CALL FOR PARTICIPANTS

Online Training "Hacking firmware"

<u>ADVANCED LEVEL</u>

Organized by the FORESIGHT project

in cooperation with Cyber-MAR project

3rd February, 2022

13:30 – 17:30 (CET)

Background

Attacks against the hardware and firmware of a device stand as some of the highest impact threats facing modern organizations. Firmware retains the highest privileges, allowing attackers to bypass traditional controls, and grants a higher level of persistence. The firmware layer has also quickly become one of the most active areas of cybersecurity with attackers increasingly setting their sights on the area of the enterprise where vulnerabilities are plentiful, and defenses are often weakest. This not only affect high end network devices but everyday IoT devices that we use in our lives.

Firmware and hardware attacks are also significantly different from traditional malware and network threats. Security teams must be prepared to defend against a new set of attacker strategies, vectors, and understand how the wide variety of firmware components can be used as part of a persistent attack.

Objectives

The objective is to develop theoretical knowledge about firmware structure, components, and attack vectors, complemented by hands-on exercises to investigate and experiment with firmware images. The training we will cover main topics such as:

- What is a firmware and firmware use in embedded devices?
- Firmware structures and file systems
- Deconstruction and reconstruction of a firmware for embedded devices
- Tools of trade
- Backdooring firmware with and without using FMK (hands on)
- Firmware exploits and vulnerabilities
- Firmware integrity checks and backdoor detection

Student learning outcomes

Participants will have a basic knowledge about firmware internals and tools and methods for working with firmware images.

Target groups

- IT security experts
- Incident Response experts
- Security Science scientific personnel

Eligibility

Proficiency with IT systems and Linux administration

Duration

4 hours

Costs

- No fees

Other information

Training program will be delivered by prominent experts, in **English** language.

Learners could be asked to install some open-source software in their laptops for trying out tools in the practical activities. More information on this will be provided to accepted participants before the start of the training.

No ECTS credits are awarded for this training.

Please fill in all fields under penalty of exclusion

Deadline

The application form must be submitted online before **1st February 2022, 18:00 (CET).** To ensure effective training with an in-depth approach and practical exercises, the number of selected participants will be limited (up to approximately 12) therefore the participants will be selected based on the eligibility prerequisites above indicated and on the chronological order of arrivals.