

The Container Security in Healthcare Data Exchange System

Bachelor's degree graduation project

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Team **18**.

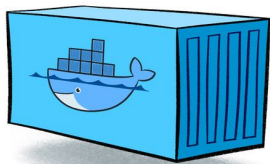
NSYSU

Outline

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- 4 Statistic & Performance

Big picture

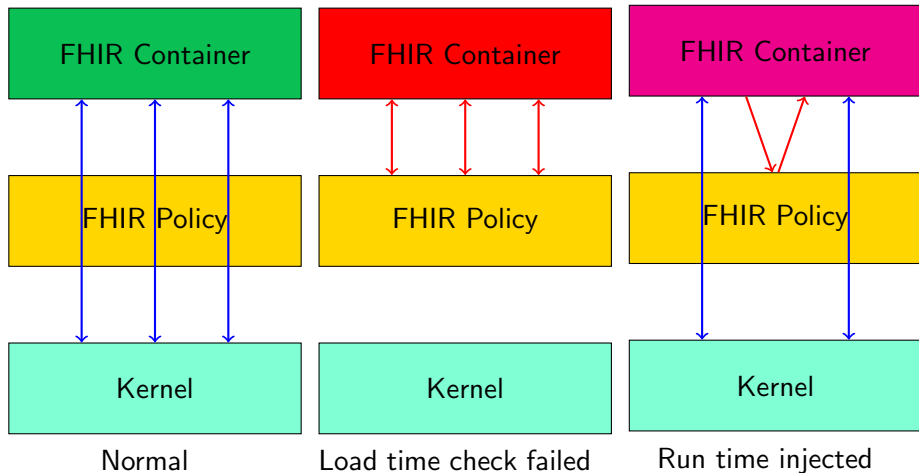


FHIR Policy



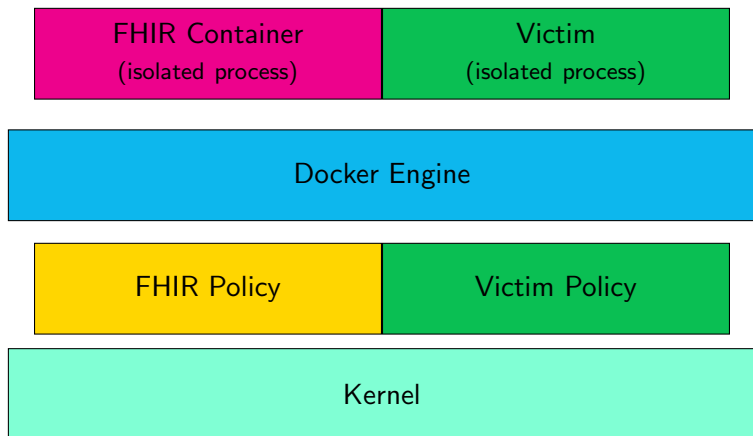
Linux





Demo

Architecture: on the same machine



Live demo.

Why this

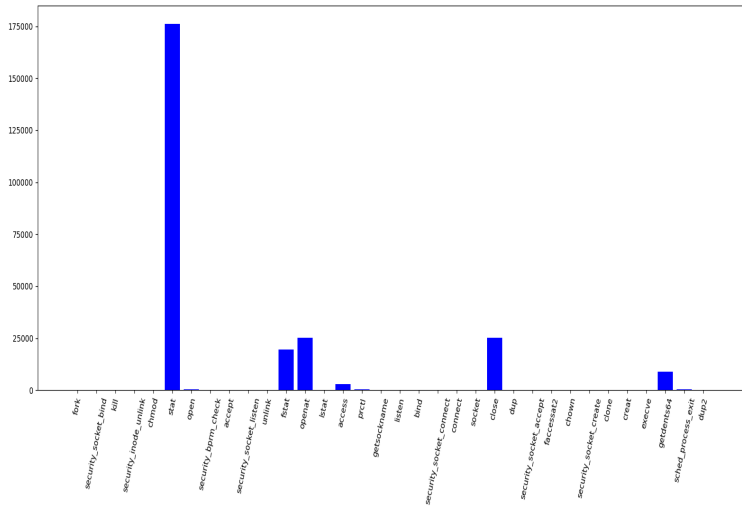
Why this idea has not been proposed?

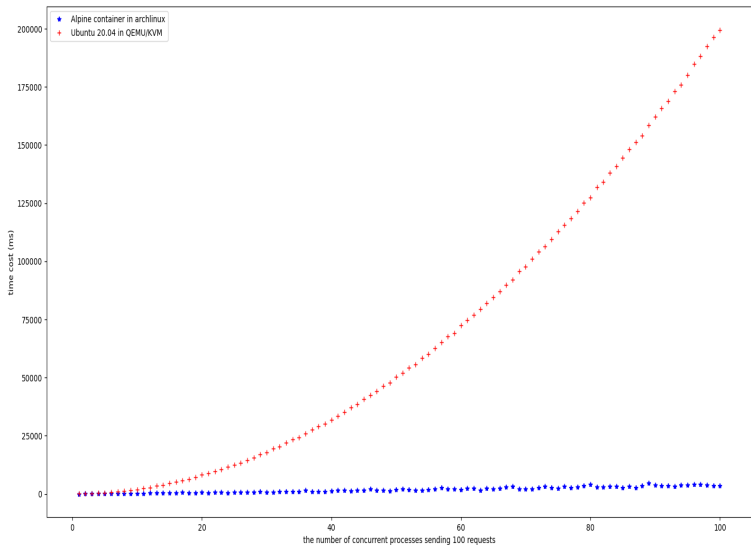
- ① Docker provides a general mask to containers, however, it does **not have enough efficacy** to protect the special container.
- ② Google used a sandbox to encapsulate, however, our researching target (IBM/FHIR) did **not support** gVisor.
- ③ This is a new issue in security, moreover, it must have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

Pros and Cons

| | Our proposal | Sandbox |
|-------------|-------------------|---------------|
| General | solid | flexible |
| Performance | efficiency | expensiveness |

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.