ThoughtWorks®

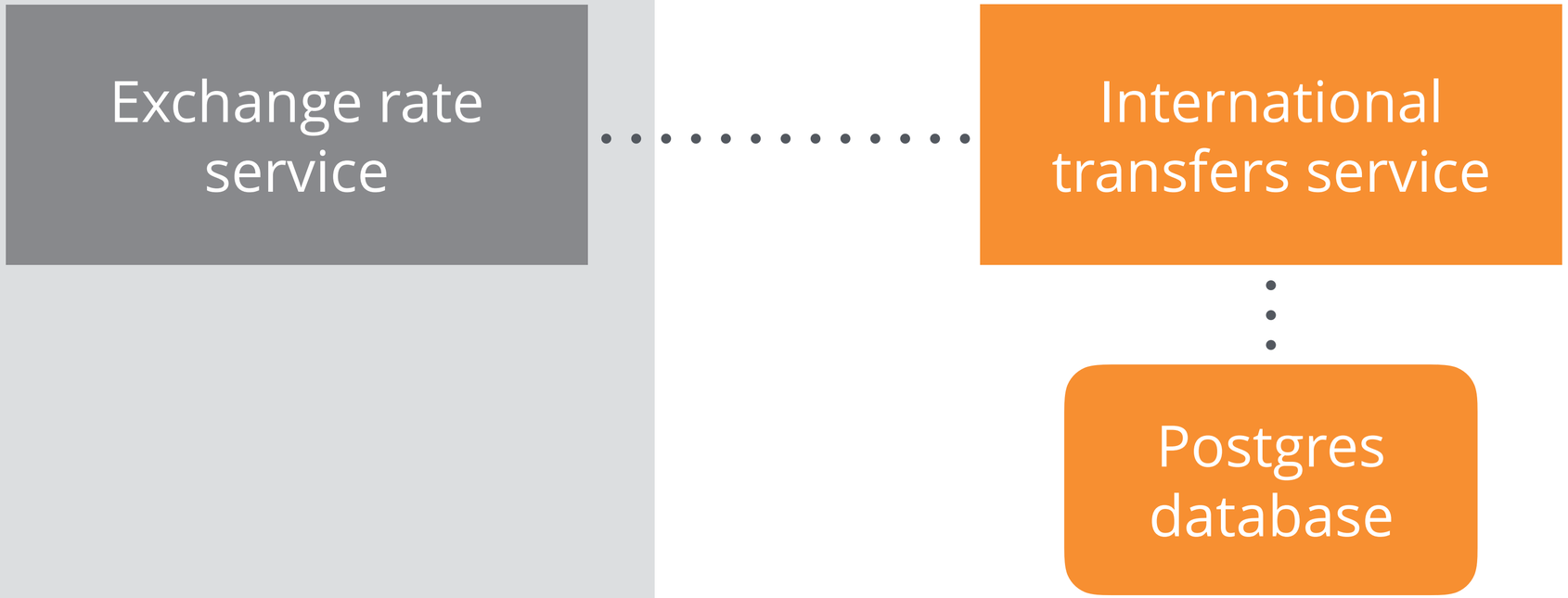
DOCKER'S NOT JUST FOR PRODUCTION

Using containers for your development environment

Charles Korn

SAY DOCKER
ONE MORE TIME

MegaBank, Inc.

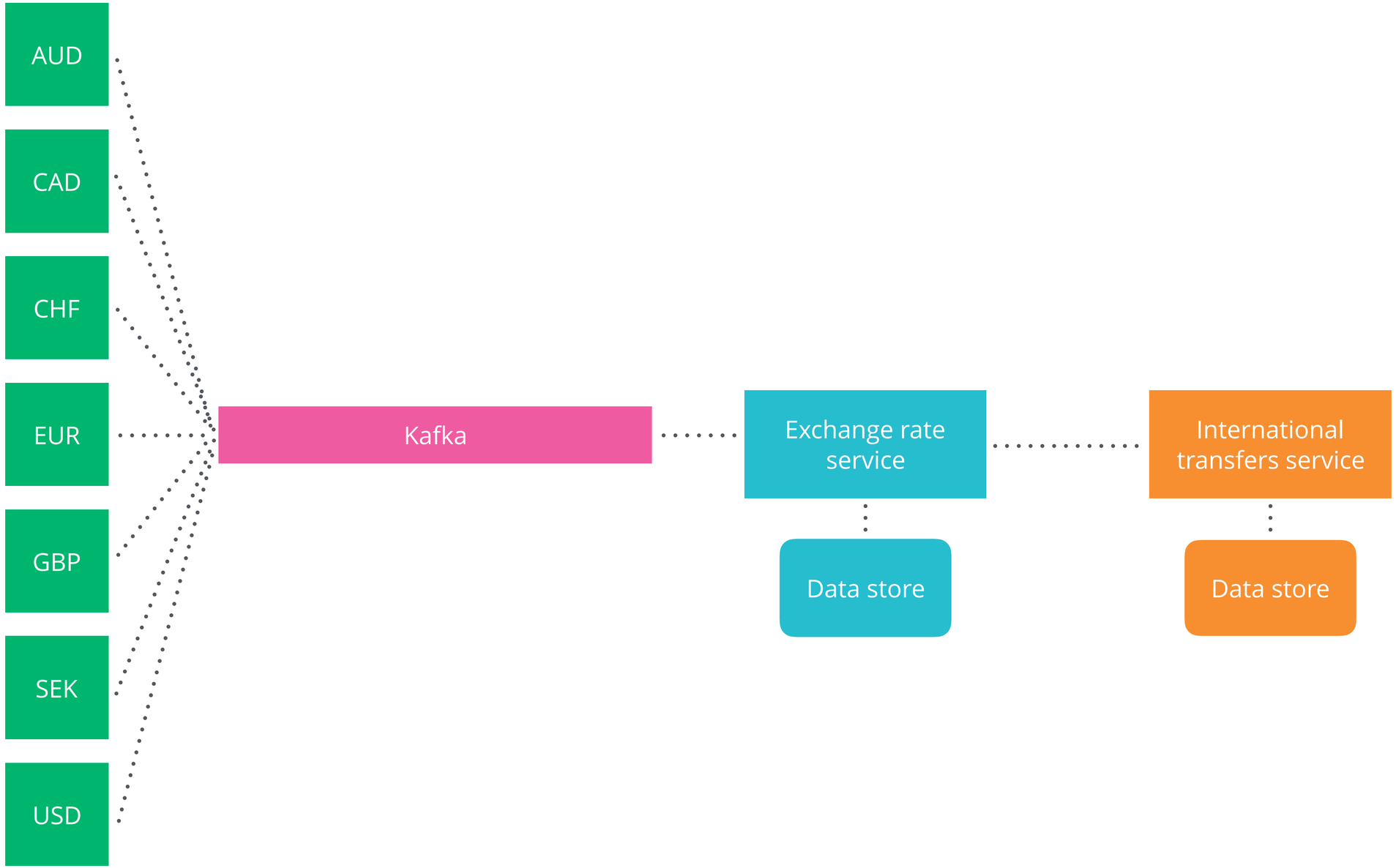

Exchange rate service
International transfers service
Postgres database

Development environment

THE STATUS QUO

INSTALL
ALL THE THINGS
quickmeme.com

VAGRANT


AUD
CAD
CHF
EUR
GBP
SEK
USD
Kafka
Exchange rate service
Data store
International transfers service
Data store

WHAT’S WRONG WITH THE STATUS QUO?

Build environments

(In)consistency

Onboarding time

Making changes is hard

Overhead

No isolation

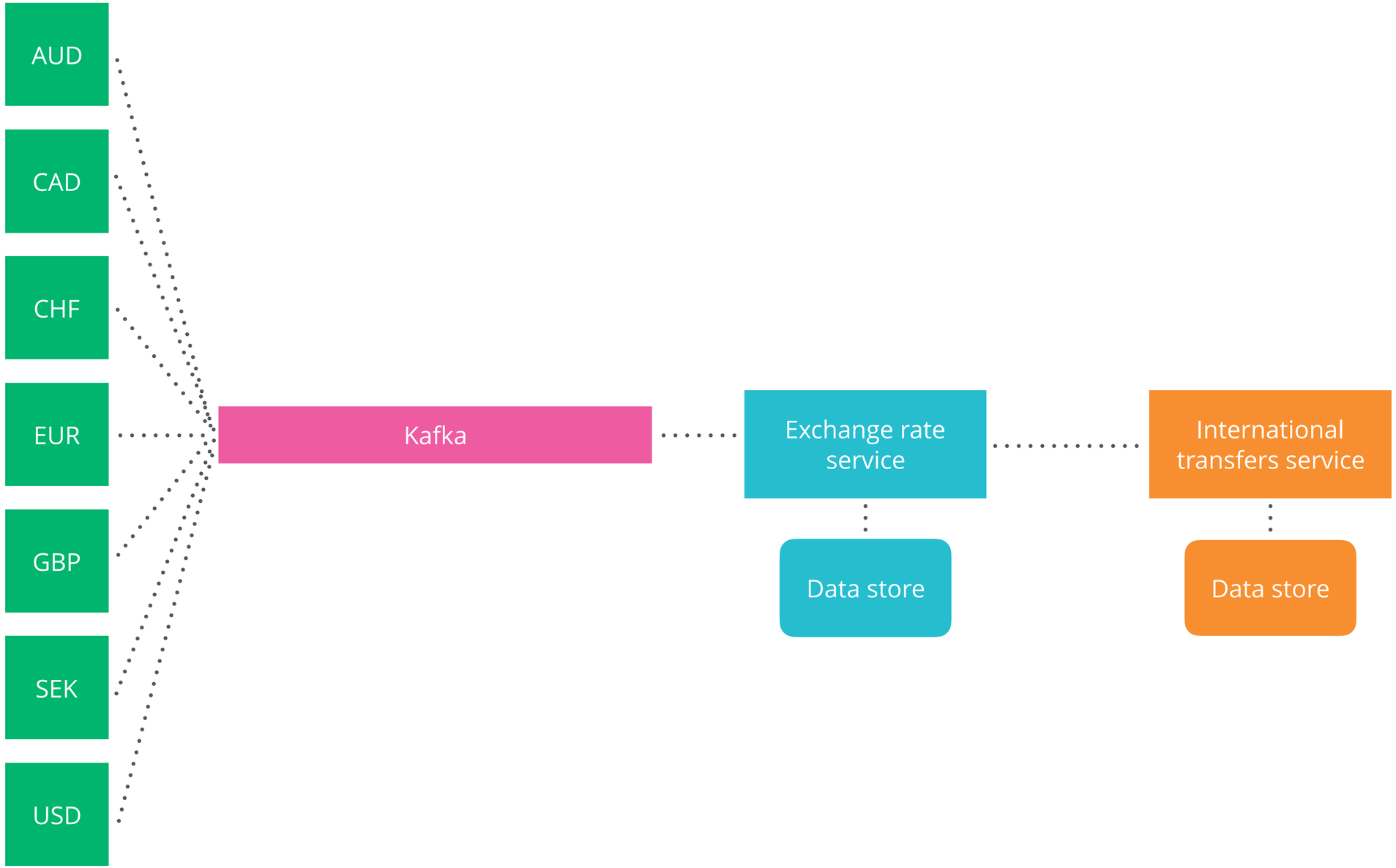
Reproducibility of builds

Team autonomy

(or lack thereof)

Test environments

It’s painful


AUD
CAD
CHF
EUR
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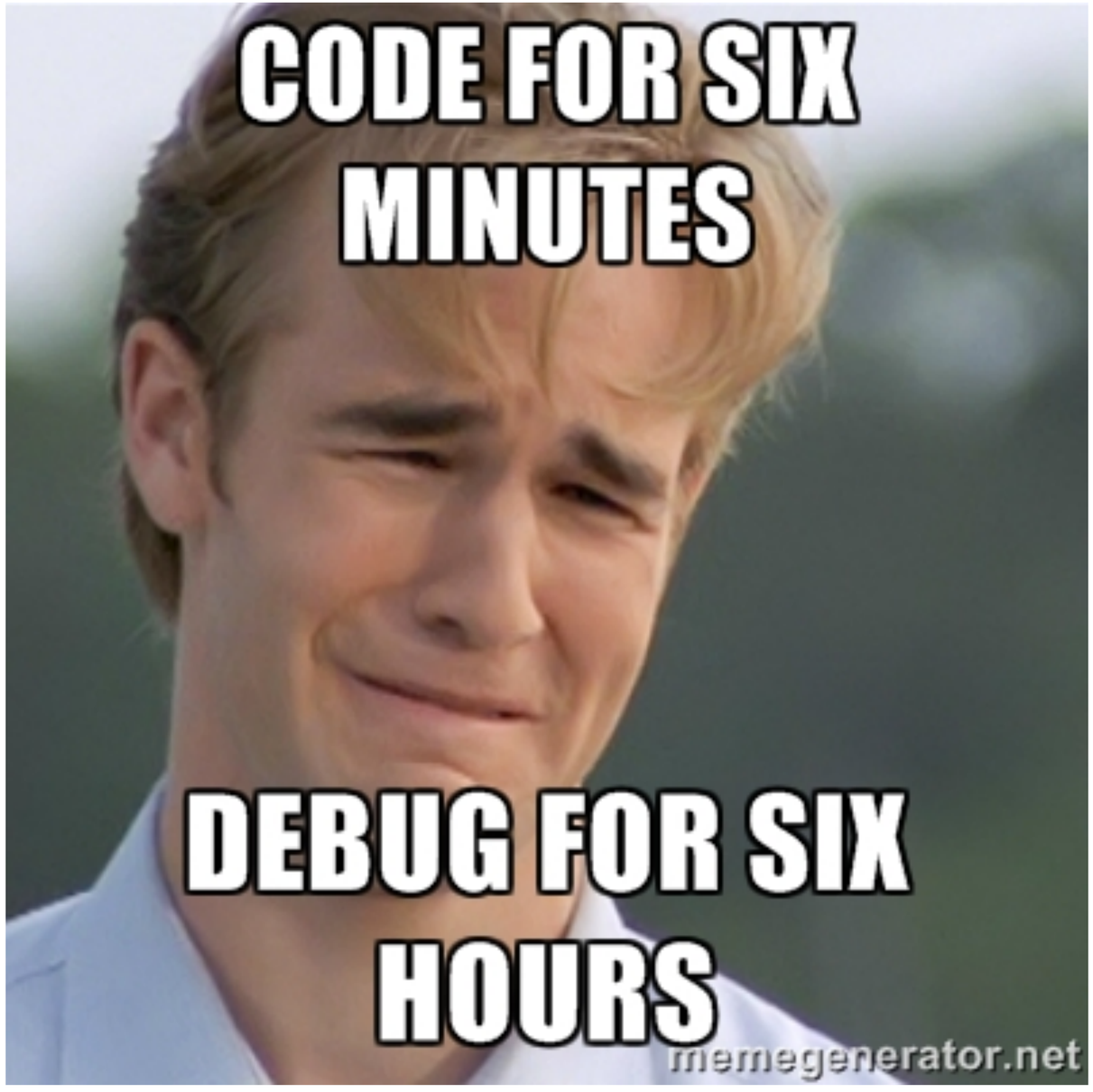
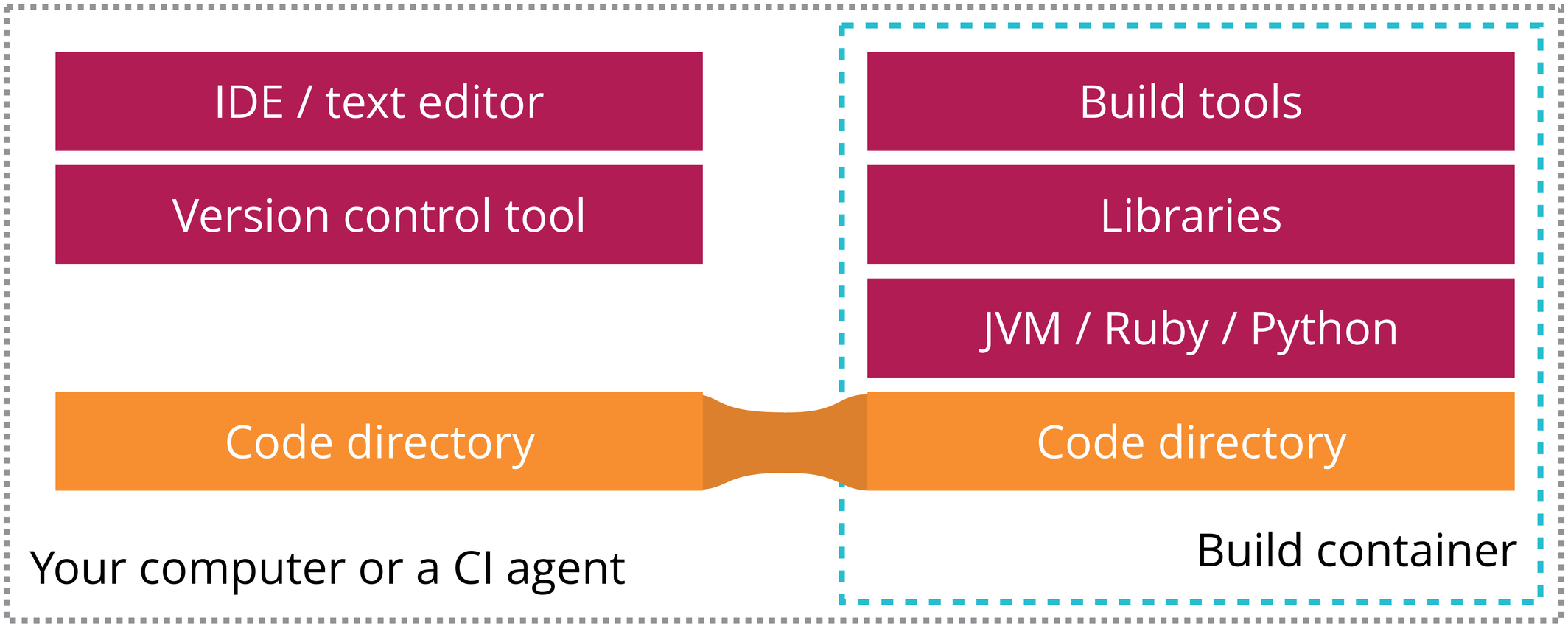
It's painful

...which leads to further pain


CODE FOR SIX MINUTES
DEBUG FOR SIX HOURS
memegenerator.net

THE IDEA

Build environment


IDE / text editor
Version control tool
Code directory
Your computer or a CI agent
Build tools
Libraries
JVM / Ruby / Python
Code directory
Build container

Consistency

Lightweight

Ephemeral

...which makes caching impossible

Quick onboarding time

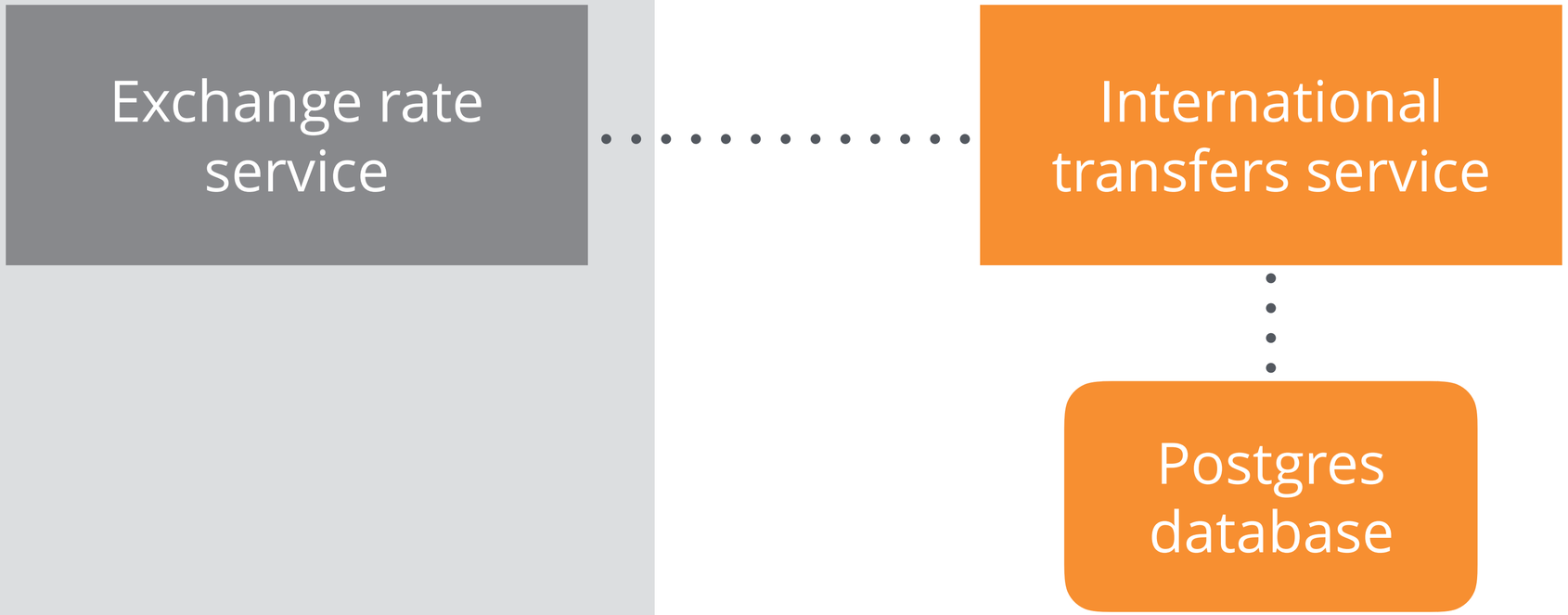
Easy to make changes

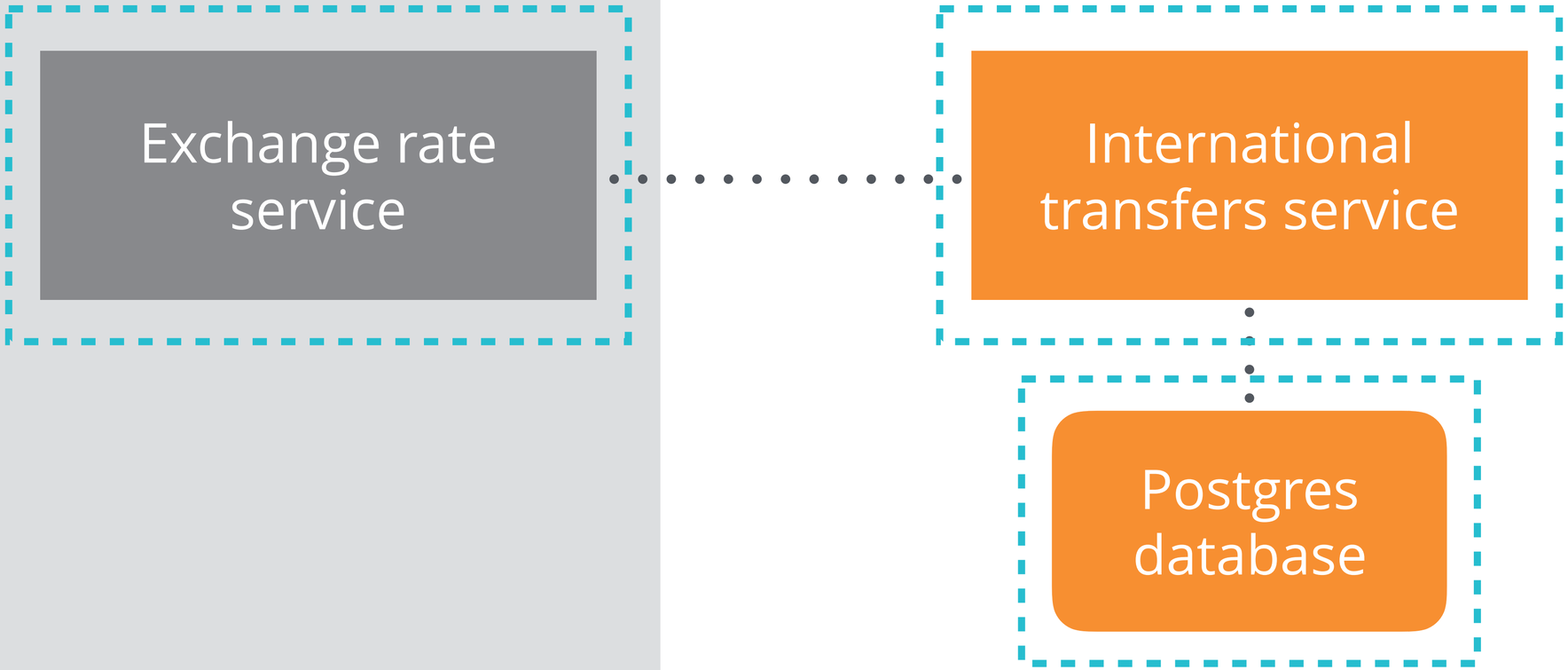
```
docker build \
    --tag cool-app-dev-env:v3 \
    dev-env

docker run --rm -it -v $PWD:/code -w /code \
    cool-app-dev-env:v3 \
    ./gradlew build
```

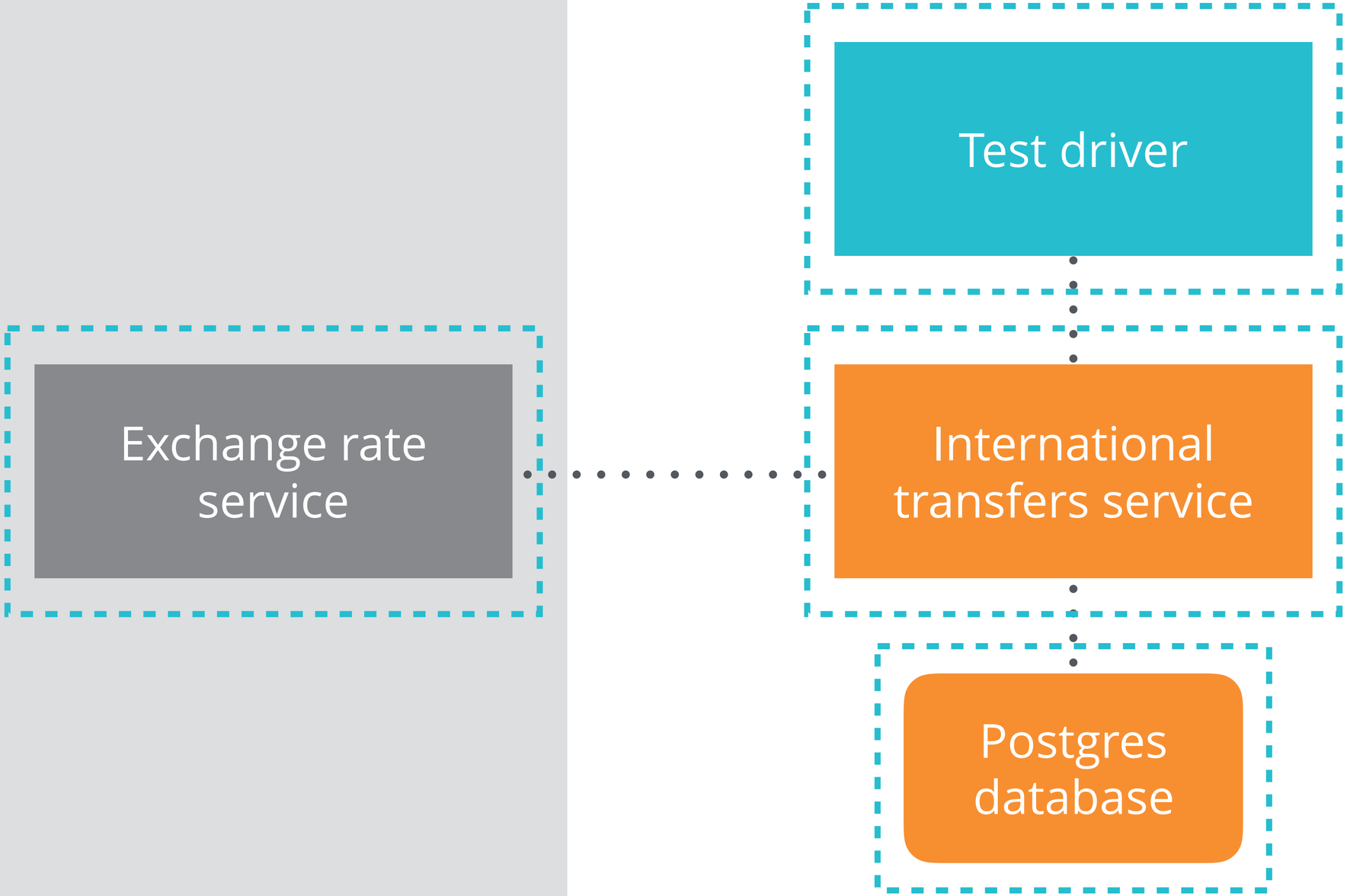
```
FROM alpine:3.5

# ncurses is required for Gradle's prettier console
# output mode
RUN apk add --update --no-cache \
    openjdk8=8.121.13-r0 \
    ncurses5-libs=5.9-r1 \
    ncurses-terminfo=6.0-r7
```

DEMO

Test environment


Exchange rate service
International transfers service
Postgres database

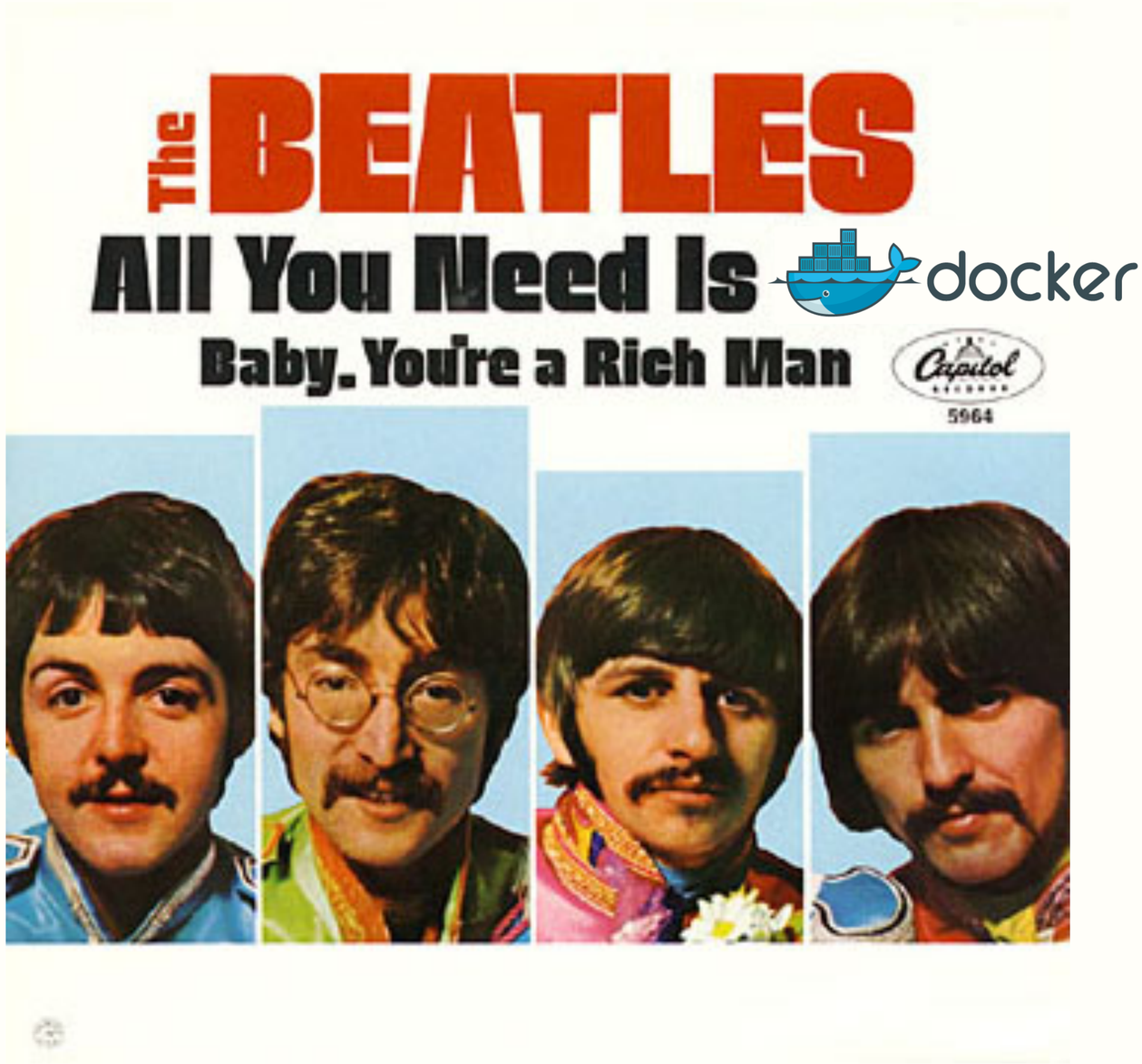

Exchange rate service
International transfers service
Postgres database


Test driver
Exchange rate service
International transfers service
Postgres database

docker-compose

DEMO

Don’t need to use Docker in production


The BEATLES
All You Need Is
docker
Baby, You're a Rich Man
Capitol
5964

BUT...

IDE integration

```
version: '2.1'

services:
  database:
    extends:
      file: components/database.yml
      service: database

  exchange-rate-service:
    extends:
      file: components/exchange-rate-service-fake.yml
      service: exchange-rate-service

  # This is a hack to workaround an issue with docker-compose run, which does not corre
  # dependencies and waiting for health checks (see https://github.com/docker/compose/i
  dependencies-hack:
    image: alpine:3.5
    entrypoint: /bin/sh
    depends_on:
      database:
        condition: service_healthy
      exchange-rate-service:
        condition: service_healthy

  build-env:
    extends:
      file: components/build-env.yml
      service: build-env
    depends_on:
      - dependencies-hack
```

```
version: '2.1'

services:
  database:
    extends:
      file: components/database.yml
      service: database

  exchange-rate-service:
    extends:
      file: components/exchange-rate-service-fake.yml
      service: exchange-rate-service

  international-transfers-service:
    extends:
      file: components/international-transfers-service.yml
      service: international-transfers-service
    # Ideally we'd put these dependency definitions in the international-transfers-serv
    # that isn't supported by Docker Compose...sigh
    depends_on:
      database:
        condition: service_healthy
      exchange-rate-service:
        condition: service_healthy

  # This is a hack to workaround an issue with docker-compose run, which does not corre
  # dependencies and waiting for health checks (see https://github.com/docker/compose/i
  dependencies-hack:
    image: alpine:3.5
    entrypoint: /bin/sh
    depends_on:
      international-transfers-service:


        condition: service_healthy

  build-env:
    extends:
      file: components/build-env.yml
      service: build-env
    depends_on:
      - dependencies-hack
```

ARE YOU FAMILIAR WITH THE OLD ROBOT SAYING
"DOES NOT COMPUTE"?
memegenerator.net

QUESTIONS?

THANK YOU

charleskorn.com

github.com/charleskorn/docker-dev-env

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