

IETF 108 TEEP Hackathon Report

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Agenda

- Hackathons on TEEP
 - SUIT Manifest in TEEP
 - Encrypted TA binaries for TEEP
 - TAM and TEEP Agent using SUIT Manifest
 - Current TEEP implementations list
 - TEEP-Device status on RISC-V

Hackathons

- IETF Hackathon(7.20-7.24)
 - No Hackathons
- SUIT Hackathon(7.13)
 - <https://trac.ietf.org/trac/suit/wiki/SuitHackathon>
 - 3 projects related with teep
 - Use of SUIT Manifest in TEEP(Dave Thaler)
 - Encrypted TA binaries(Hannes Tschofenig)
 - TAM and TEEP Agent using SUIT Manifest(Yuichi Takita)

TAM and TEEP Agent using SUIT Manifest (Yuichi Takita)

- What we planned
 - Add SUIT implementation to TEEP implementations
 - Both sides : TEEP Device (libteep) and TAM Server (tamproto)
- What we achieved
 - Implementation of handling TEEP-P messages with static SUIT Manifest
 - Make an example TrustedAppInstall message with SUIT Manifest
 - Success to sign, verify, decode the message
- What we learned
 - Need for more examples of TEEP-P message and SUIT Manifest
 - Especially TA depending on other TA

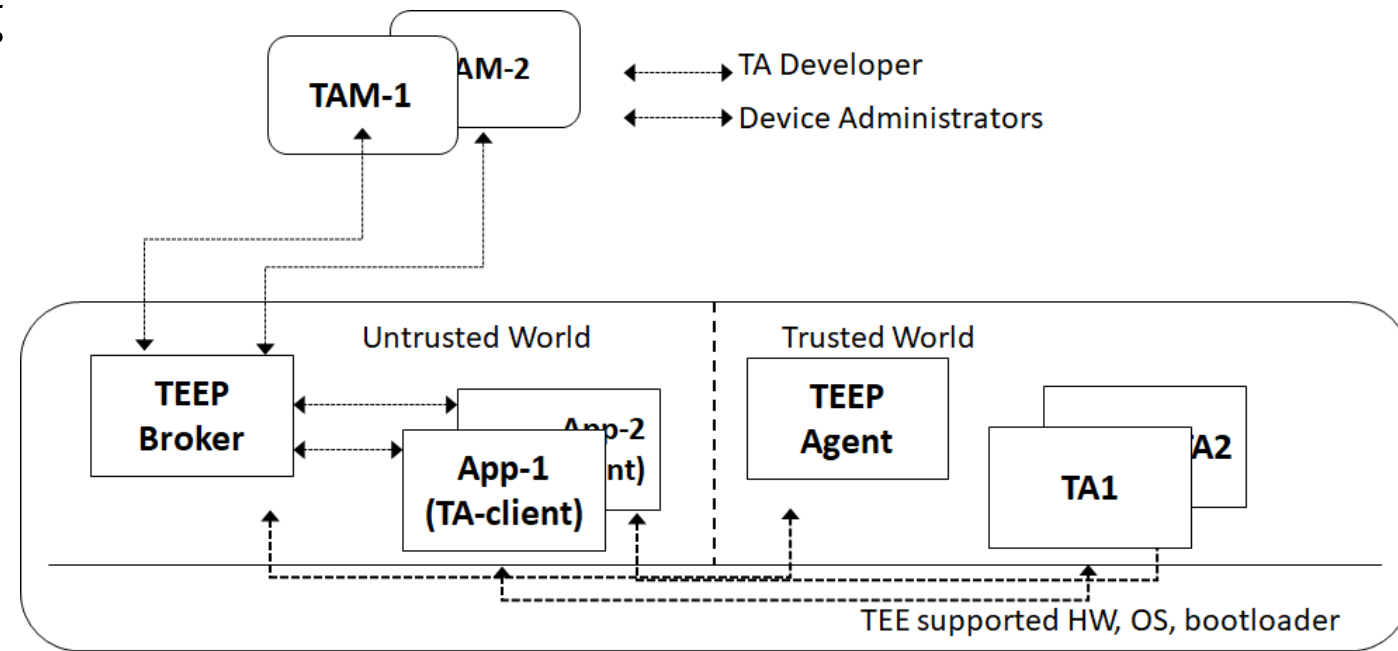
Current TEEP implementations list

- TEEP Device
 - TEEP-device (C/C++)
 - Dave's implementation (C/C++)
 - Hannes's implementation (C)
 - libteep (C)
 - <https://github.com/yuichitk/libteep>
- TEEP Server(TAM)
 - Dave's implementation (C/C++)
 - Hannes's implementation (Java)
 - tamproto (NodeJS)
 - <https://github.com/ko-isobe/tamproto>

TEEP-device status on RISC-V (1/2)

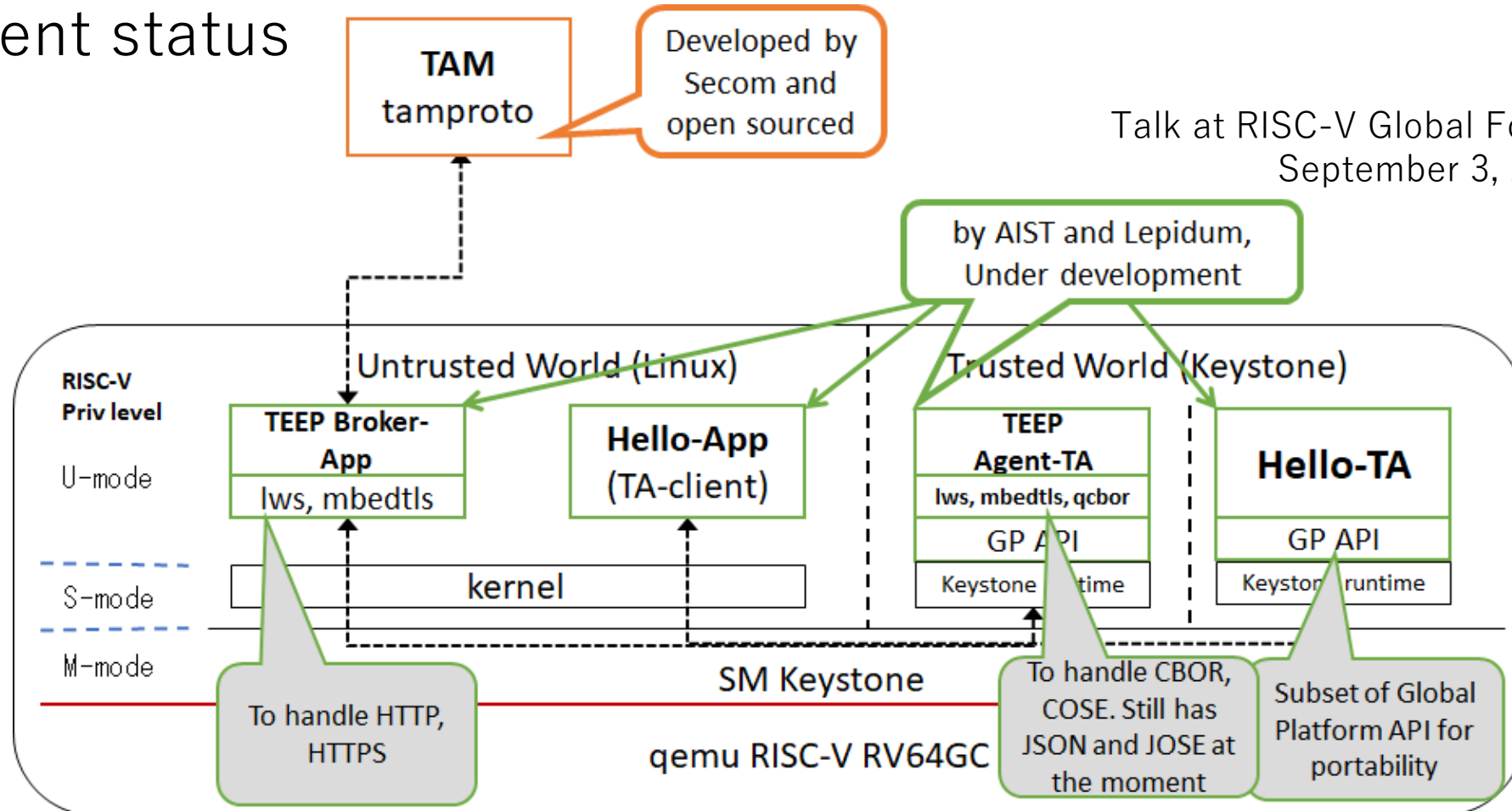
- AIST have been working on teep-device prototype
 - At IETF hackathon and Securing the IoT (SIoT) Hackathon in the past.
 - Initial prototype was on ARM dev boards.
 - Ported to OP-TEE QEMU.
 - Porting to RISC-V QEMU (RV64GC).
 - All in C/C++ language

TEEP Architecture



TEEP-device status on RISC-V (2/2)

- Current status



Hackathon Members

Akira Tsukamoto (AIST)
Kuniyasu Suzaki (TRASIO/AIST)
Kohei Isobe (TRASIO/SECOM)
Dave Thaler (Microsoft)
Hannes Tschofenig (ARM)
Yuichi Takita (SECOM)
Masashi Kikuchi (TRASIO/Lepidum)
Takahito Nagata (TRASIO/Lepidum)
Tsukasa Oi (TRASIO)
Brendan Moran (ARM)
Koen Zandberg (RIOT)
Michael Richardson

This presentation of hackathon is based on results obtained from a project commissioned by the New Energy and Industrial Technology Development Organization (NEDO).