

# The Container Security in Healthcare Data Exchange System

Bachelor's degree graduation project

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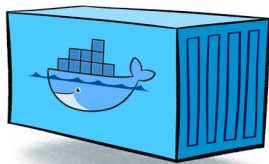
NSYSU

# Outline

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# Big picture

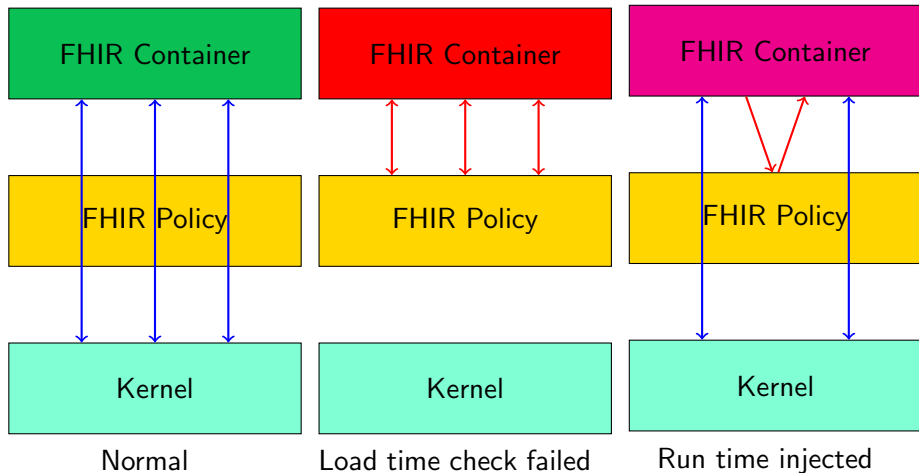


FHIR Policy



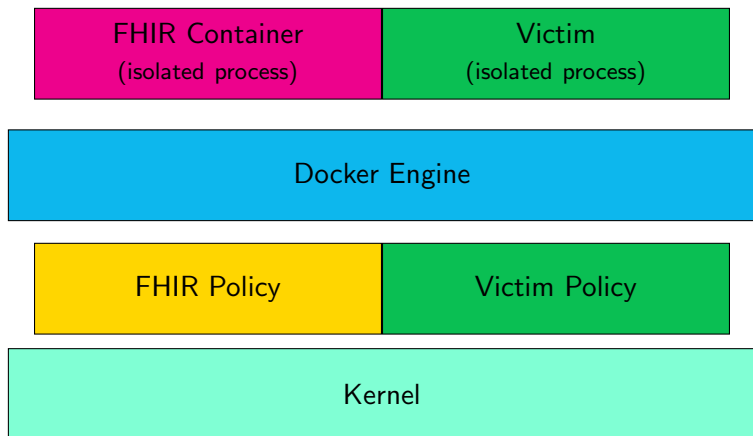
Linux





# Demo

# Architecture: on the same machine



Live demo.



## Why this

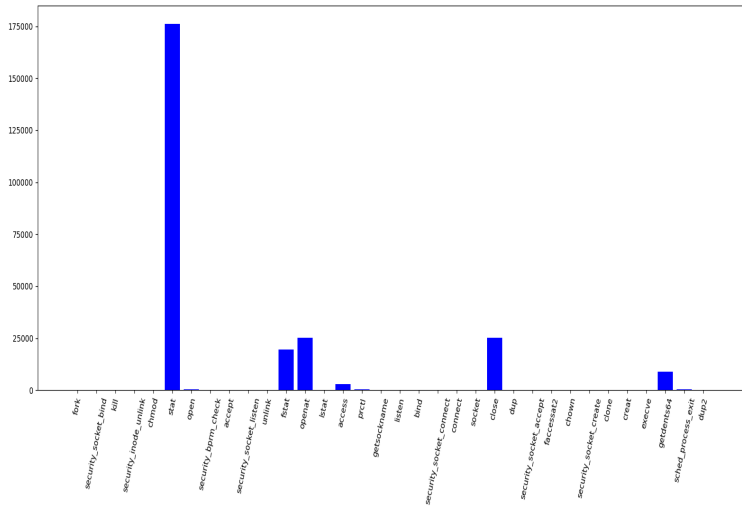
# Why this idea has not been proposed?

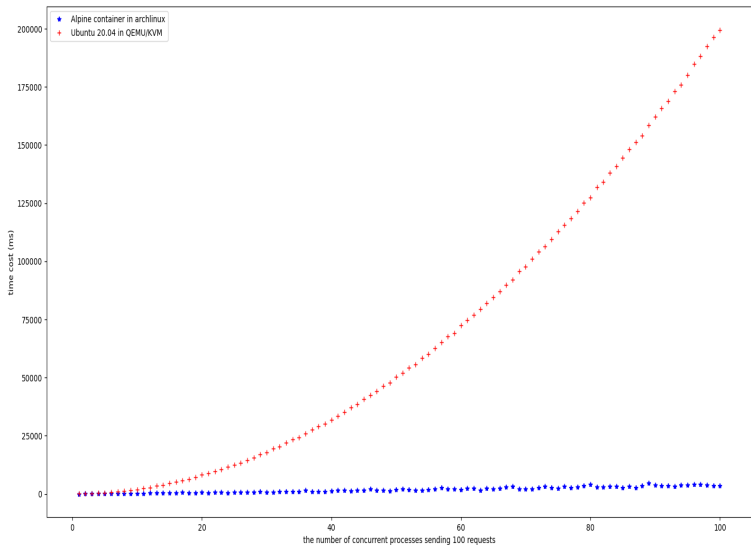
- ① Docker provides a general mask to containers, however, it does **not have enough efficacy** to protect the special container.
- ② Google used a sandbox to encapsulate, however, our researching target (IBM/FHIR) did **not support** gVisor.
- ③ This is a new issue in security, moreover, it must have much Linux kernel knowledge to interact with.

# Pros and Cons

	<b>Our proposal</b>	<b>Sandbox</b>
<b>General</b>	solid	flexible
<b>Performance</b>	efficiency	expensiveness
<b>Vulnerability</b>	kernel exploit	instruction exploit

## Statistic & Performance





# Conclusion

- We propose a **secure workflow** for FHIR system.
- We benchmark the **concurrent performance** of container and virtual machine in FHIR system server.
- We provide a **reliable statistic** in FHIR system for Taiwan.