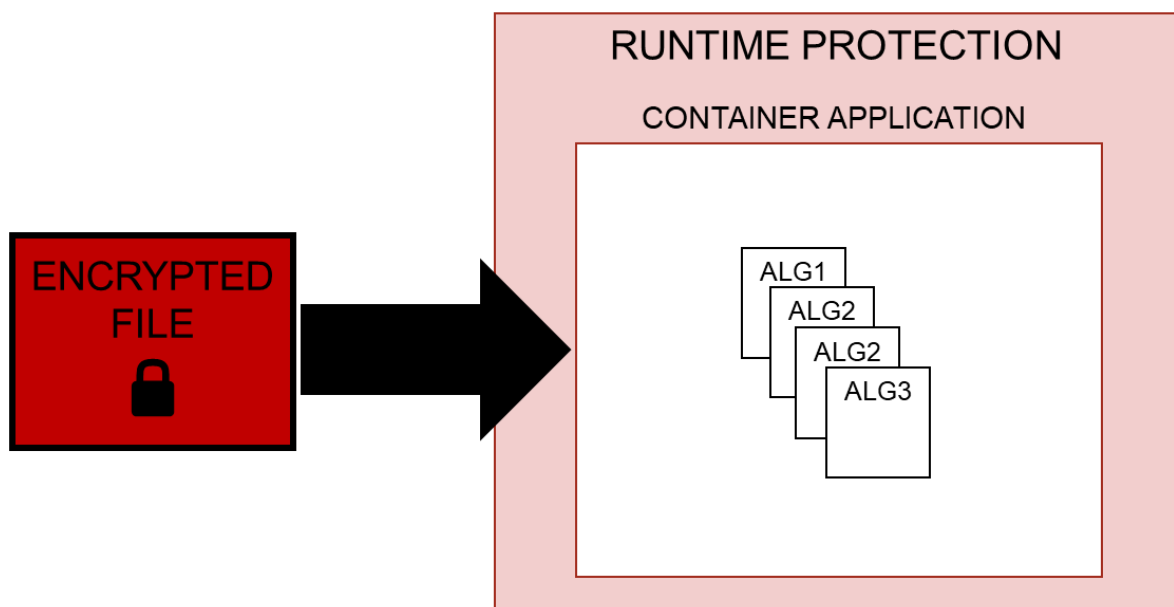


Bachelor-Thesis:

Security assessment for the implementation of Last Resource Letter's files

Context:

The project consist in the development of a procedure to provide an execution environment as well as trust in a way to proof the integrity and security of the transferred algorithm, as the content might come from untrusted sources. For the thesis, a runtime protection (e.g. sandbox environment) is proposed as well as a checksum linked to an antivirus scan certificate. As the algorithm will come encrypted, some strategies as homomorphic encryption are to be explored as well.



Your tasks:

The student is expected to work on a Virtual Box Linux environment where it should be developed an algorithm to deal with a possible attacks from inside the network in the form of corrupted files, unwanted physical behaviors and unauthorized access to files outside the

containerized application. For this, different methods can be required and measured, as homomorphic algorithms, files certification, runtime from sandbox, etc.

On this project, you expect to find:

- Cryptographic algorithms
- Docker Containers
- Data Integrity check procedures
- Cyber Security algorithms
- System level simulation
- Programming and Automation concepts

Contact:

César Cazal, M.Sc.

cesar.cazal@eonerc.rwth-aachen.de

Tel. +49 24180 49730

ACS | Institute for Automation of Complex Power Systems

E.ON Energy Research Center

RWTH Aachen University

Mathieustr. 10, 52074 Aachen, Germany