

Confiabilidade de Sistemas Distribuídos Dependable Distributed Systems

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Lab 09

2018/2019, 2nd SEM

MIEI

Mestrado Integrado em Engenharia Informática

Scone

- Scone allows to run containers inside SGX enclaves, thus protecting the program execution and the data manipulated
- <https://sconedocs.github.io/>

Example

- Download the zip from CLIP.
- It includes:
 - A Maven project with some Java examples
 - Scripts to run the examples inside a scone container
- Note: it might not be possible to run more than one container in a machine

Goal

- Extend your system with the following operations (you may add additional parameters if needed):
 - `conditional_set(cond_key, val, upd_key, val2 [, type_cond_key, type_upd_key])`
 - `conditional_add(cond_key, val, upd_key, val2 [, type_cond_key, type_upd_key])`
 - These operations check if the value of `cond_key` is greater or equal to `val`. If that is the case, they update the key `upd_key` by setting it to the value `v2` (or adding `val2` to the current value)

Goal (cont.)

- The value of the variables should not be exposed, but can be accessed inside the secure container.
- Minimize the code that needs to run inside the secure container.
- Minimize the number of calls made to the code running inside the secure container.

Suggestions

- Create a service that runs inside the secure container for executing the necessary operations.
- Extend existing create operations to send to the server the associated key.
 - It should be only possible to access the key inside the secure container.