RCIS2020

SPIDER
5G CYBER RANGE

A cyberSecurity Platform for vIrtualiseD 5G cybEr Range services (SPIDER)

Horizon 2020
European Union Funding
for Research & Innovation

OBJECTIVES

SPIDER's basic objective is not only to train professionals in 5G security but also to provide tools able to improve the user capability of predicting the evolution of cyber-threats and to analyze the associated economic impact and cost that is brought with the attack.

SPIDER's concept can be summed up on the following objectives:

- Deliver a next-generation, extensive, and replicable Cyber Range as a Service (CRaaS) platform for the telecommunications domain and its fifth-generation (5G).
- To offer a synthetic and sophisticated war-gaming environment taking into account all relevant advancements and latest trends and capitalize on the current state of the art
- To offer integrated tools for cyber testing including advanced emulation tools, novel training methods towards active learning as well as econometric models based on real-time emulation of modern cyber-attacks.

USE CASES

CYBERSECURITY TESTING

- Cybersecurity Testing of 5G-ready applications and network services
- Cybersecurity of Next Generation Mobile Core SBA

5G SECURITY TRAINING

- 5G Security Training for Experts
- 5G Security Training for Non-Experts

CYBER INVESTMENT DECISION SUPPORT

- A decision support process integrated within the cyber range to asssist towards optimal support

CURRENT PROJECT RESULTS

- Studies towards the analysis, collection, and extraction of SPIDER user requirements that the architecture development must address
- Definition of the 5G cybersecurity threat landscape, and the related SPIDER actors, to outline the possible attack scenarios which the SPIDER's training platform should address.
- Extraction of functional requirements and grouped by the identified SPIDER actors, assigned a priority.. Functional requirements were mapped to non-functional requirements.
- In addition, and due to the lack of real data containing attacks for training purposes, SPIDER has investigated the application of Generative Adversarial Networks to the generation of synthetic network attacks.
- The use case analysis led to the definition of three pilot use case scenarios
- Initial architecture definition

EXPECTED TANGIBLE RESULTS

The delivery of a cutting edge CRaaS platform able to offer to its intended users a digital gamified and serious game-based learning environment capable of training experts and non-experts.

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