan line traces a path from the top left towards the phone's camera area. The phone's screen displays a grid of binary code (0s and 1s). To the right of the phone, a glowing cyan fingerprint is visible, suggesting biometric security. The overall scene is filled with faint, glowing lines and dots, creating a sense of digital connectivity and data flow.

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TF-M Hybrid Platform Demo

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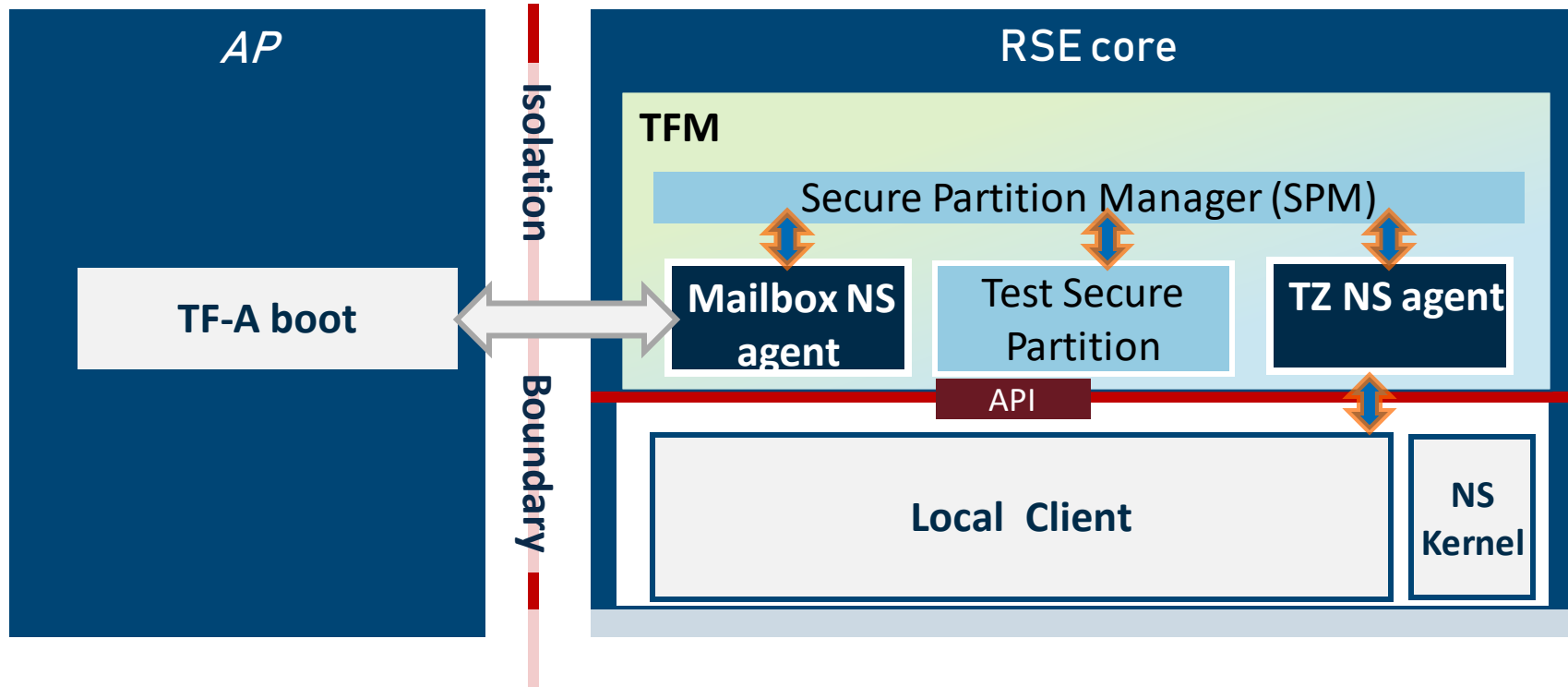
Hybrid platform

- + A platform that contains a ARMv8-M core running TF-M with Non-secure clients in the NSPE and one or more additional A or M class core(s), that call secure services on the v8-M core.
- + Hybrid platforms, and possible TF-M configurations for Hybrid platforms have been discussed earlier on TF-M tech forum
 - o For Recording and slides see "Sept 14, 2023: Hybrid Platform Desing Update/Dev Branch Renaming" at <https://www.trustedfirmware.org/meetings/tf-m-technical-forum/>
 - o In the presentation Ken proposes 3 possible TF-M configurations, called "solution"
 - o Currently Solution 1 is available
- + Demo is not aligned with any of the solutions, just demonstrates clients connecting to a TF-M secure service from a local and a remote client.

Platform

- + The demo runs on the TC2 FVP (TC – Total Compute)
 - The TC2 platform has an Armv8M core that can run TF-M compiled to the arm/rse/tc platform, and an Armv8 core that can run TF-A, and is connected to the v8M core via mailbox
- + For further information on the platform see
 - <https://trustedfirmware-m.readthedocs.io/en/latest/platform/arm/rse/readme.html>
 - <https://totalcompute.docs.arm.com/en/latest/totalcompute/tc2/index.html>

Demo setup



Changes made for the Demo

- + The patch introducing uniform NS Client ID mapping is applied to TF-M:
<https://review.trustedfirmware.org/c/TF-M/trusted-firmware-m/+26947>
- + The RSE platform code in TF-M is updated so that it accepts service requests coming from the AP that target the test service TFM_SECURE_CLIENT_SRV_DUMMY
- + The TF-A bootflow is modified so that when the mailbox connection to the RSE is established, the service TFM_SECURE_CLIENT_SRV_DUMMY is called in an infinite loop
- + The test service TFM_SECURE_CLIENT_SRV_DUMMY in tf-m-tests repo is modified so that it prints information on the service call
- + The NS entry point in tf-m-tests repo is modified that instead of calling the tets framework, the service TFM_SECURE_CLIENT_SRV_DUMMY is called in an infinite loop

Demonstrated features

- + TF-M can receive client calls from both local and remote clients
- + Non-secure Client ID is mapped
 - The called service sees a different Client ID, even if the client in NSPE and on the AP uses Client ID -1.

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Thank You

Danke

Gracias

Grazie

谢谢

ありがとう

Asante

Merci

감사합니다

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