

# 10 years with OP-TEE

Joakim Bech - Distinguished Engineer - Linaro

Jens Wiklander - Senior Engineer - Linaro

Jérôme Forissier - Senior Engineer - Linaro

Etienne Carriere - Senior Engineer - ST



# Agenda

- A history lesson featuring shoutouts to various contributors over the years
- Panel discussion

# The history of OP-TEE known to people



OP-TEE  
**GitHub**

2014

Ownership from  
ST to Linaro

2015

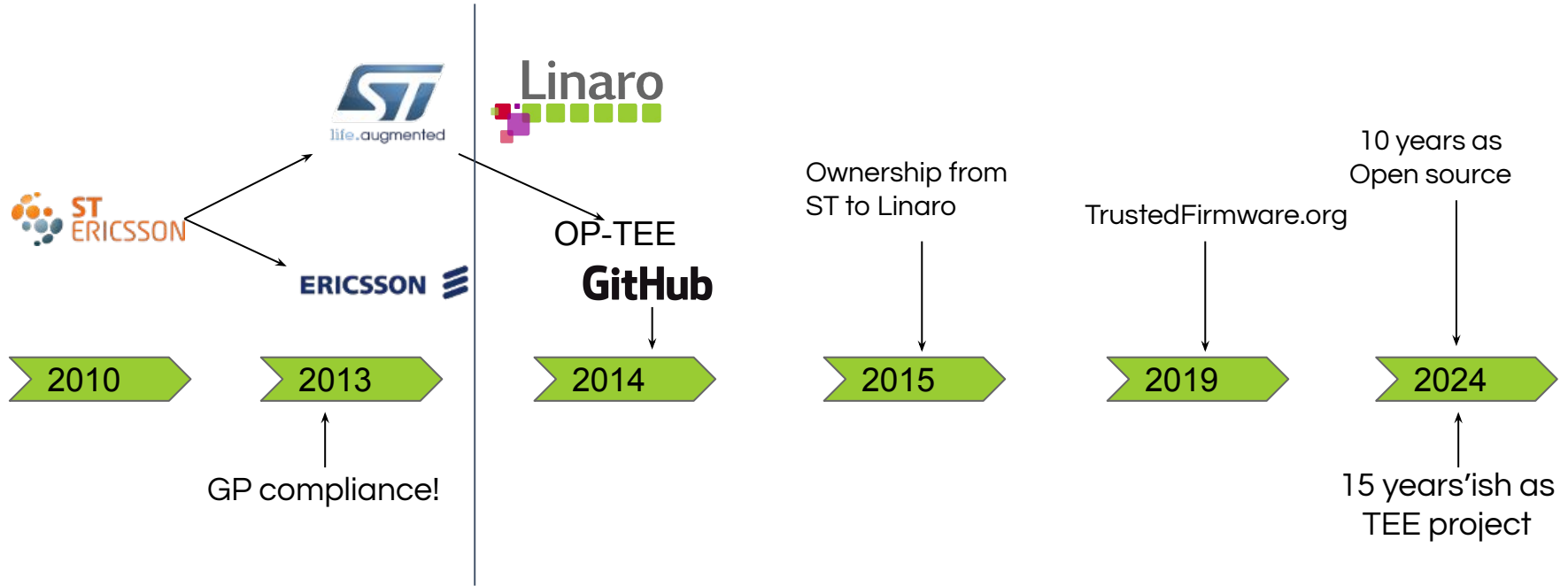
TrustedFirmware.org

2019

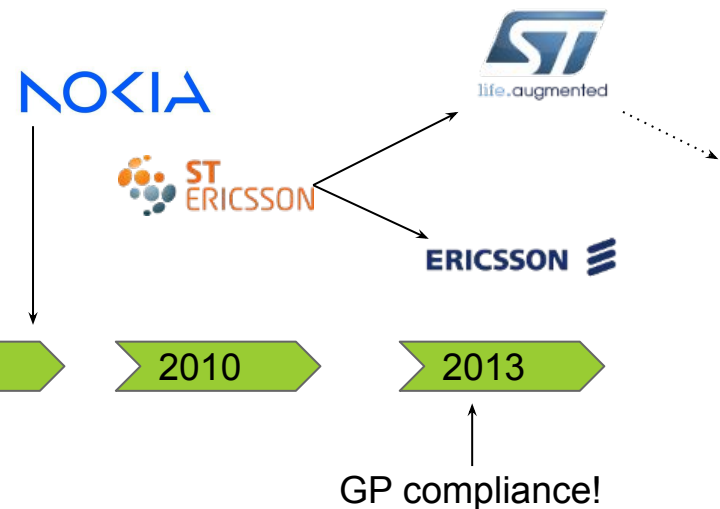
10 years as  
Open source

2024

# The history of OP-TEE known to a few more people



# The unknown history of OP-TEE



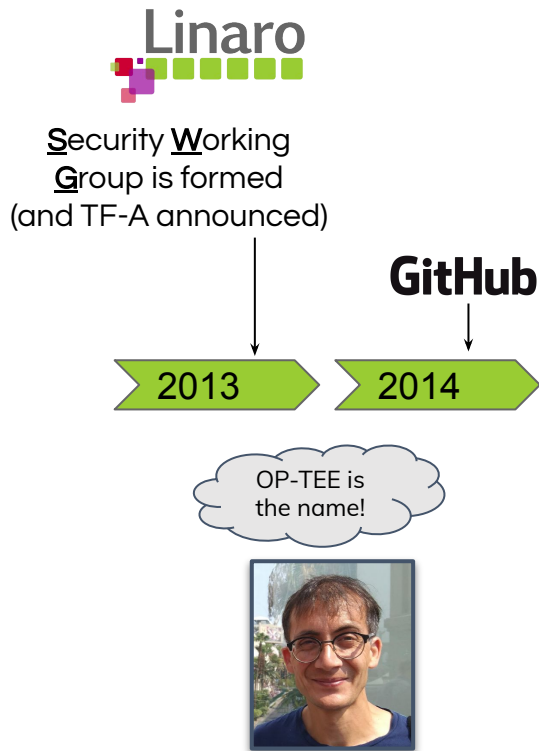
- ISSW initially developed by Nokia
- ST-Ericsson developed a TEE solution around it
  - Modem software
  - Android
  - Bootloaders
  - xtest (!)
- ST maintains the TEE solution

**Kudos - ST-E Lund:** Martin Hovang, Shujuan Chen, Per Ståhl, Berne Hebark, Chris Loreskär, Jonas Bjurholt, Mikael Johansson, Håkan Englund, Christer Faberling, Kenneth Walldén, Lina Pålsson, Joakim Nordell, Per Karlstedt, Naveen Gundu, Ralph Flemming, Hans Holmberg, Mårten Olsson, Jonas Ödlund, Susanne Regnell, Jens Wiklander, Joakim Bech and tons of other people.

**Kudos - ST-E / ST France:** (Le Mans, Grenoble): Hervé Sibert, Etienne Carriere, Frank Albesa, Loïc Pallardy, Jean-Michel Delorme, Emmanuel Michel + many others

**Kudos - Others:** Janne Mäntylä, Sampo Sovio, Patrik Ekdahl, Ben Smeets, Nicolas Lavabre

# The history of OP-TEE known to people



- Linaro forms SWG
- Discussion with TEE vendors
- ST and Linaro rework the ST TEE to become OP-TEE



- Hervé Sibert names it Open Portable TEE
- Pascal Brand publishes the first commit

```
commit b01047730e77127c23a36591643eeb8bb0487d68
Author: Pascal Brand <pascal.brand@st.com>
Date: Thu Jun 12 15:56:20 2014 +0200

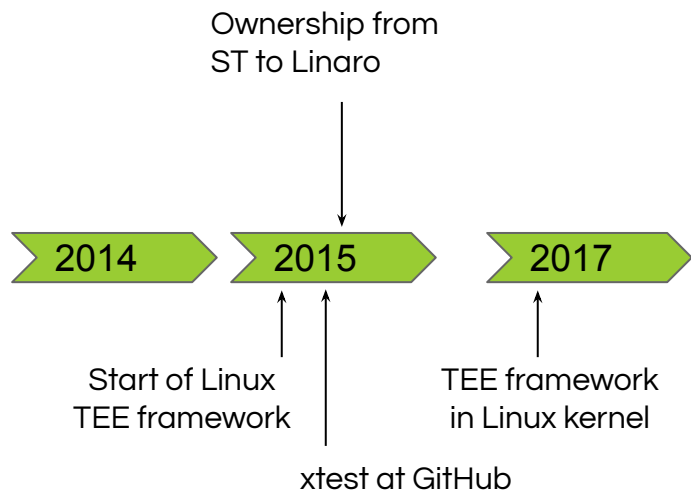
    Open-source the TEE Core

Signed-off-by: Pascal Brand <pascal.brand@st.com>
616 files changed, 99101 insertions(+)
```

**Kudos SWG folks:** Jens Wiklander, Joakim Bech, Pascal Brand, Cédric Chaumont

**Kudos Linaro + members:** Hervé Sibert, Christian Bertin, Dan Handley, Andrew Thielke, Jason Parker, Rob Coombs, Simon Moore and the Linaro TSC reps and engineers from ST

# The history of OP-TEE known to people



- TEE framework Linux kernel work starts
- xtest (optee\_test) released in the open
- OP-TEE ownership is transferred to Linaro
- TEE framework lands in Linux kernel
- Two additional key people joins SWG [Jérôme Forissier](#) and [Etienne Carriere](#)



# The history of OP-TEE known to people



TrustedFirmware.org



2019



TrustedFirmware



OP-TEE moving into Trusted Firmware

Monday, September 23, 2019

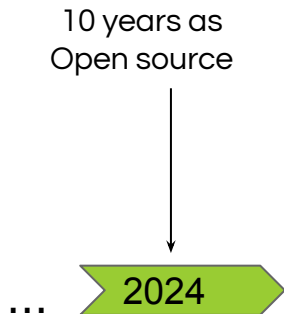
Linaro is transferring OP-TEE (Open Portable TEE, an open source Arm® TrustZone® based trusted OS) to become part of the Trusted Firmware open governance community project hosted by Linaro. See...

- Feels like OP-TEE is a mature project
- What about moving OP-TEE to TrustedFirmware?
- Press release at Linaro Connect in San Diego 2019

**Kudos:** Matteo Carlini, Shebu Varghese Kuriakose, James King, Don Harbin, Bill Fletcher and the Linaro TSC reps and the TrustedFirmware TSC and Board reps



# The history of OP-TEE known to people



- 2020: Ruchika Gupta, Tech Lead for SWG
  - OP-TEE FuSa assessment
- The LEDGE team led by Ilias Apalodimas oversee OP-TEE as a project
- MAD24 - panel discussion!

**Kudos:** Ruchika Gupta, Ilias Apalodimas, François-Frédéric Ozog, Victor Chong, Sumit Garg, all OP-TEE [maintainers](#) and other people contributing in one or another way, ... patches, board support, platform support, security issues, bug reports etc.

# Statistics optee\_os April 2024

Number of unique contributors: 323

Number of unique domains names from contributors: 111

Number of maintainers: 38

Number of releases: 39

Number of platforms supported upstream: 93

GitHub April 2024

- Pull requests: ~3950 closed
- Issues: ~2800 closed
- Security issues: 45

Top three contributors (number of commits to optee\_os)

- 1870 Jens Wiklander
- 1121 Jerome Forissier
- 1061 Etienne Carriere

# Panel discussion

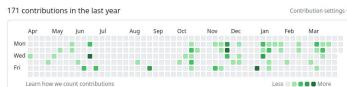
10 years with OP-TEE



# Panel participants



**Moderator**  
[Joakim Bech](#)  
Linaro



**Panellist**  
[Jens Wiklander](#)  
Linaro



**Panellist**  
Jérôme Forissier  
Linaro



**Panellist**  
[Etienne Carriere](#)  
STMicroelectronics





# Thank you

