Consumer-driven Contracts

Agenda

Agenda

- Motivation for CDC

Agenda

- Motivation for CDC
- CDC overview

Agenda

- Motivation for CDC
- CDC overview
- What is a contract?

Agenda

- Motivation for CDC
- CDC overview
- What is a contract?
- Following through the CDC workflow

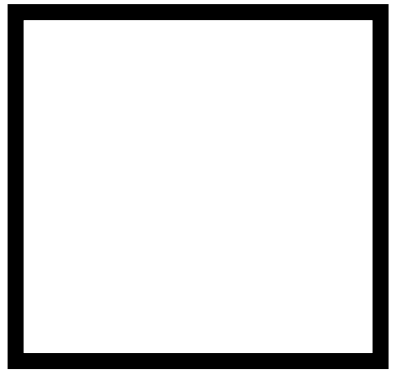
Agenda

- Motivation for CDC
- CDC overview
- What is a contract?
- Following through the CDC workflow
- Benefits of consumer-driven contract testing

Microservices Testing Challenges

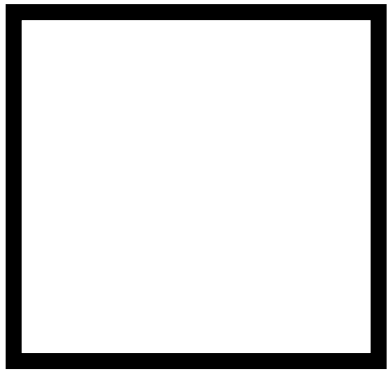
Microservices Testing Challenges

Microservices Testing Challenges

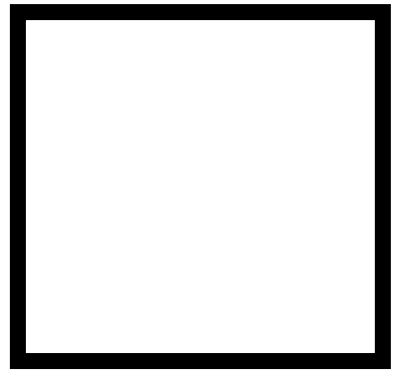


Payments

Microservices Testing Challenges

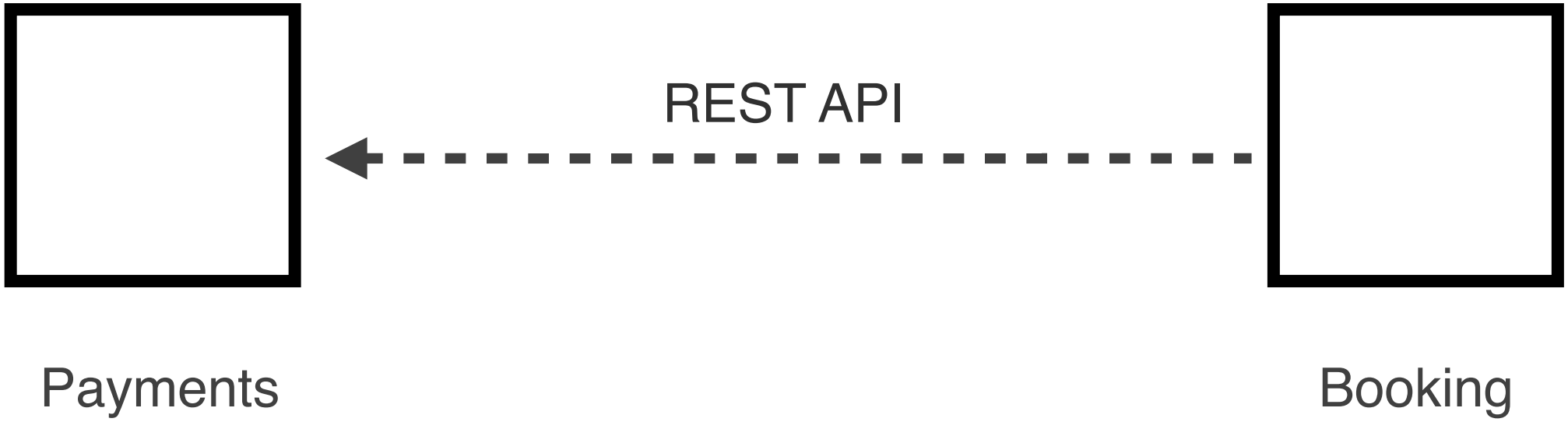


Payments



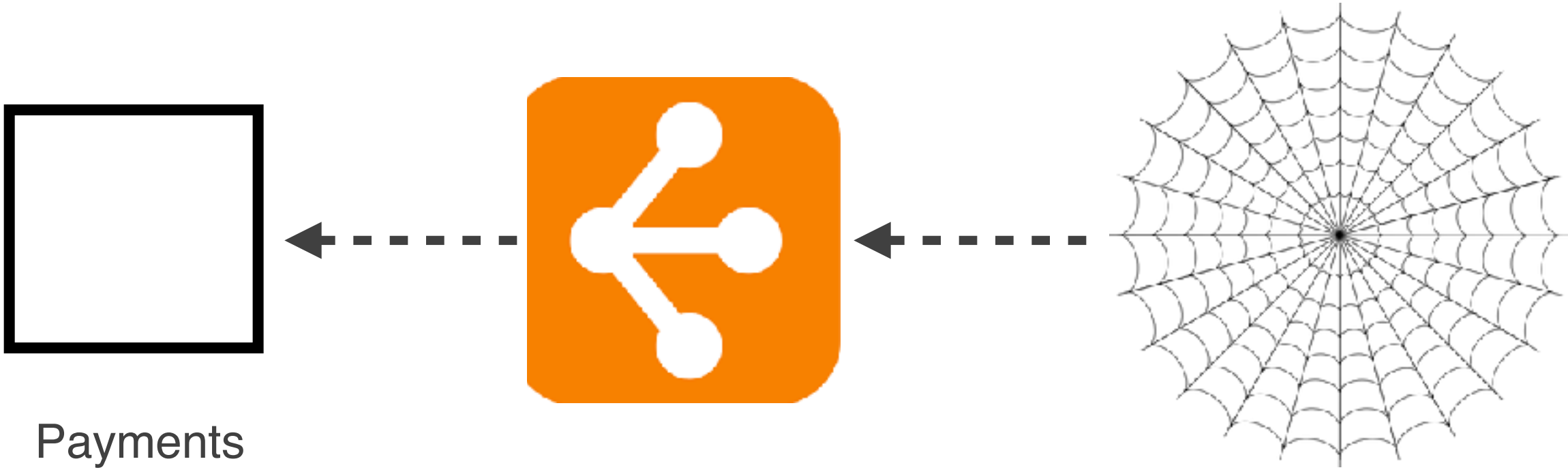
Booking

Microservices Testing Challenges



Microservices Testing Challenges

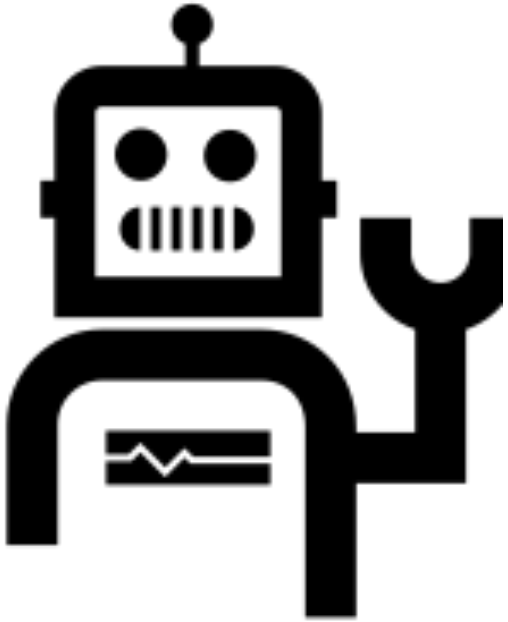
Microservices Testing Challenges



Payments

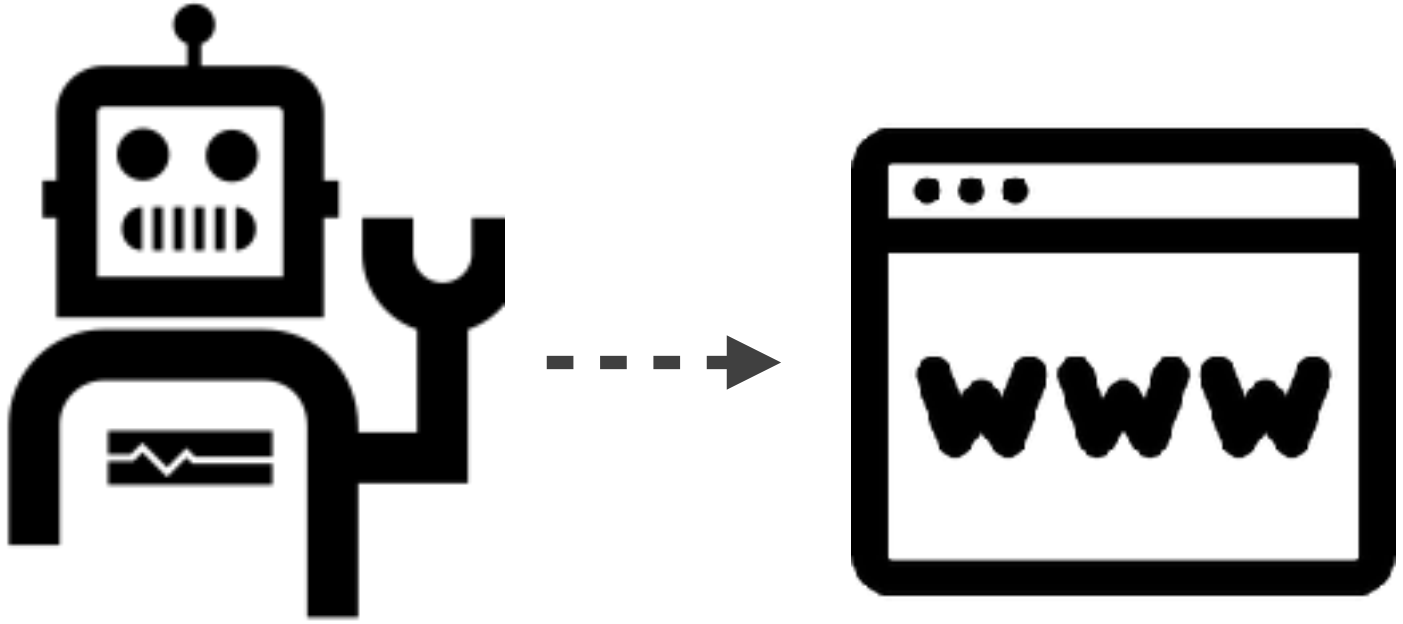
End-to-end Testing

End-to-end Testing



Automated tests

End-to-end Testing



Automated tests

Browser or other UI

End-to-end Testing

Automated tests

Browser or other UI

Environment

Disadvantages of End-to-end Testing

Disadvantages of End-to-end Testing

Slow to execute

Disadvantages of End-to-end Testing

Slow to execute

Hard to debug

Disadvantages of End-to-end Testing

Slow to execute

Hard to debug

Expensive infrastructure

Disadvantages of End-to-end Testing

Slow to execute

Hard to debug

Expensive infrastructure

Complex to manage

Disadvantages of End-to-end Testing

Slow to execute

Hard to debug

Expensive infrastructure

Complex to manage

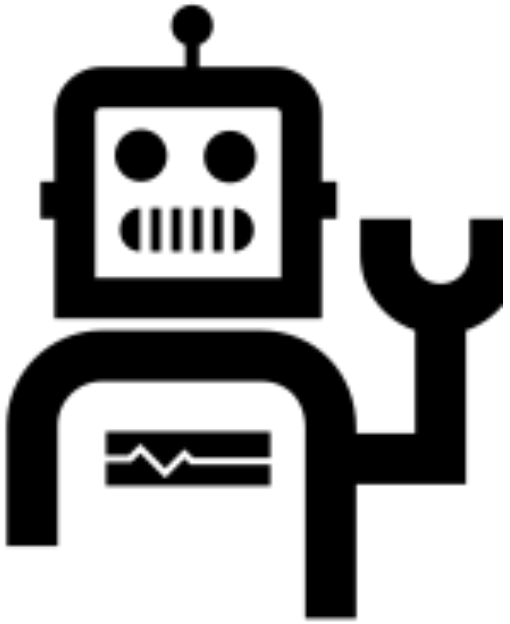
Can become flaky

Disadvantages of End-to-end Testing

Slow to execute	Hard to debug	Expensive infrastructure
Complex to manage	Can become flaky	Testing like a monolith

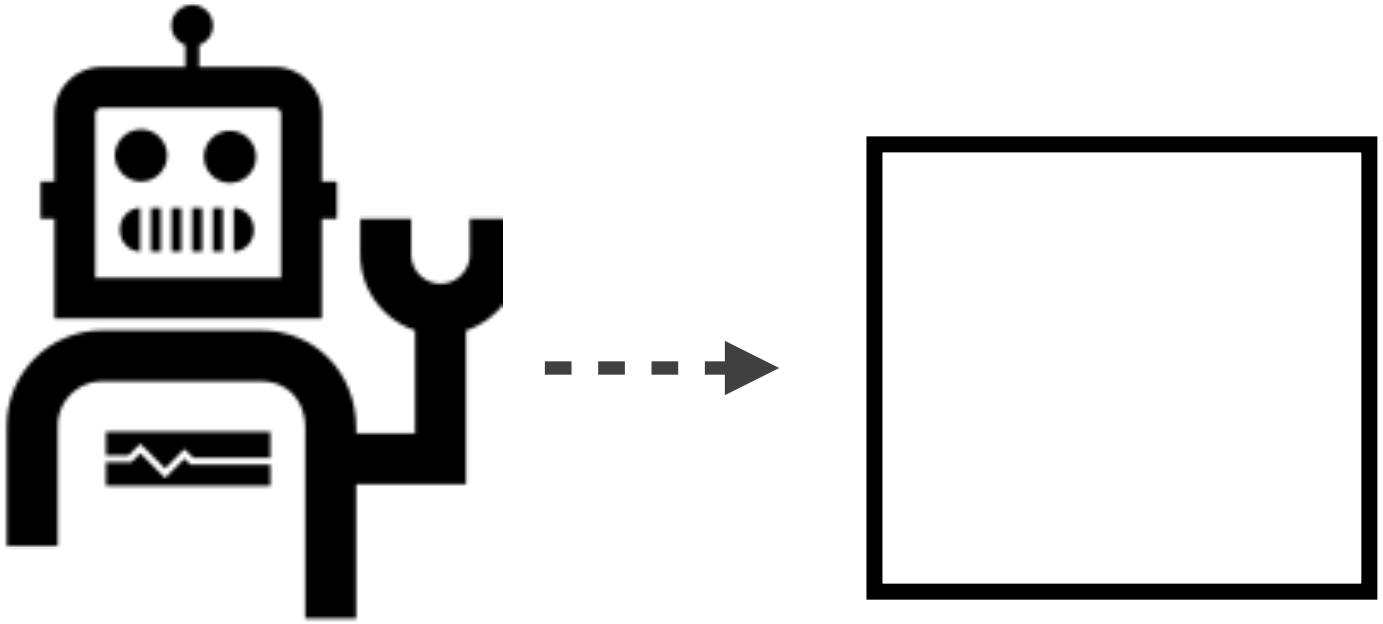
Mocking or Stubbing

Mocking or Stubbing



Automated tests

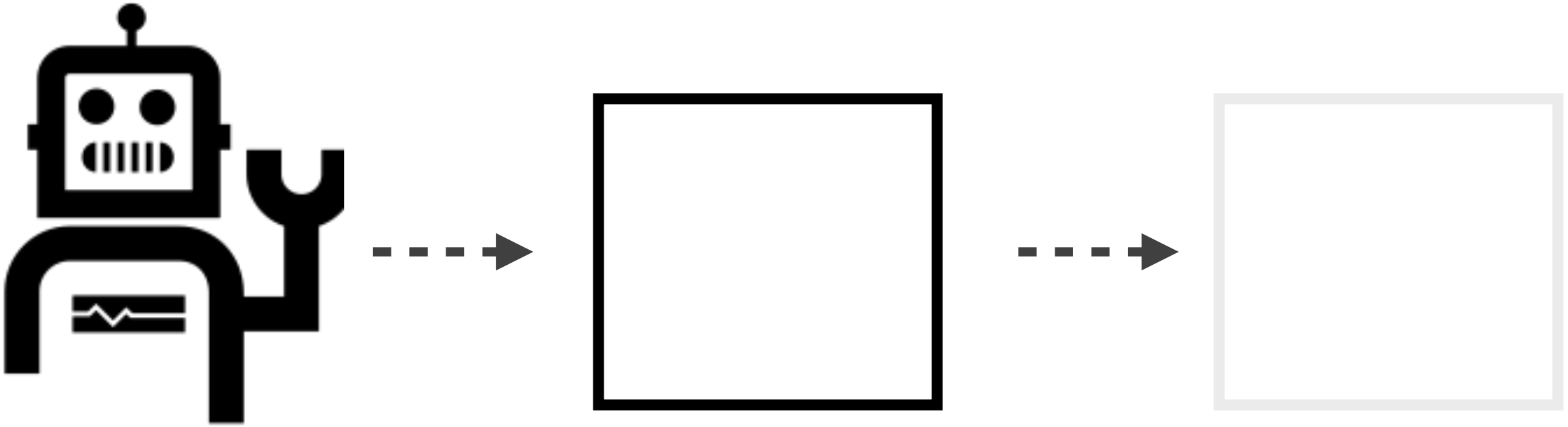
Mocking or Stubbing



Automated tests

Microservice

Mocking or Stubbing



Automated tests

Microservice

Mock or Stub of Dependency

Disadvantages of Mocking / Stubbing

Disadvantages of Mocking / Stubbing

Slow to create

Disadvantages of Mocking / Stubbing

Slow to create

Difficult to maintain

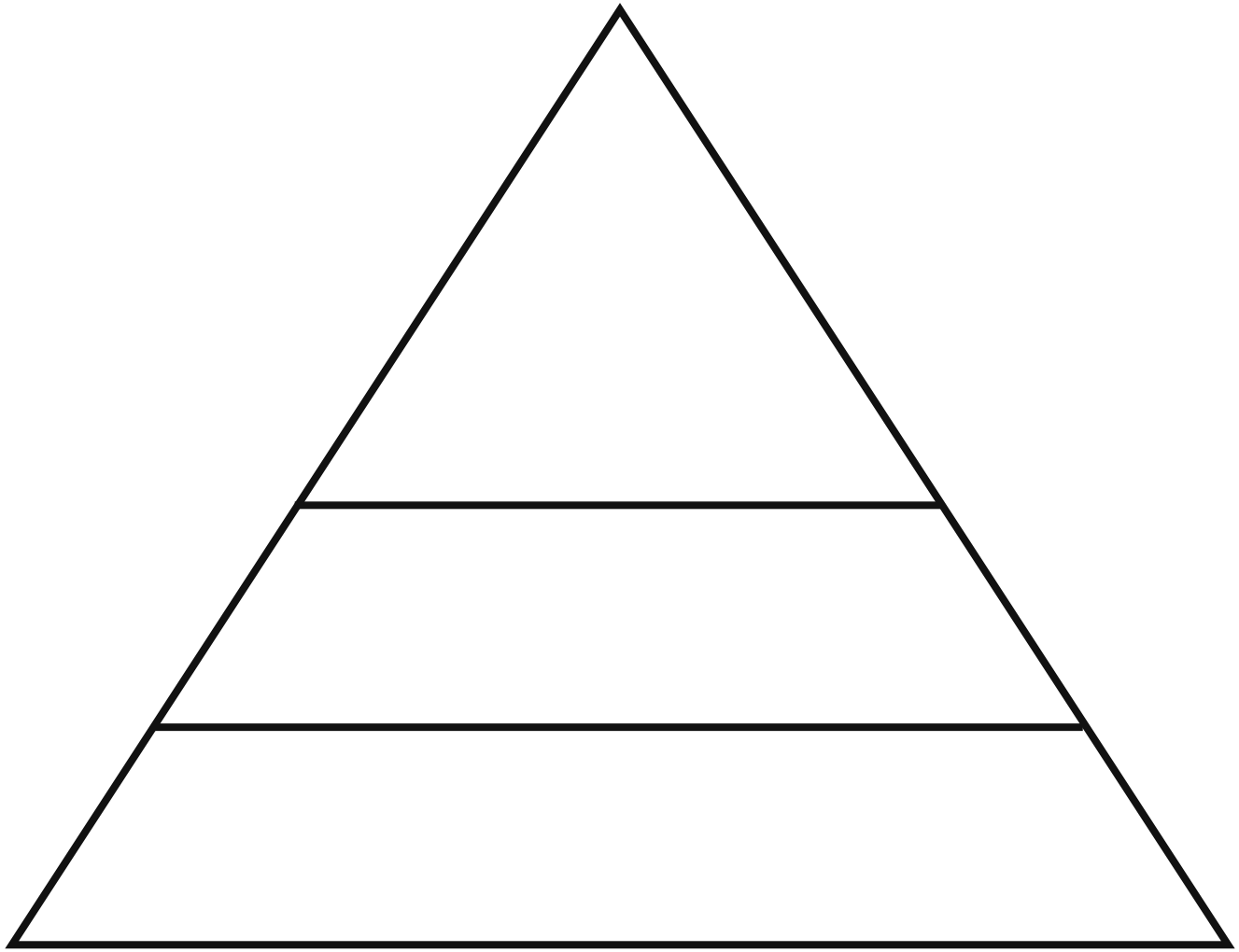
Disadvantages of Mocking / Stubbing

Slow to create

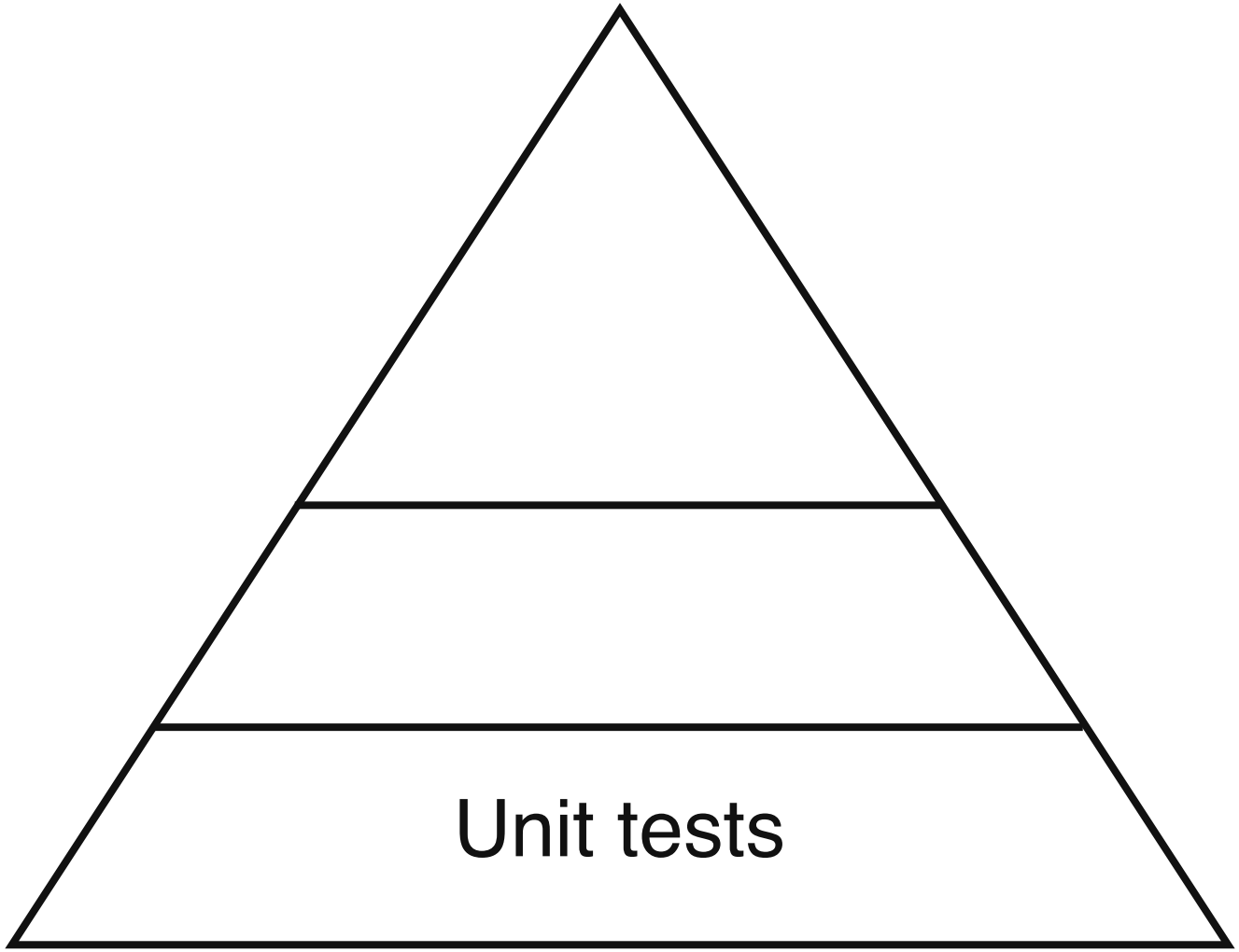
Difficult to maintain

False positives

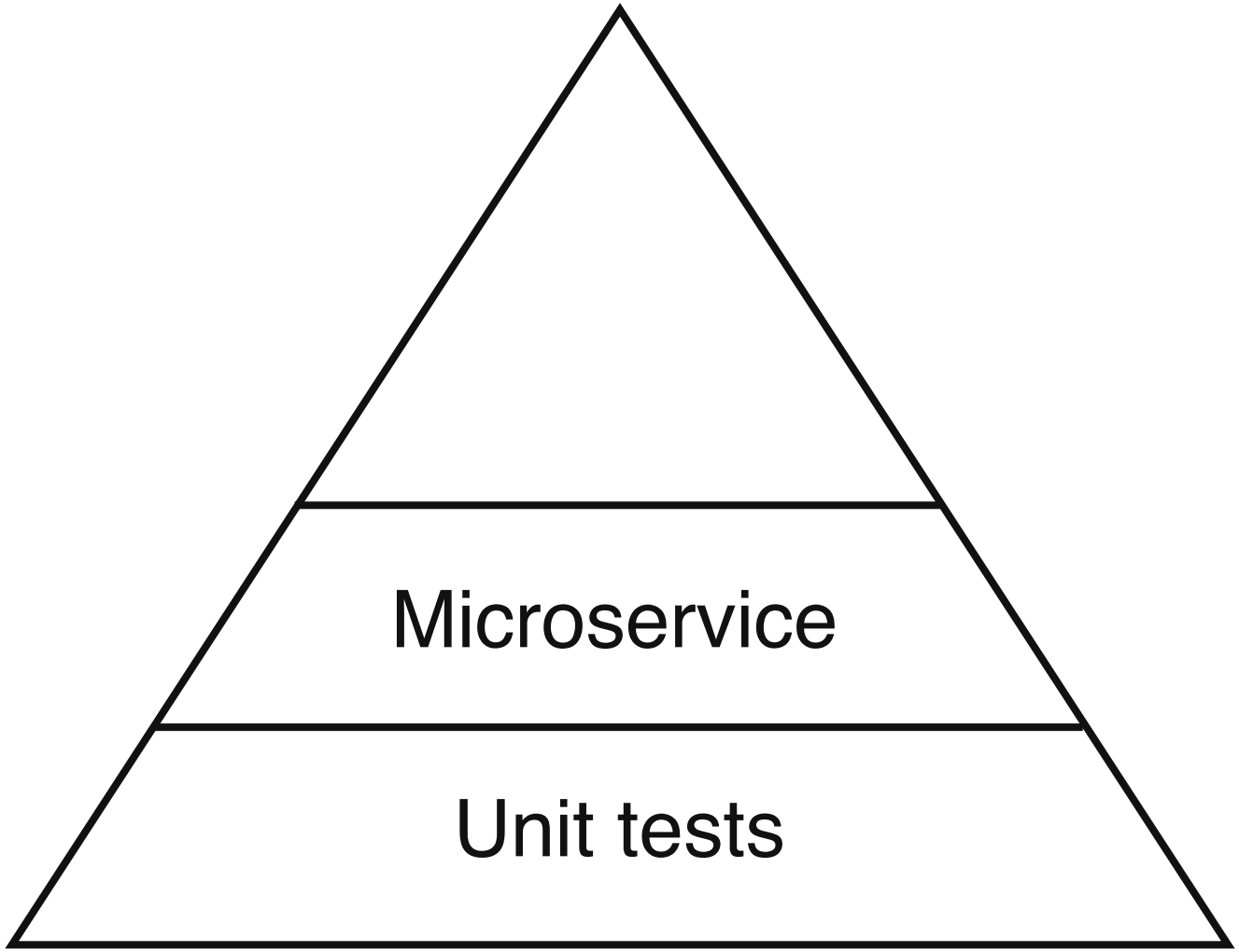
Poor feedback



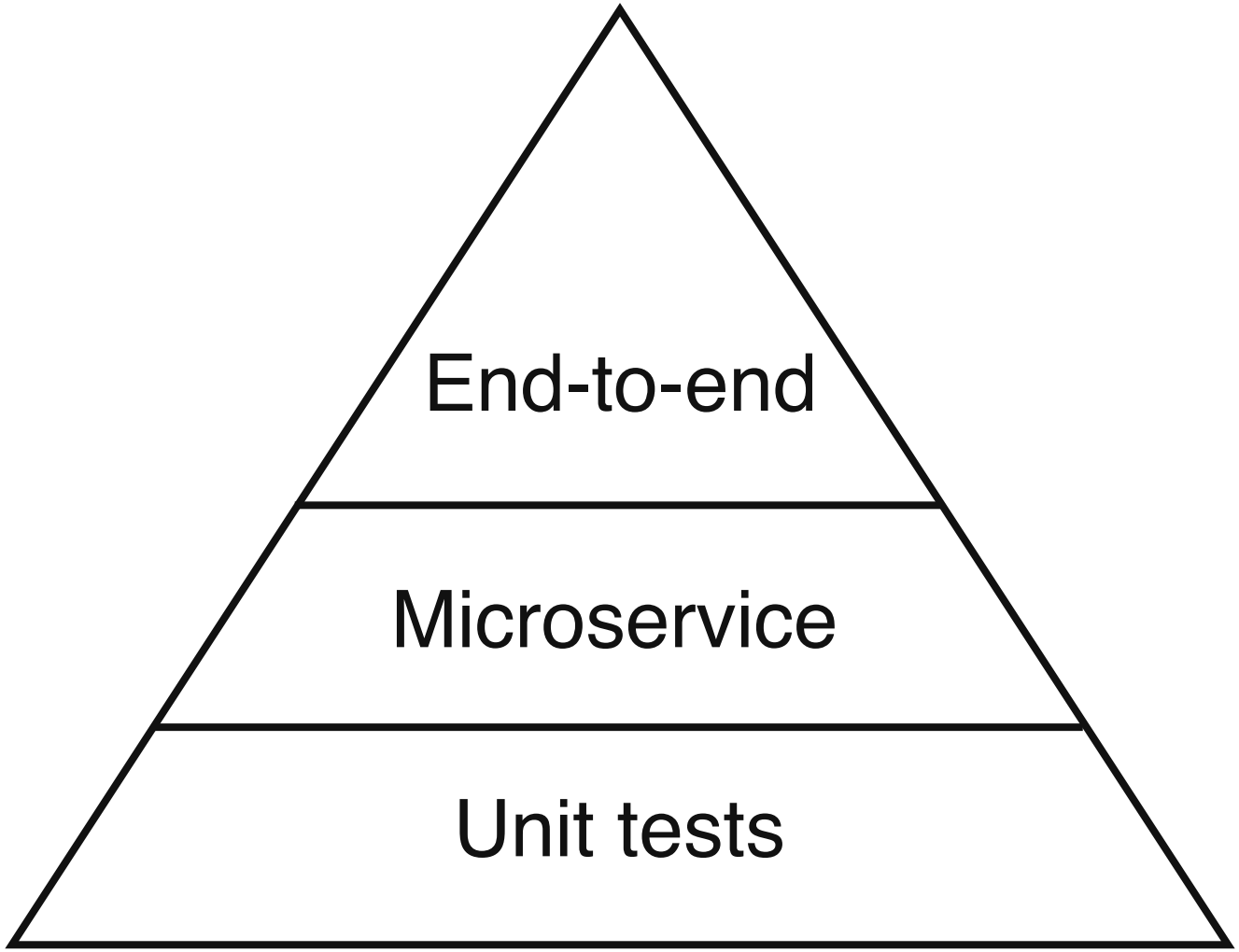
Poor feedback



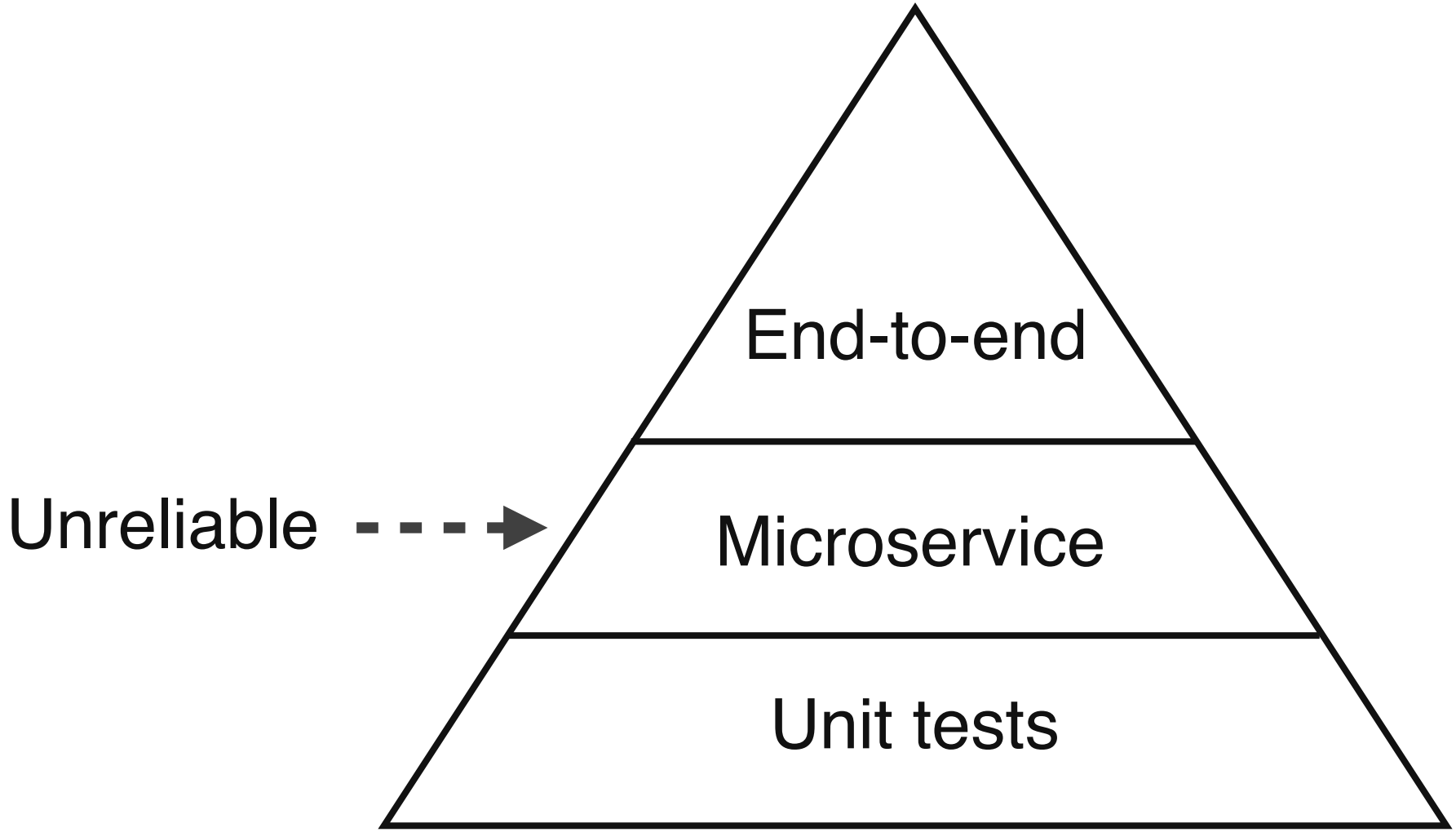
Poor feedback



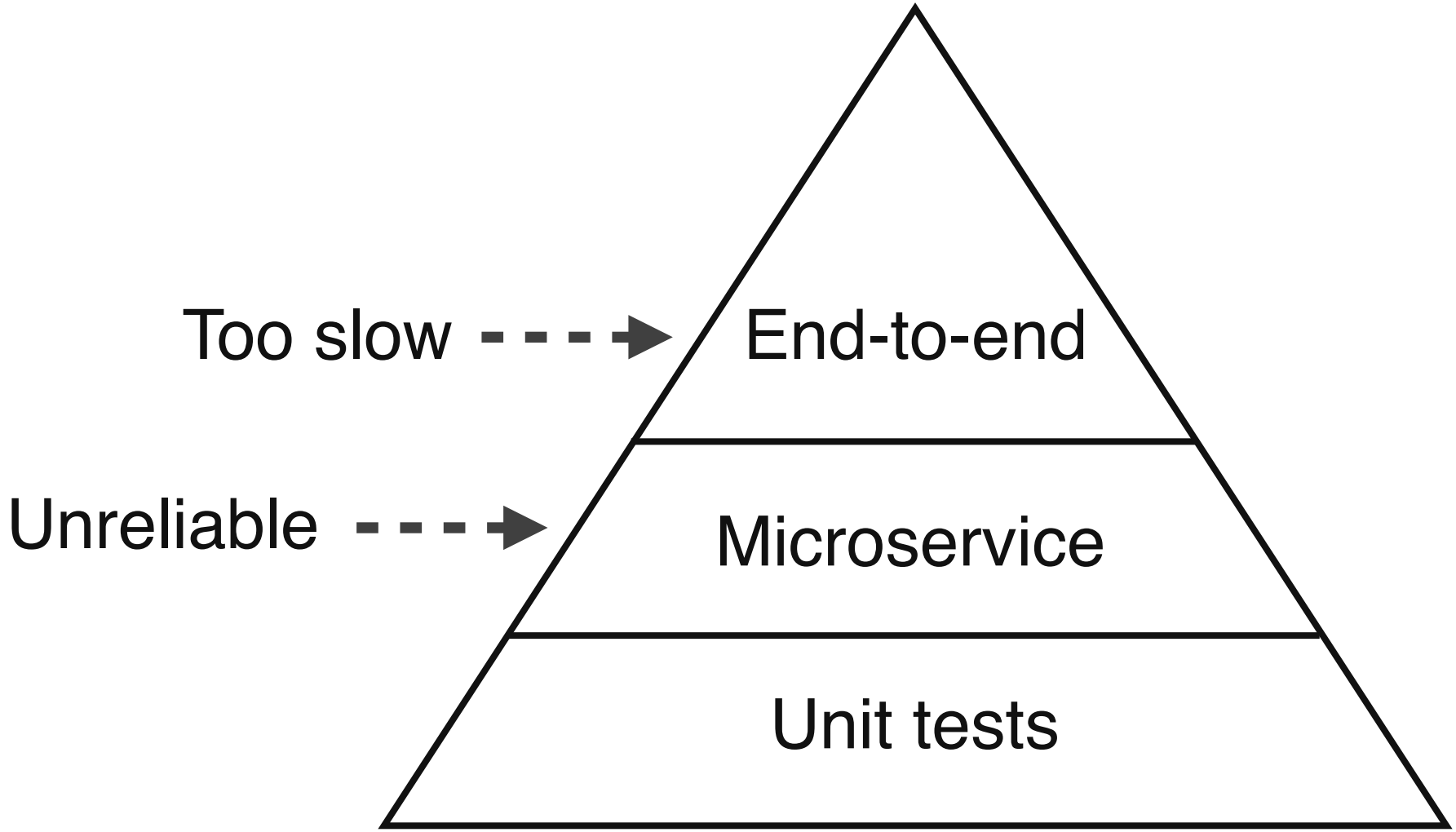
Poor feedback



Poor feedback



Poor feedback



Agenda

- Motivation for CDC

Agenda

- Motivation for CDC
- CDC overview

What is Consumer Driven Contract Testing?

What is Consumer Driven Contract Testing?

- A testing technique which fills the microservices testing gap

What is Consumer Driven Contract Testing?

- A testing technique which fills the microservices testing gap
- Where consumers and providers are continuously tested against contracts

What is Consumer Driven Contract Testing?

- A testing technique which fills the microservices testing gap
- Where consumers and providers are continuously tested against contracts
- Where consumers drive the implementation of providers

What is Consumer Driven Contract Testing?

- A testing technique which fills the microservices testing gap
- Where consumers and providers are continuously tested against contracts
- Where consumers drive the implementation of providers
- And microservices become independently testable and releasable

Consumer Driven Contract Testing Architecture

Consumer Driven Contract Testing Architecture

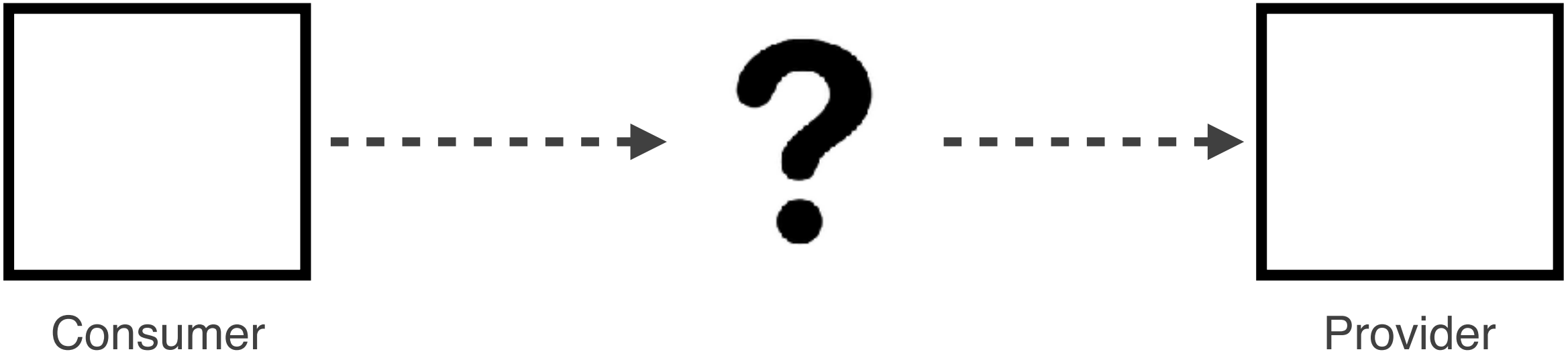
Consumer

Consumer Driven Contract Testing Architecture

Consumer

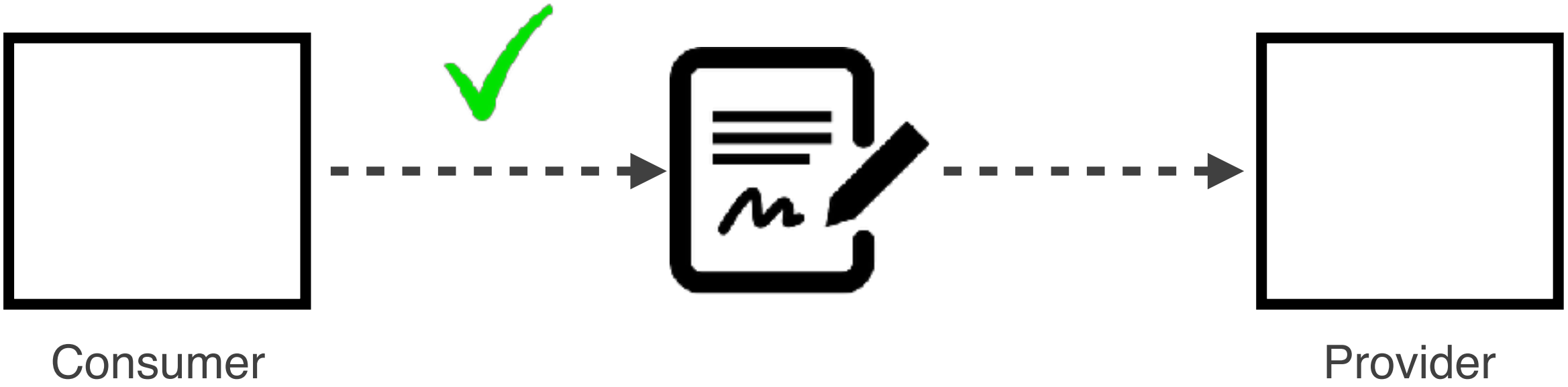
Provider

Consumer Driven Contract Testing Architecture

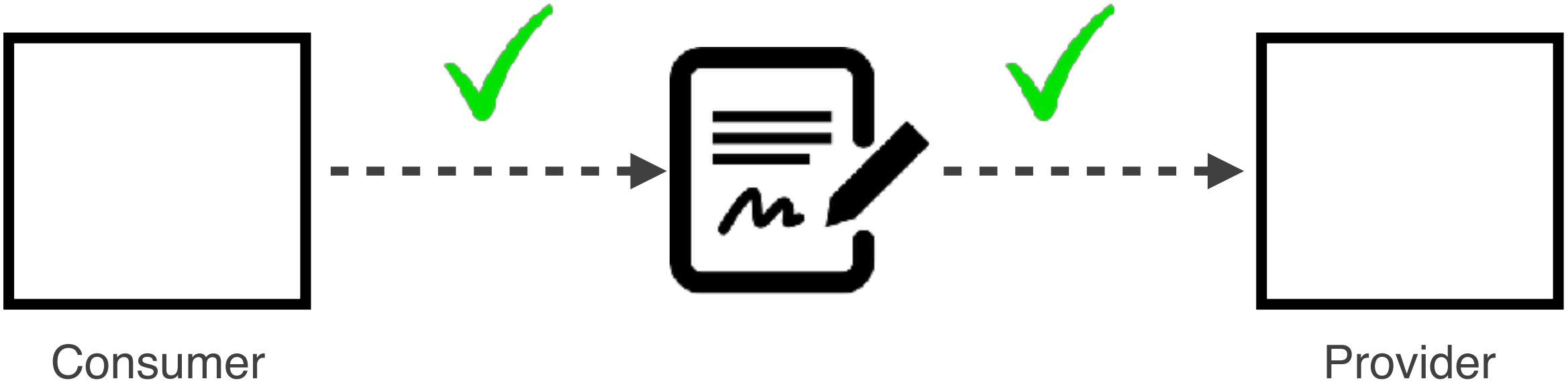


Consumer Driven Contract Testing Architecture

Consumer Driven Contract Testing Architecture



Consumer Driven Contract Testing Architecture



Agenda

- Motivation for CDC
- CDC overview

Agenda

- Motivation for CDC
- CDC overview
- What is a contract?

What is a Contract?

What is a Contract?

- A set of agreed interactions between a provider and a consumer

What is a Contract?

- A set of agreed interactions between a provider and a consumer
- Something which is continuously tested

What is a Contract?

- A set of agreed interactions between a provider and a consumer
- Something which is continuously tested
- Whilst commonly HTTP, can be any protocol

What is a Contract?

- A set of agreed interactions between a provider and a consumer
- Something which is continuously tested
- Whilst commonly HTTP, can be any protocol
- Not the same as stubbing

What is a Contract?

- A set of agreed interactions between a provider and a consumer
- Something which is continuously tested
- Whilst commonly HTTP, can be any protocol
- Not the same as stubbing
- Not API documentation

```
GET /fish
```

◀ An agreed request

```
GET /fish

200 OK
Content-Type: application/json

["salmon", "cod", "herring"]
```

◀ An agreed response

Agenda

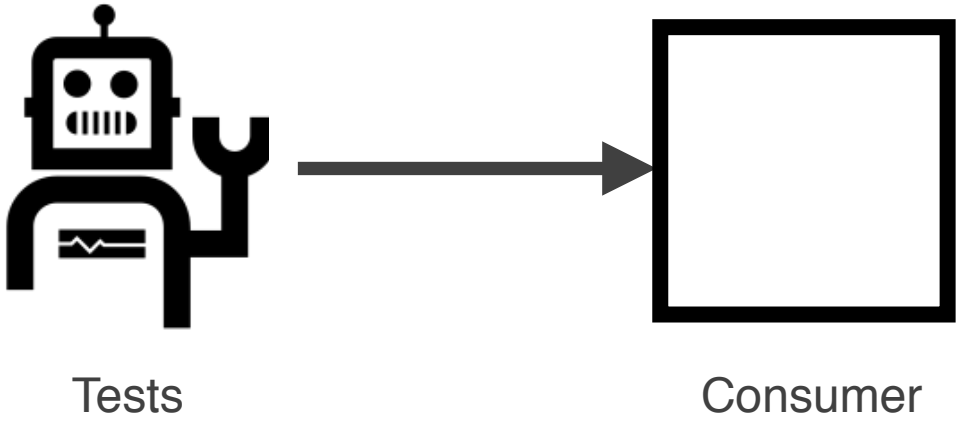
- Motivation for CDC
- CDC overview
- What is a contract?

Agenda

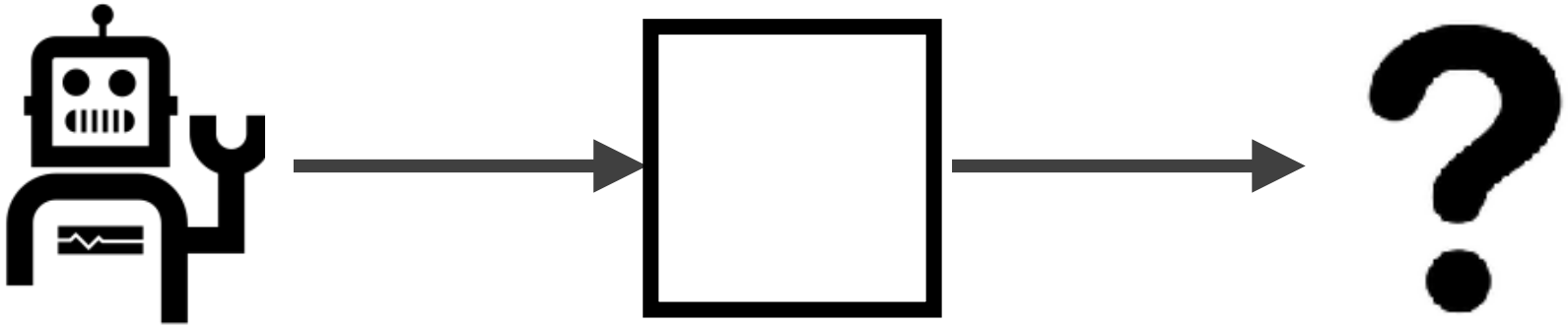
- Motivation for CDC
- CDC overview
- What is a contract?
- Following through the CDC workflow

The Consumer-side

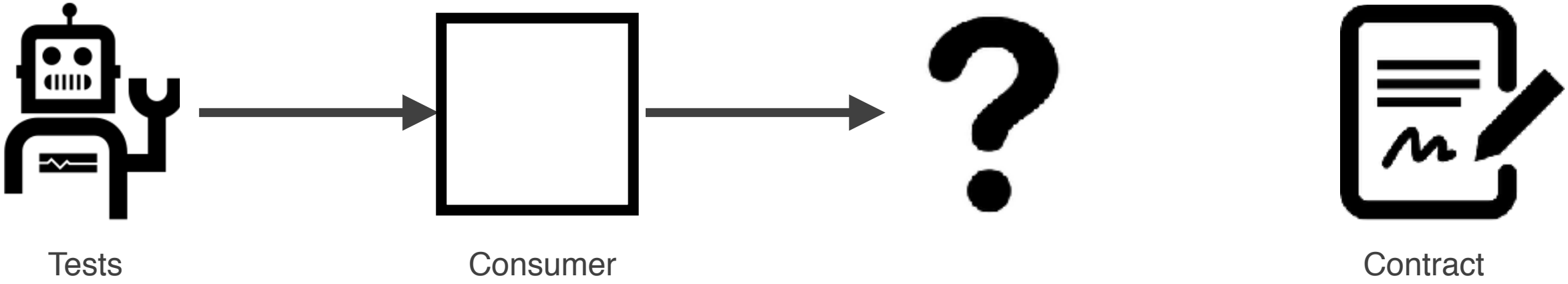
The Consumer-side



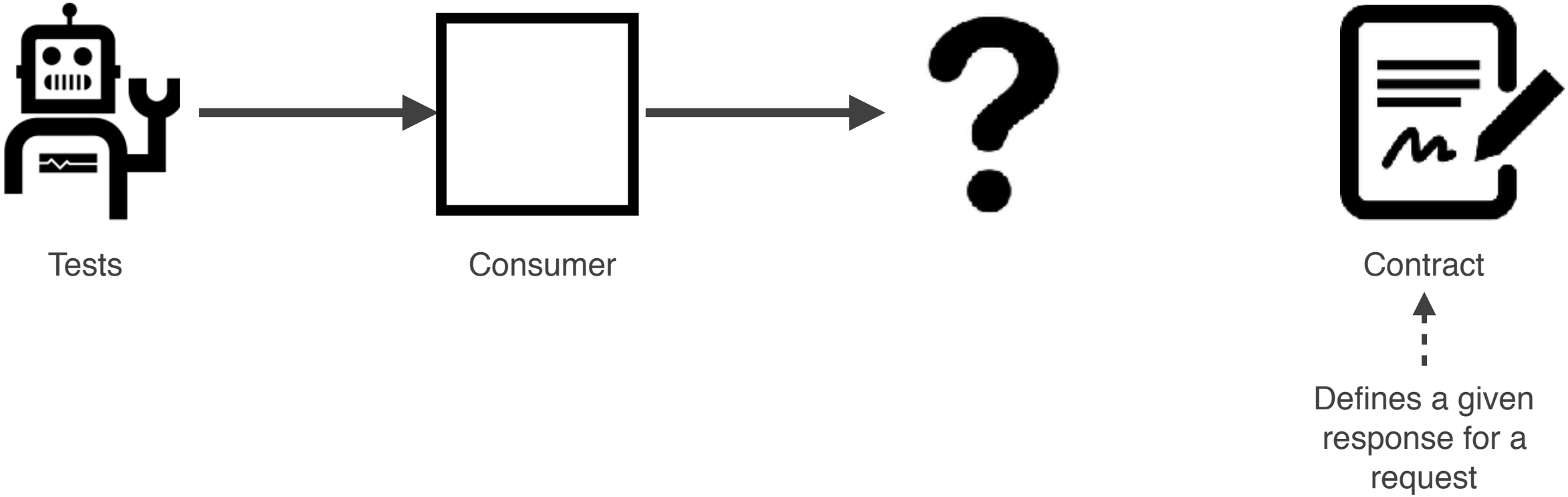
The Consumer-side



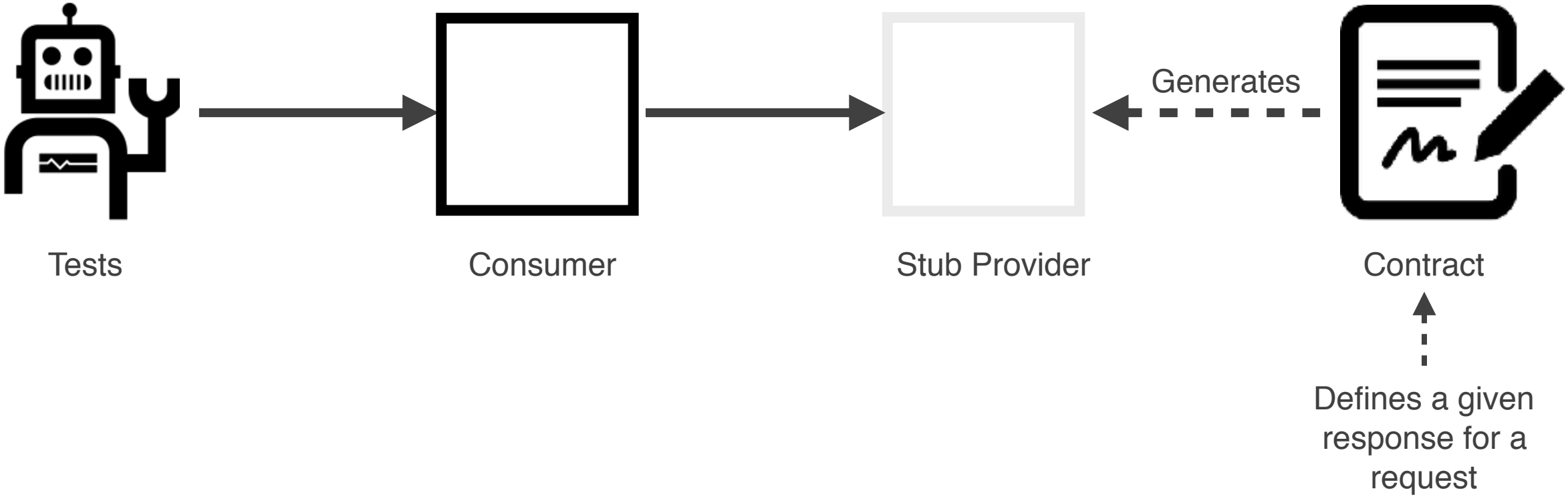
The Consumer-side



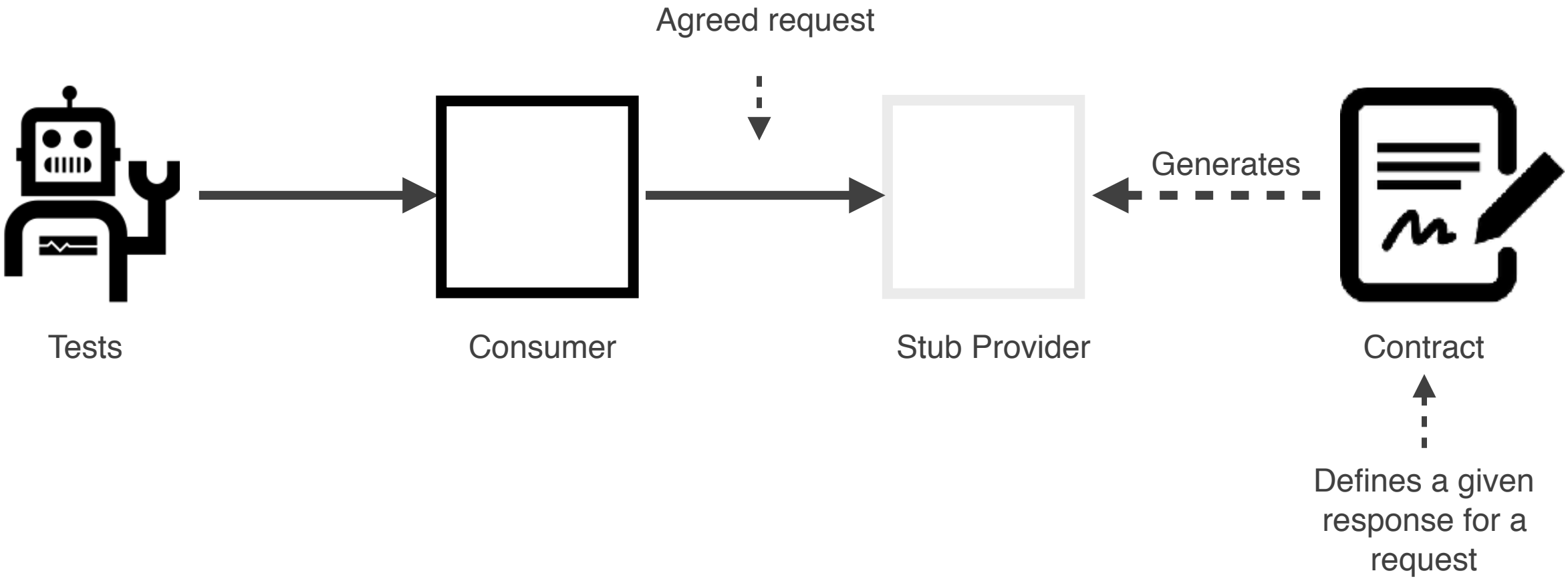
The Consumer-side



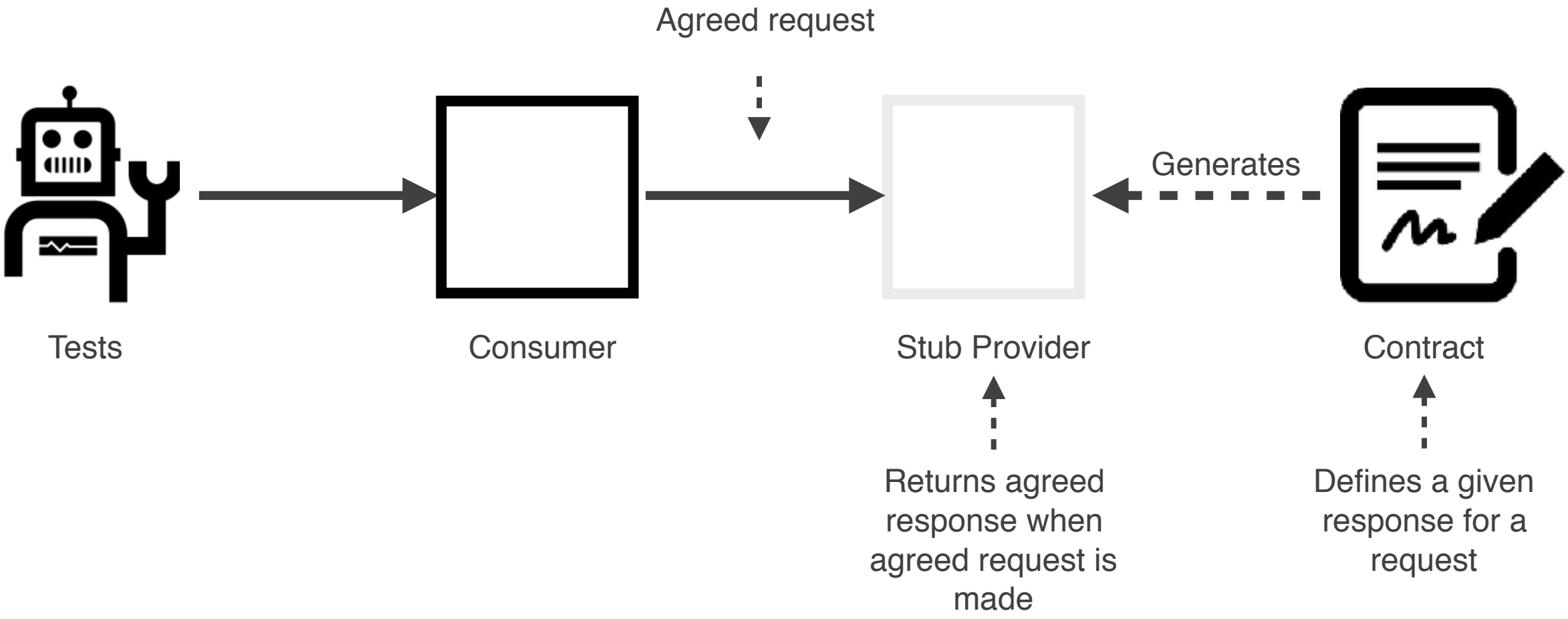
The Consumer-side



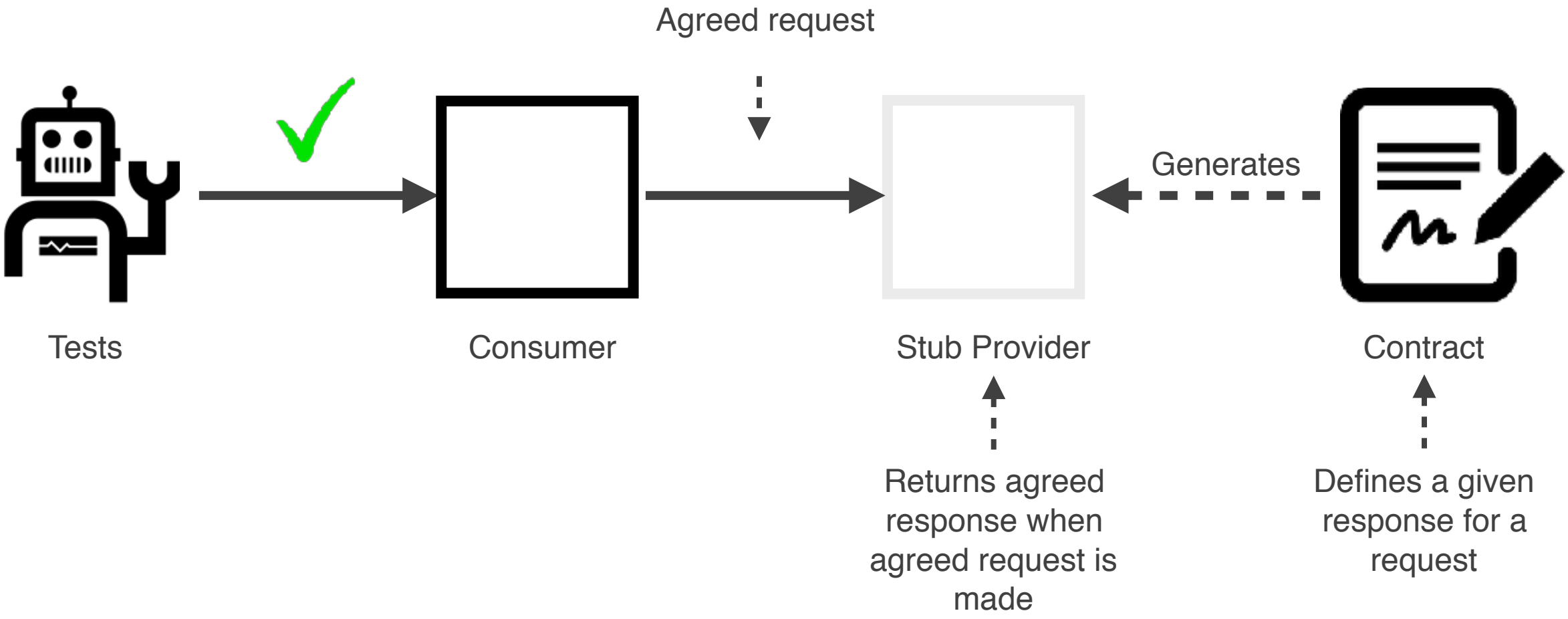
The Consumer-side



The Consumer-side



The Consumer-side



The Provider-Side

The Provider-Side

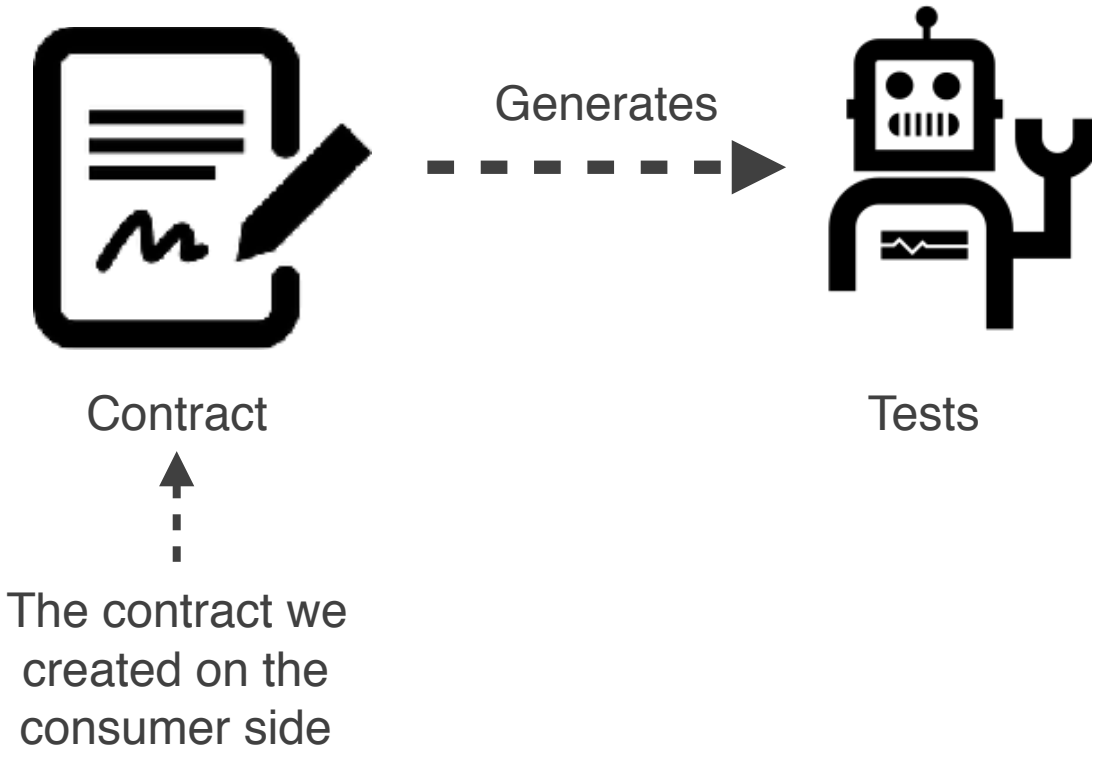
Contract

The Provider-Side

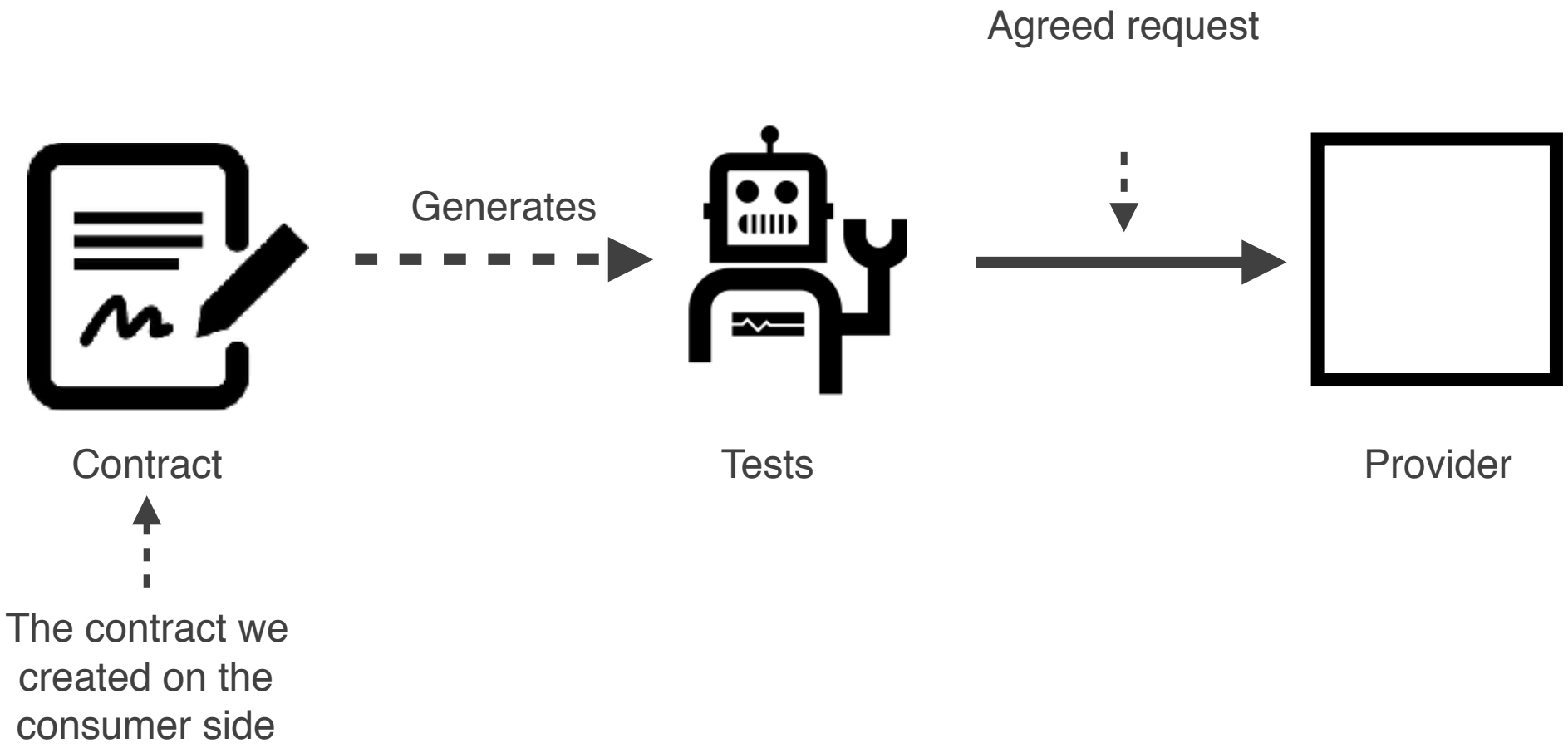
Contract

The contract we created on the consumer side

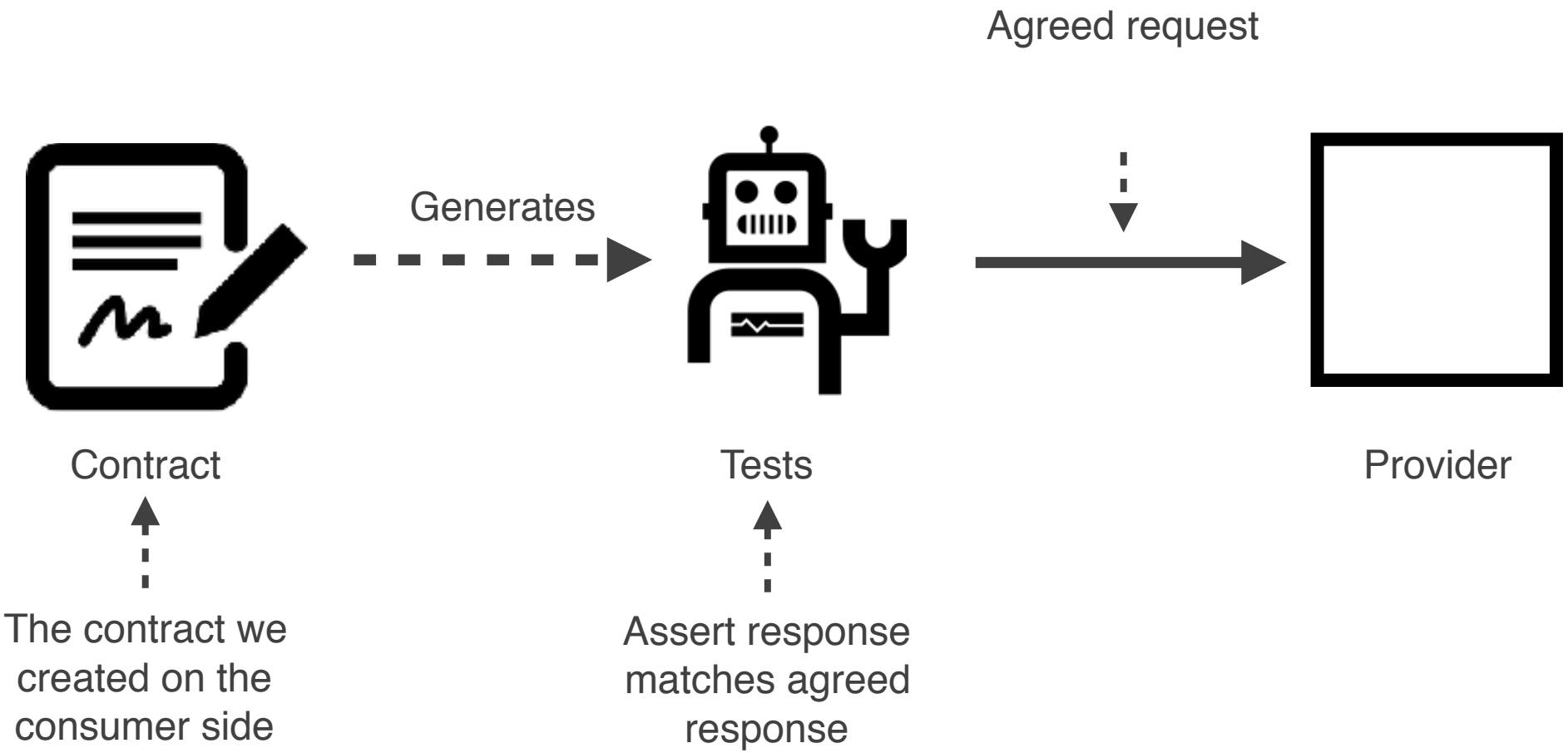
The Provider-Side



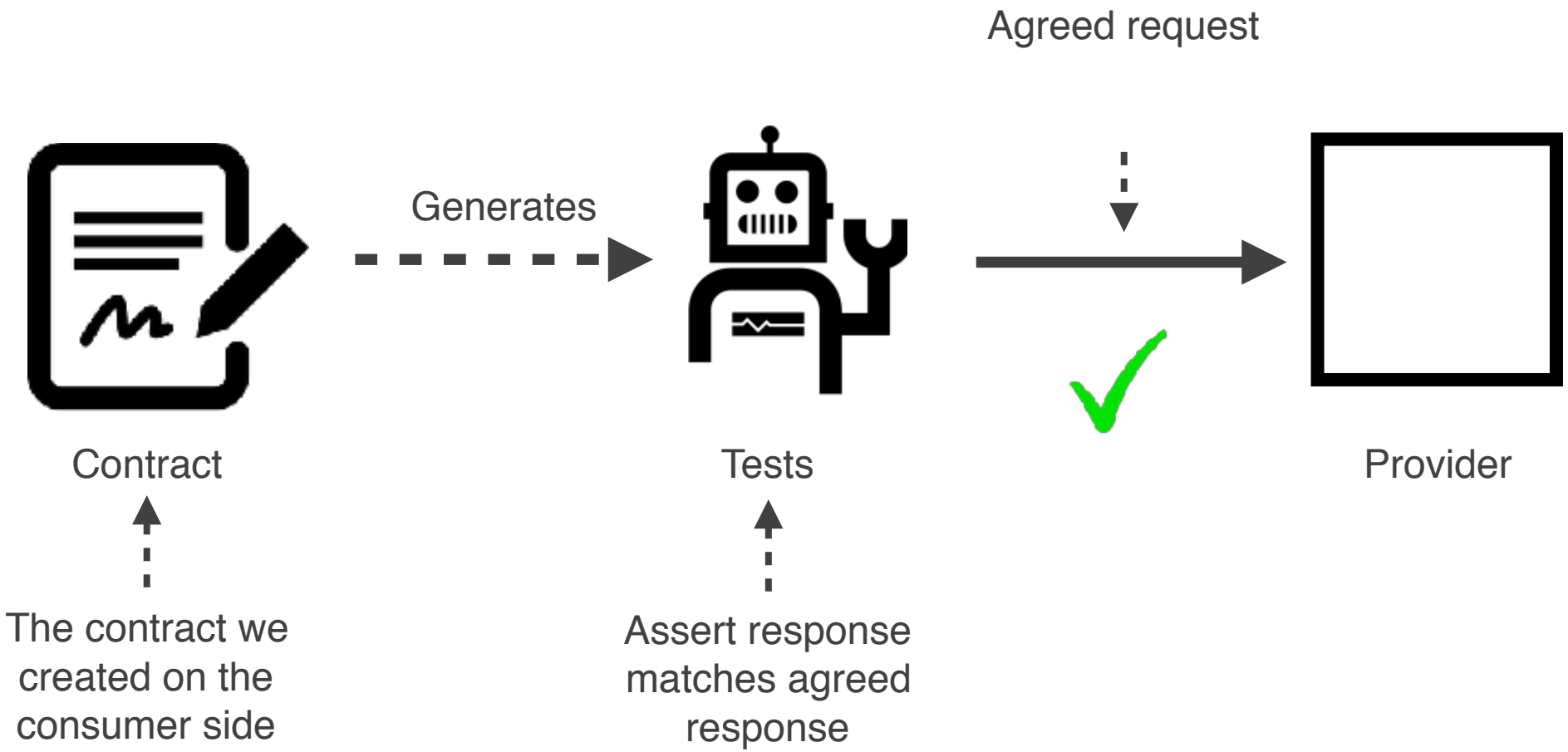
The Provider-Side



The Provider-Side



The Provider-Side



Advantages of CDC

Advantages of CDC

Fast feedback

Advantages of CDC

Fast feedback

TDD at the API level

Advantages of CDC

Fast feedback

TDD at the API level

Lower cost

Advantages of CDC

Fast feedback

TDD at the API level

Lower cost

Navigating dependency hell

Advantages of CDC

Fast feedback

TDD at the API level

Lower cost

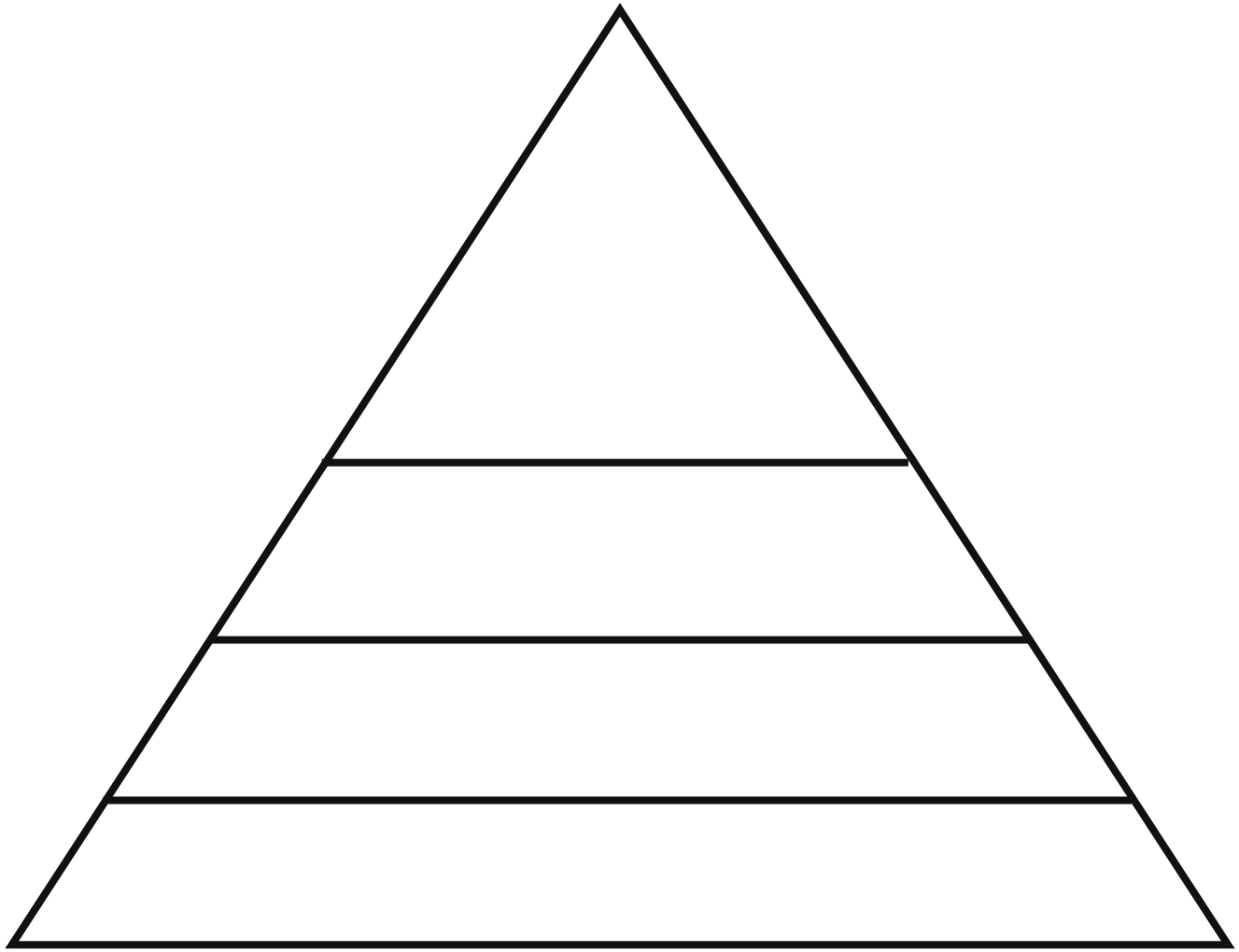
Navigating dependency hell

Develop in parallel reliably

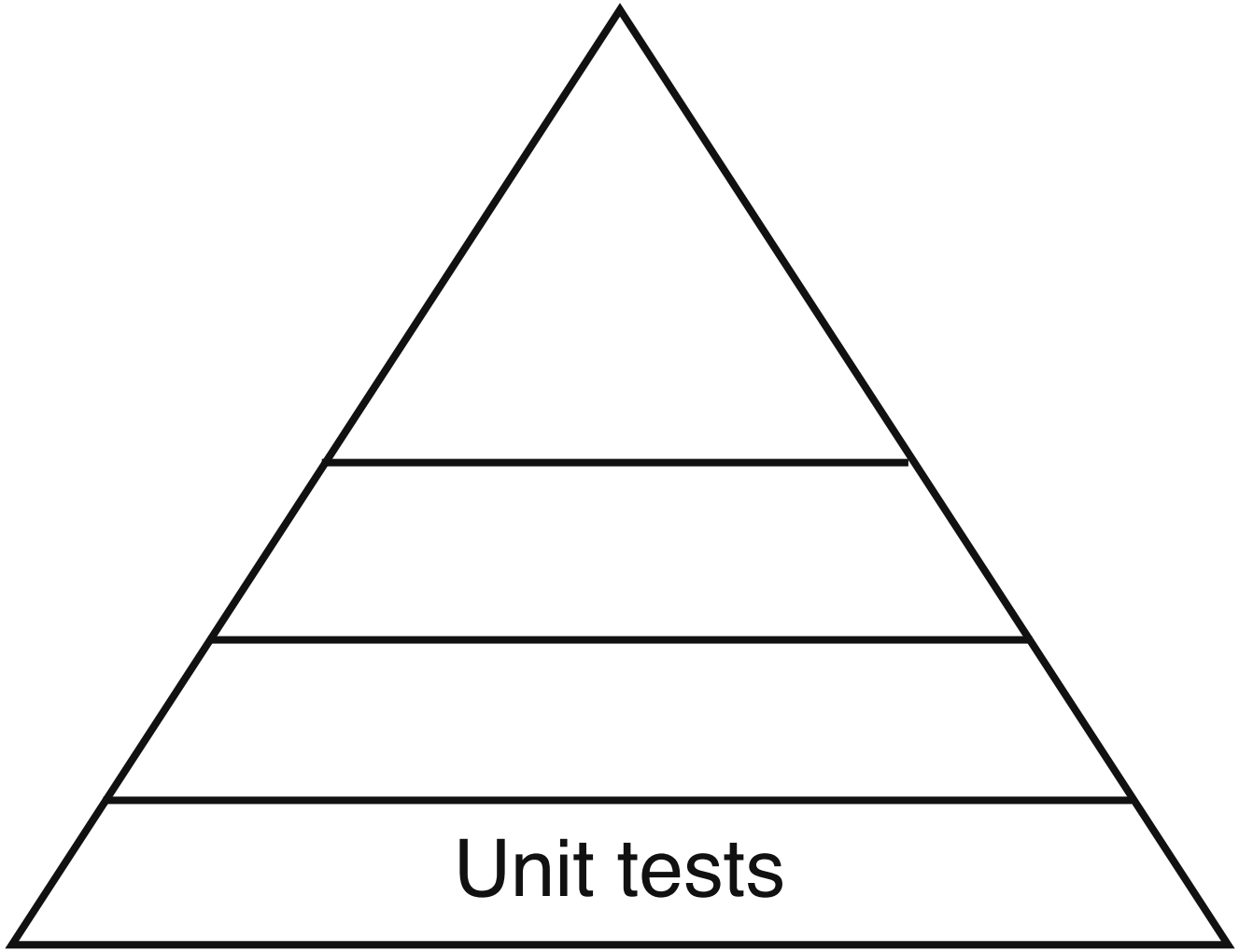
Advantages of CDC

Fast feedback	TDD at the API level	Lower cost
Navigating dependency hell	Develop in parallel reliably	Cannot be stale

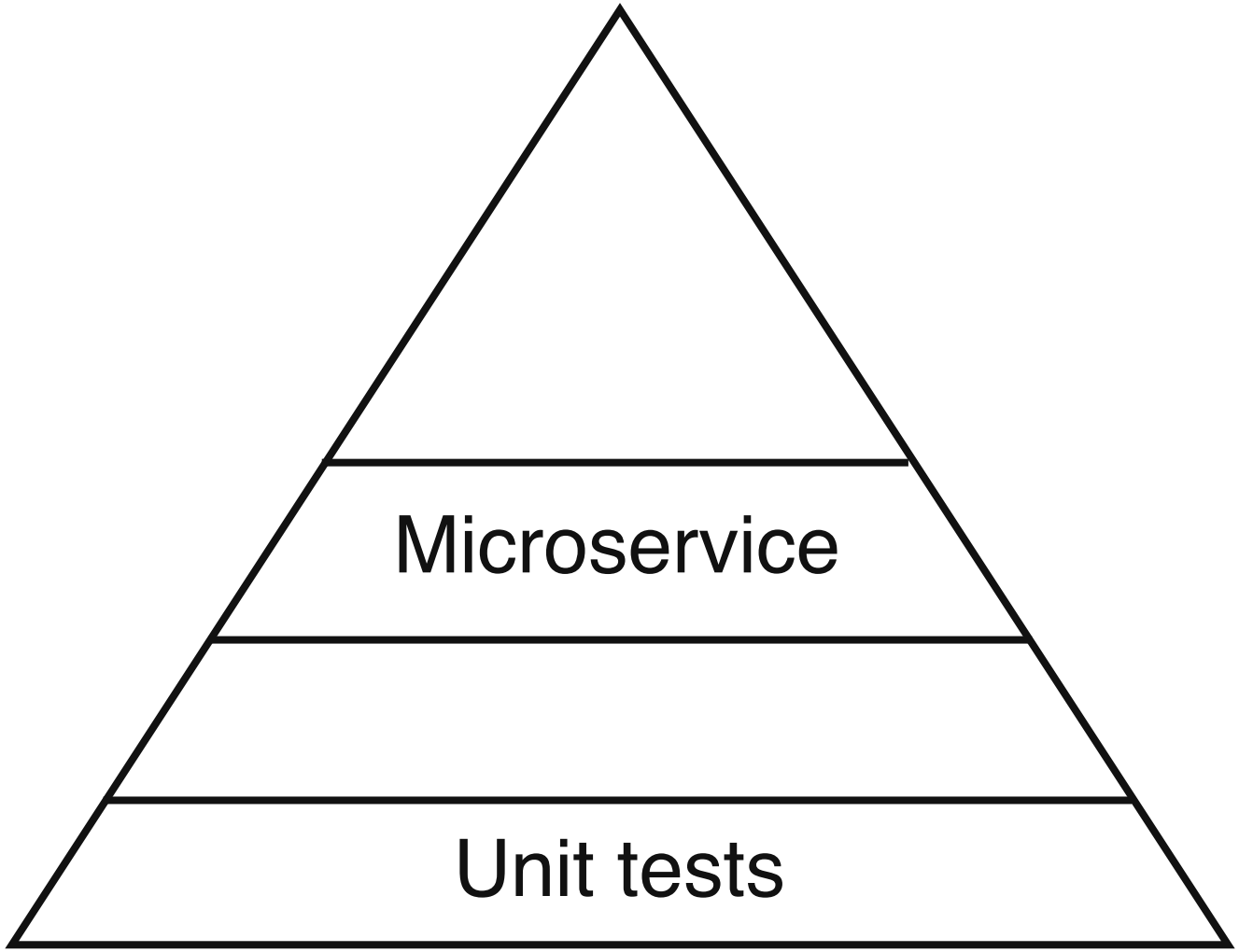
Fill the Gap…



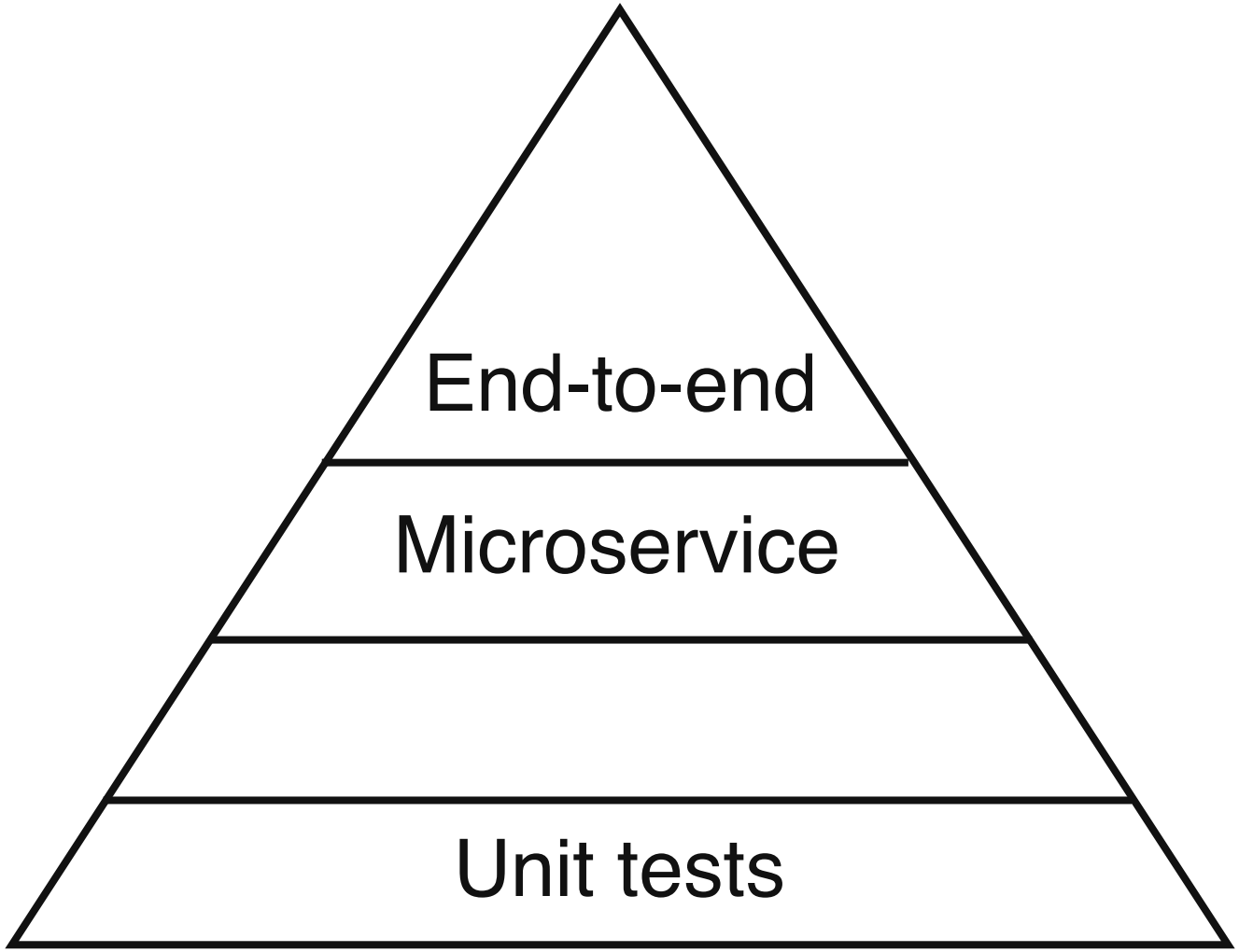
Fill the Gap…



Fill the Gap…



Fill the Gap…



Fill the Gap…