Cloud Testing Without the Wait: Transforming the Kubernetes Development Experience

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I am...

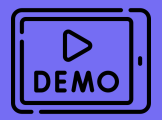
- **Developer Advocate at MetalBear**
- **Open Source fan girl**
- **DEI Advocate and a member of the Board at CHAOSS**
- **Organiser at KCD Nigeria and CNCF Abuja**

AGENDA

Traditional development workflows

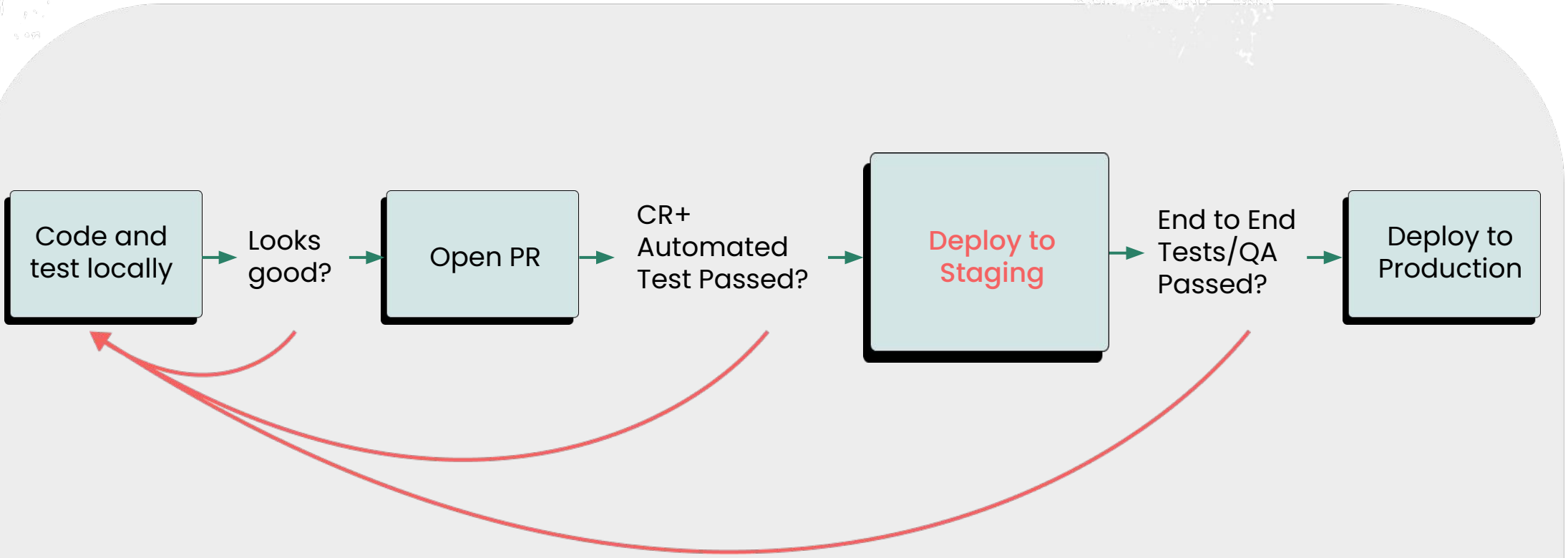
Shift left on cloud testing

Benefits of shift left on cloud testing



Live demo of mirrord

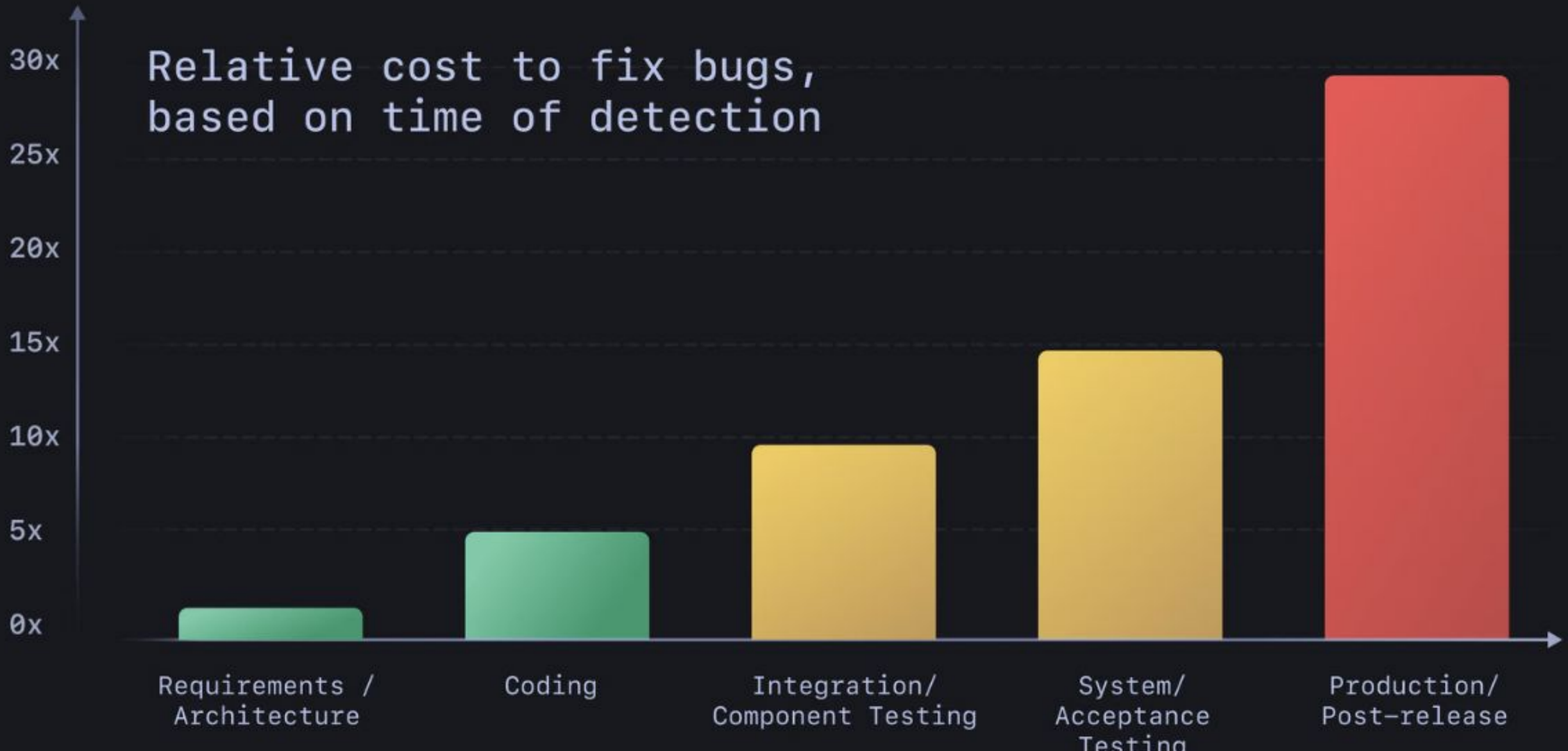
The Legacy Dev Workflow



- Slow
- Fragile
- Time to market or quality suffer
- Gets worse as org grows

Issues with this reality are:

- Difficulty debugging issues
- Suboptimal testing conditions
- Decreased developer productivity
- Increase in cloud cost
- Longer time to market


Relative cost to fix bugs,
based on time of detection
30x
25x
20x
15x
10x
5x
0x
Requirements / Architecture
Coding
Integration/ Component Testing
System/ Acceptance Testing
Production/ Post-release

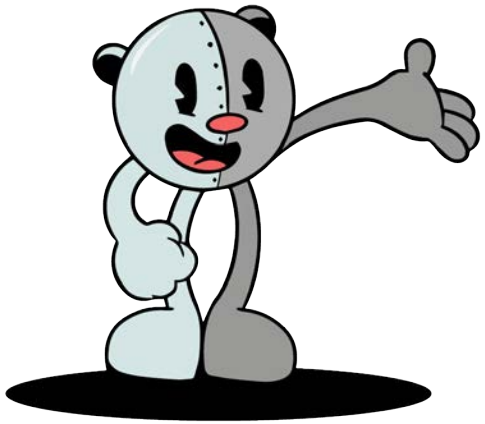
What is Shift Left Testing?

- *Pushing testing to earlier in the workflow*

However, shifting cloud testing left means:

- *Moving cloud-based testing earlier in the development process*

The key principles of this are to ensure:



- Early bug detection
- Continuous feedback loops
- High-quality application with fewer code patches
- Reduce the instances of delay

Benefits of Shifting Cloud Testing Left

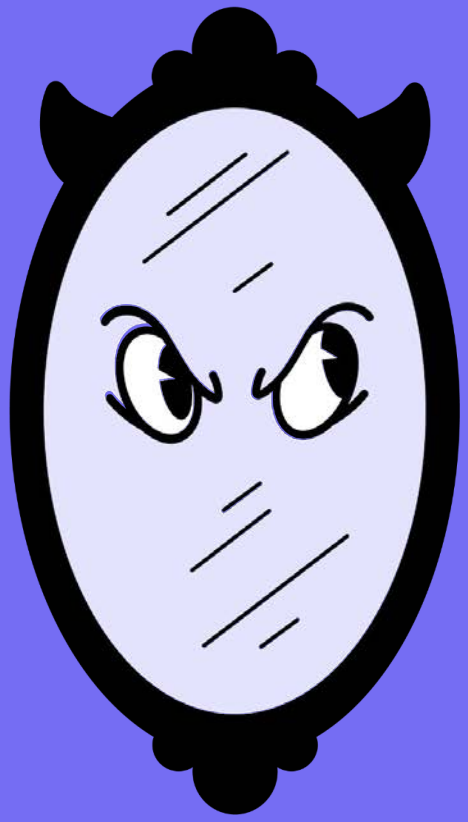
Early Bug Detection

Increased Efficiency

Cost Savings

Faster Development

Developer Wellbeing



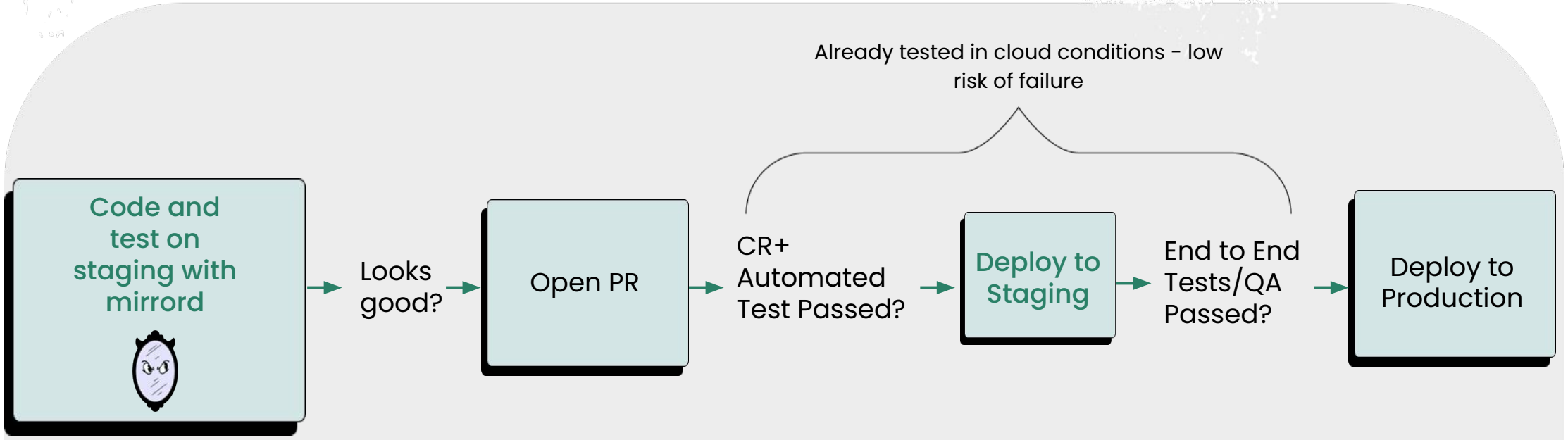
mirrord

saves the day! 🙌

What is mirrord?

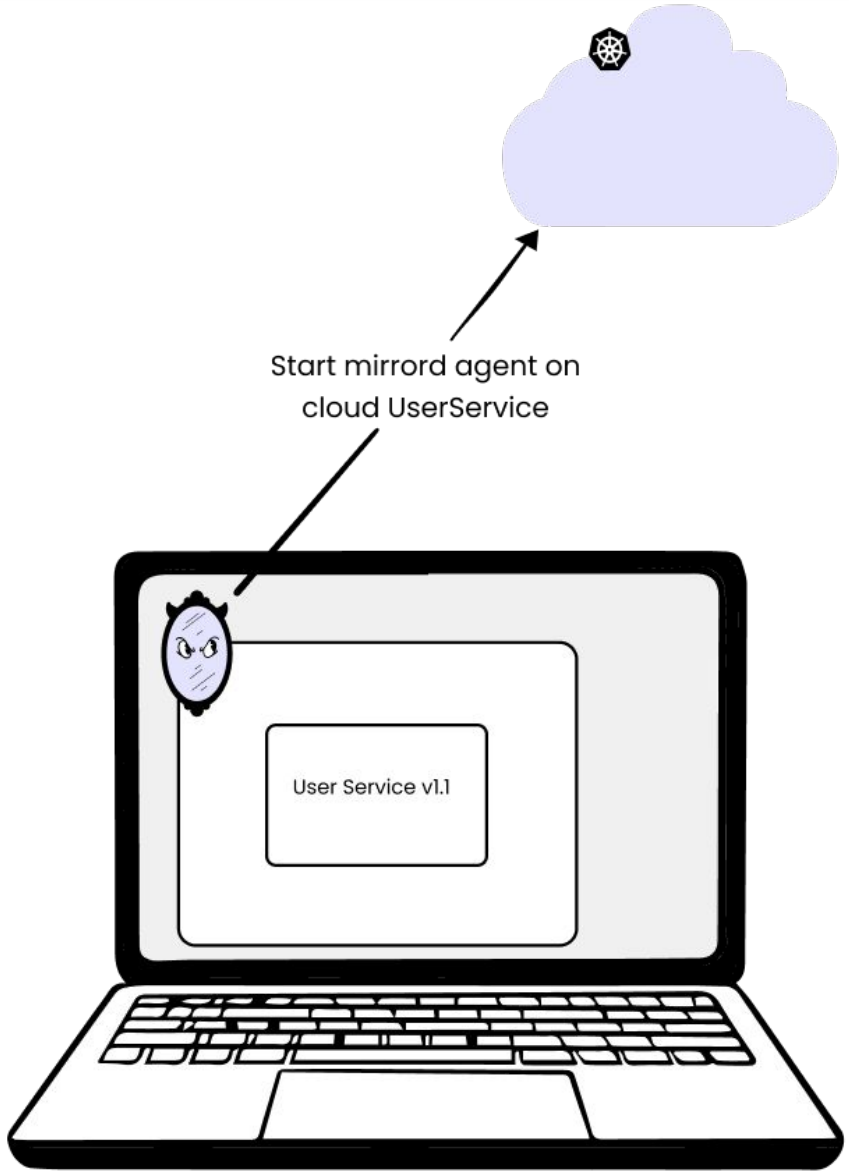
- Comes as a CLI Tool or IDE Plugin
- Lets developers run a **local process** in the **context of their cloud environment**.
- Enables developers to work locally, but on a remote **shared** environment
- Keep the convenience of local development
- Resulting in: higher **developer velocity**, faster **time to market**, and lower **cloud costs**

The Dev Workflow with mirrord

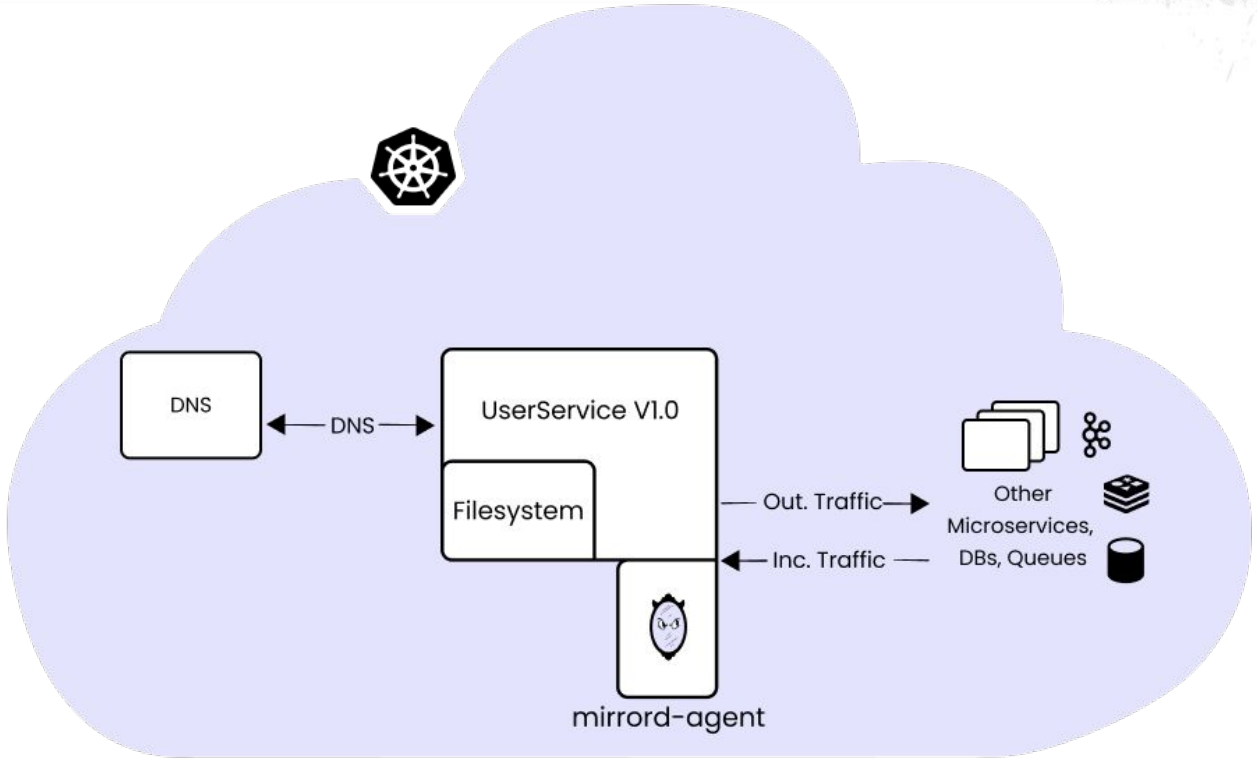


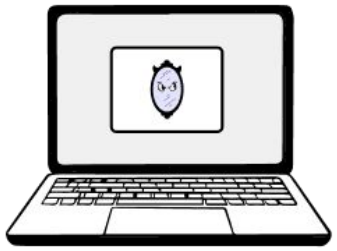
- Immediately test in cloud conditions
- Less time spent on mocks and simulations
- Low chance of failure in later stages

mirrord

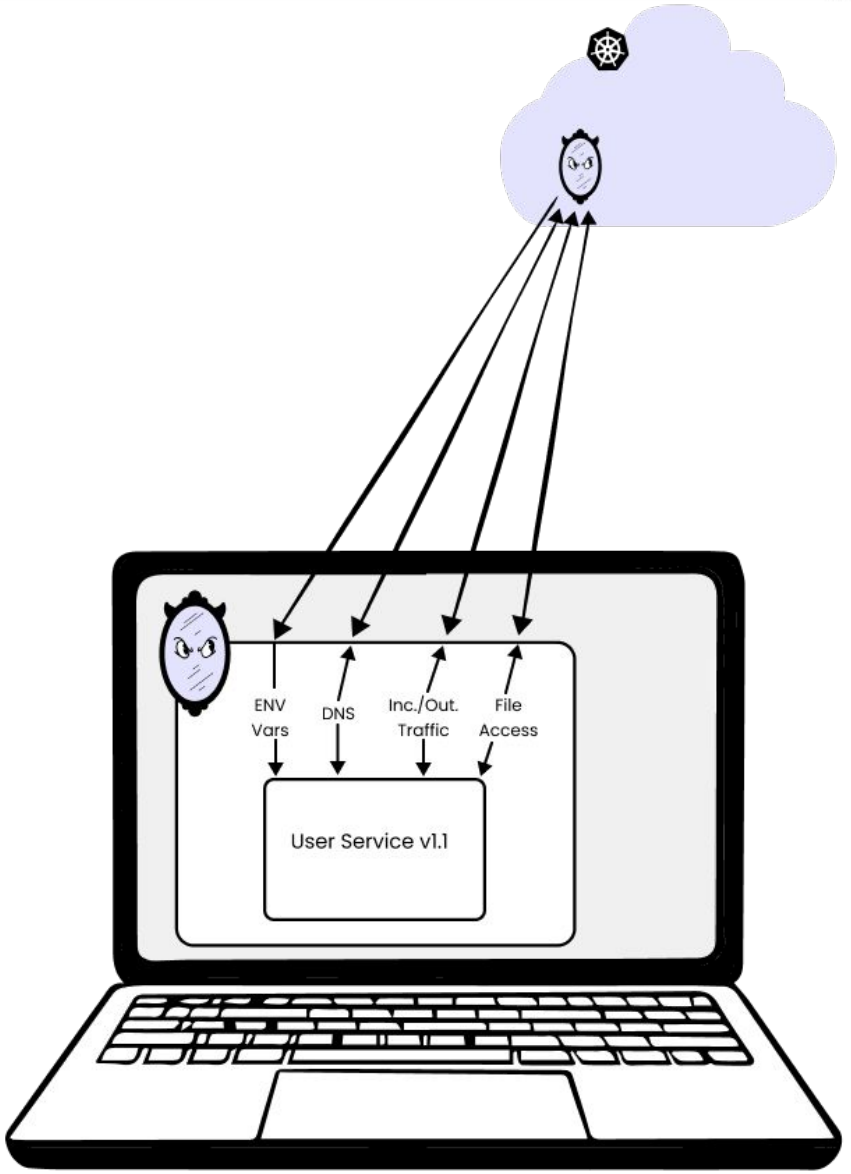


mirrord

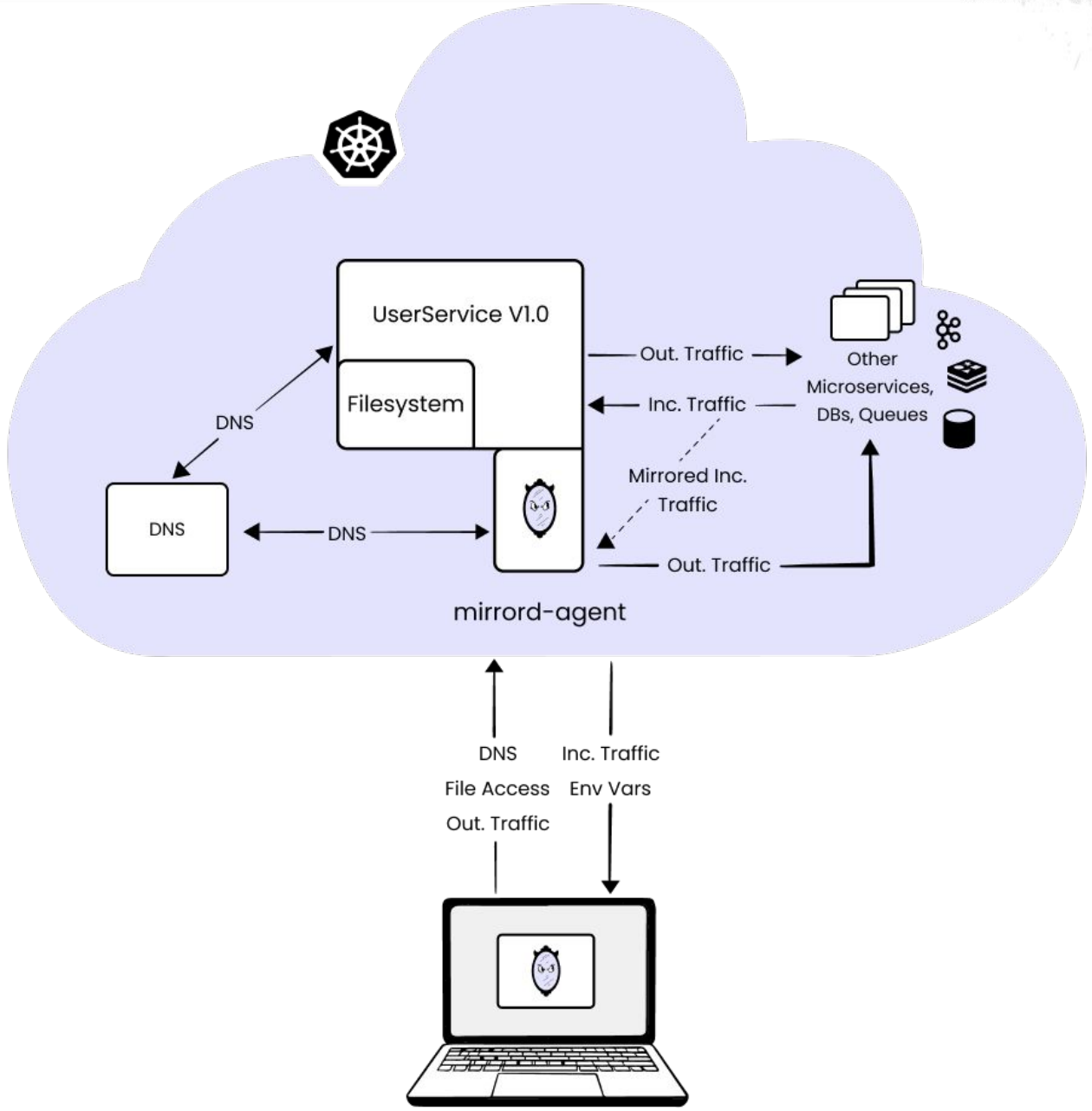

DNS
DNS
UserService V1.0
Filesystem
Out. Traffic
Inc. Traffic
Other
Microservices,
DBs, Queues
mirrord-agent



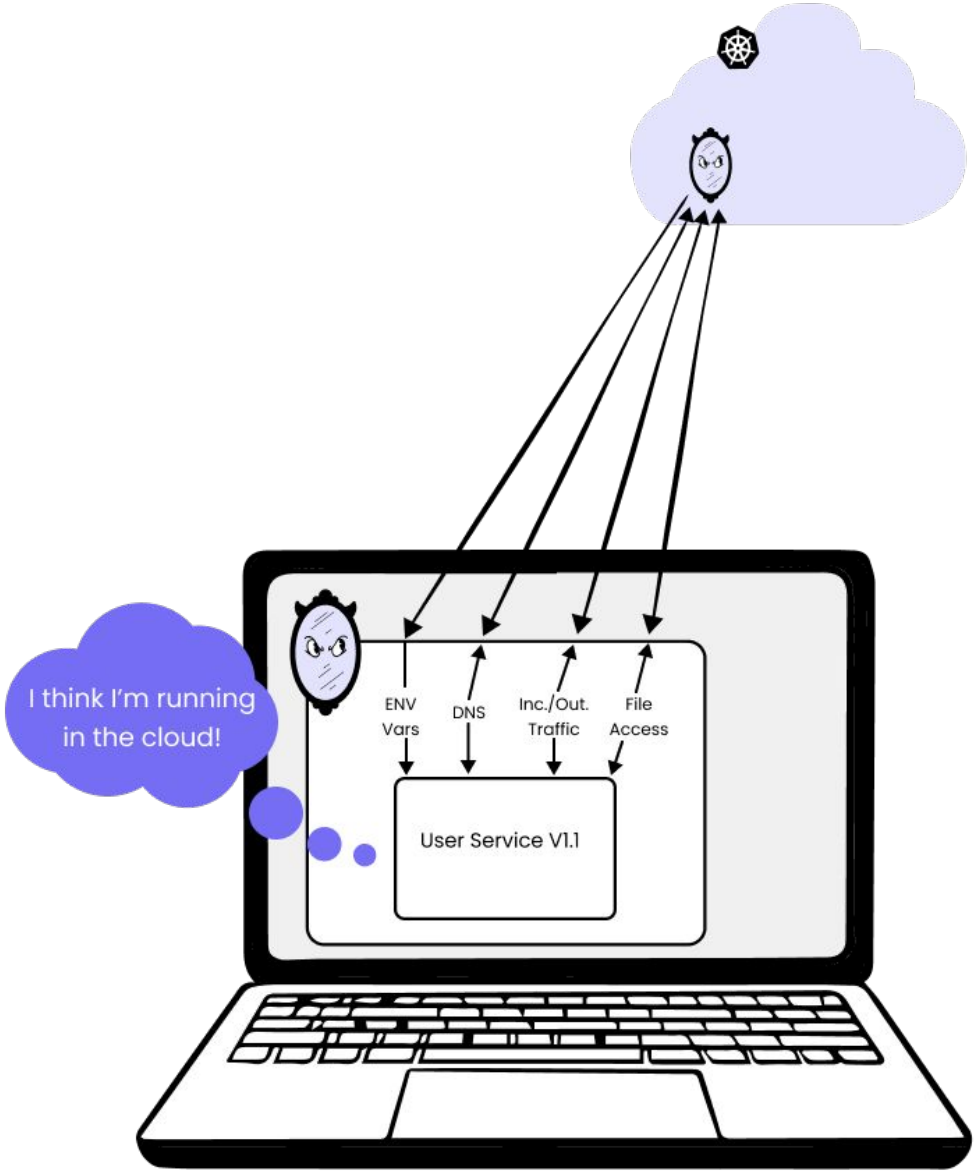
mirrord

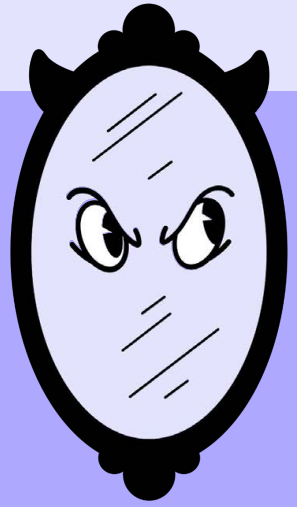


mirrord


UserService V1.0
Filesystem
DNS
DNS
DNS
Out. Traffic
Inc. Traffic
Other
Microservices,
DBs, Queues
Mirrored Inc.
Traffic
Out. Traffic
mirrord-agent
DNS
File Access
Out. Traffic
Inc. Traffic
Env Vars

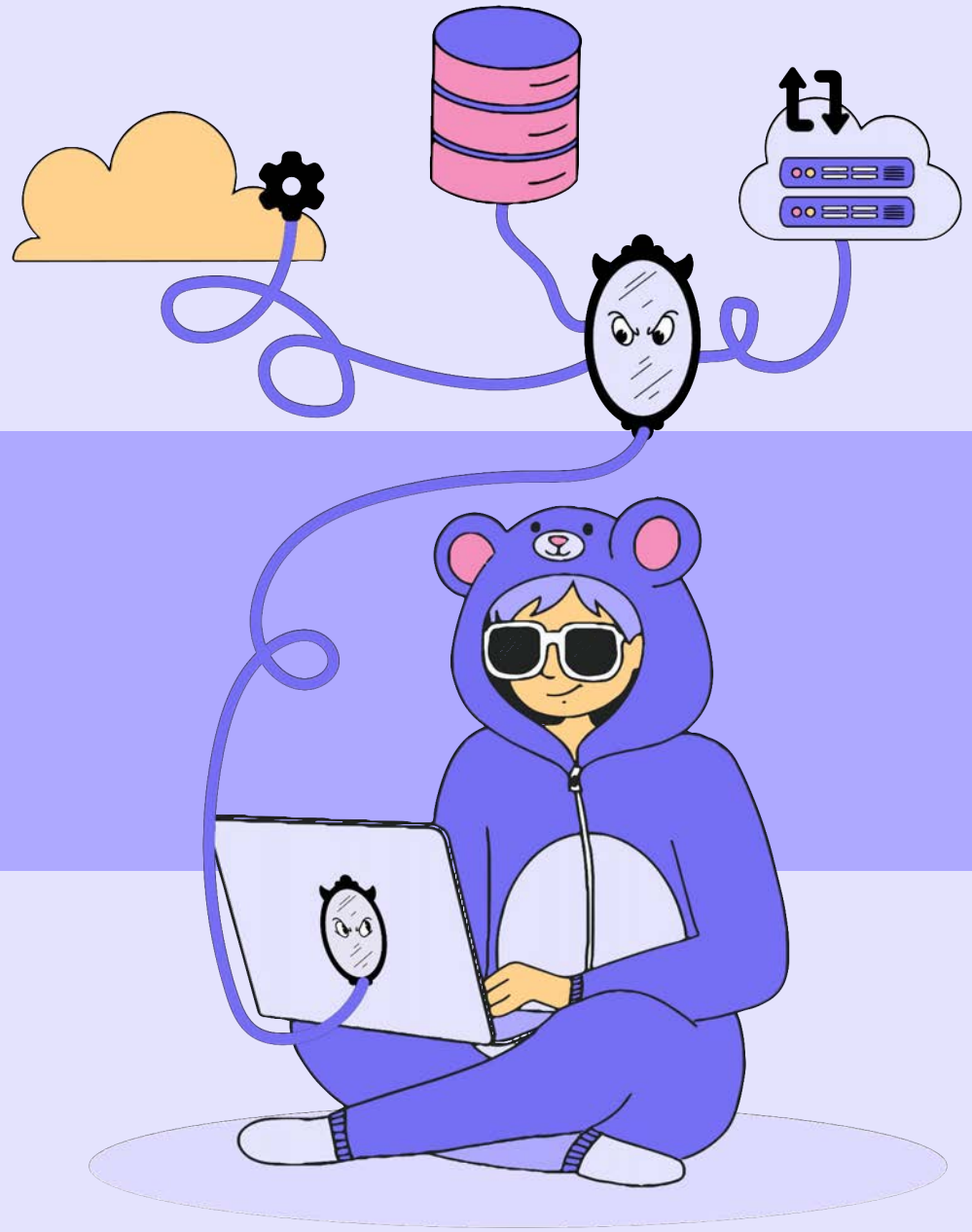
mirrord


I think I'm running in the cloud!
ENV Vars
DNS
Inc./Out. Traffic
File Access
User Service V1.1



mirrord

in action 🎬



mirrord

https://mirrord.dev/

https://github.com/metalbear-co/mirrord

https://discord.gg/metalbear

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