

# Contract Testing



[Already an user? Login here](#) ▼

### Sydney Testers Car Insurance

**Make**

Audi



**Year**

Year of Manufacture

**Driver's Age**

Enter driver's age

**Driver's Gender**

Male ☒

Female ☐

**State**

New South Wales

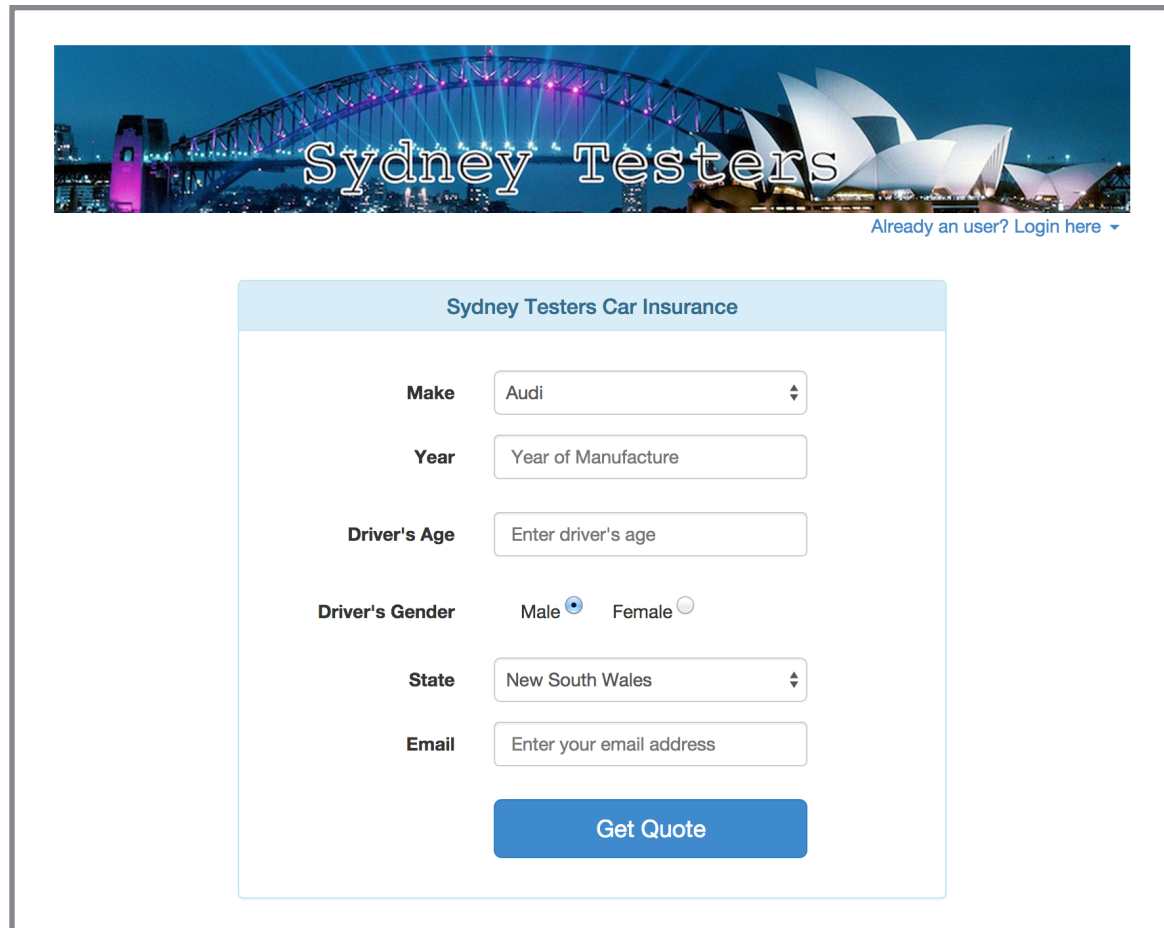


**Email**

Enter your email address

**Get Quote**

# Car insurance website



The screenshot shows the Sydney Testers Car Insurance website. At the top is a banner image of the Sydney Opera House and Harbour Bridge at night, with the text "Sydney Testers" overlaid. Below the banner is a navigation link: "Already an user? Login here". The main content area is titled "Sydney Testers Car Insurance" and contains a form with the following fields:

- Make:** A dropdown menu with "Audi" selected.
- Year:** A text input field with the placeholder "Year of Manufacture".
- Driver's Age:** A text input field with the placeholder "Enter driver's age".
- Driver's Gender:** Radio buttons for "Male" (selected) and "Female".
- State:** A dropdown menu with "New South Wales" selected.
- Email:** A text input field with the placeholder "Enter your email address".

At the bottom of the form is a blue button labeled "Get Quote".

get quote




Car insurance  
pricing service

price



# Car insurance website



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Sydney Testers Car Insurance

Make

Audi

Year

Year of Manufacture

Driver's Age

Enter driver's age

Driver's Gender

Male ☒ Female ☐

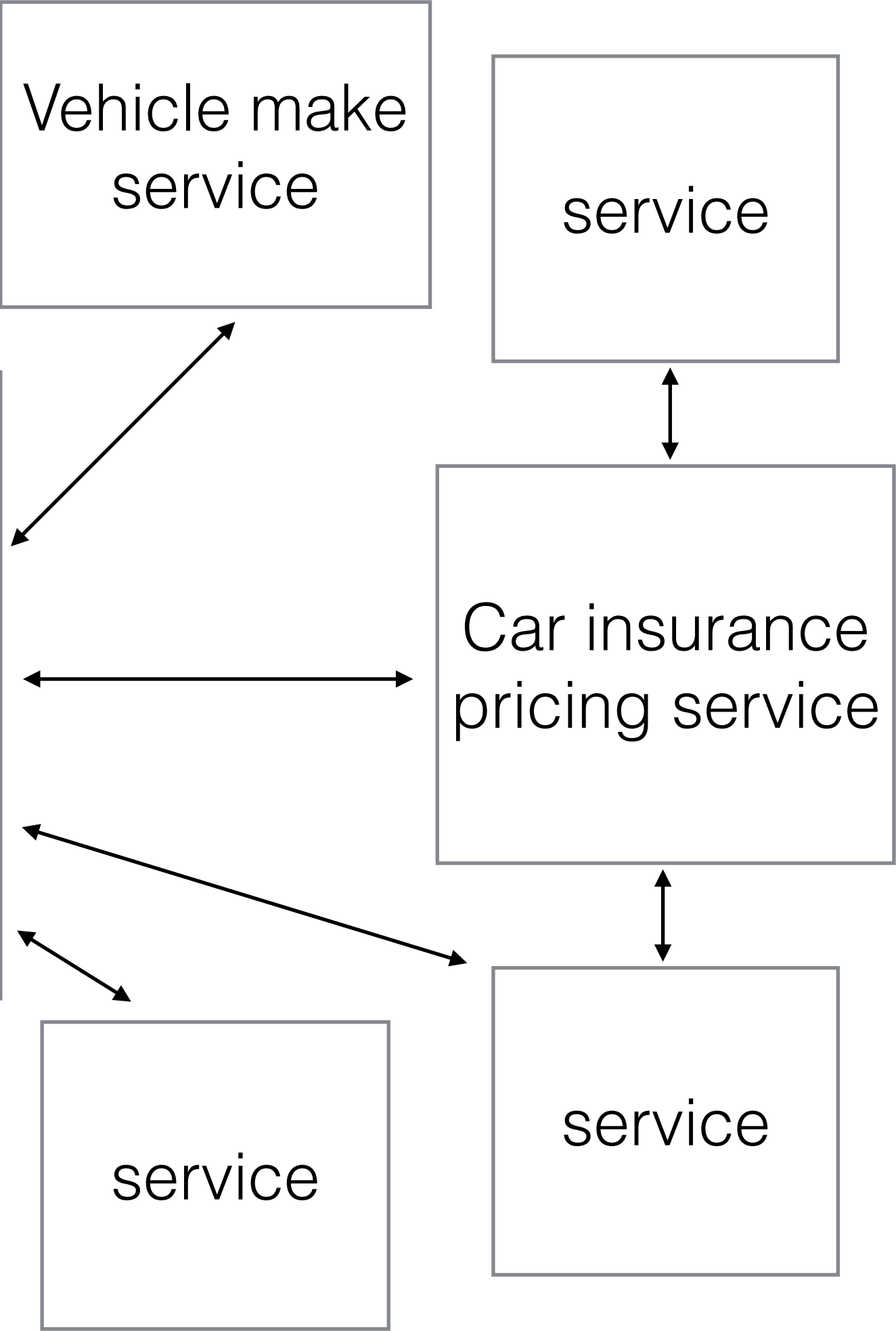
State

New South Wales

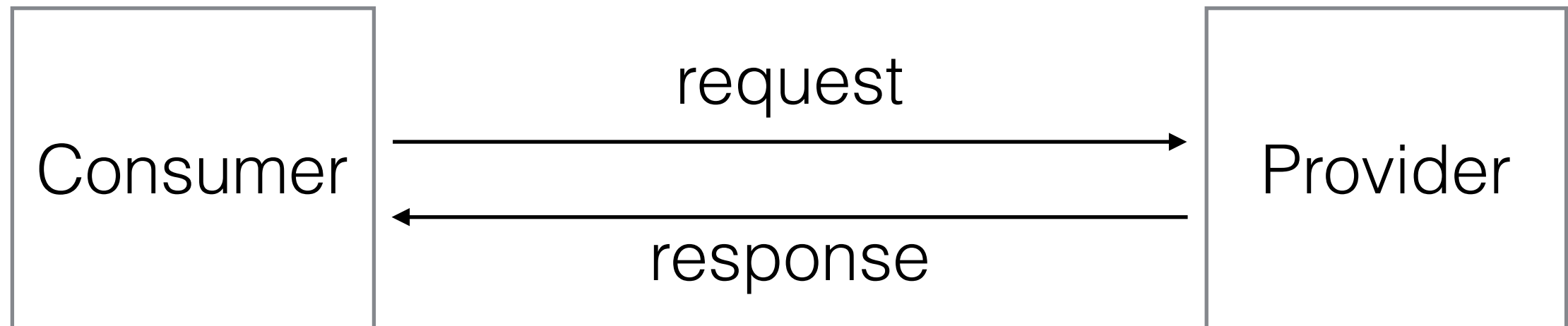
Email

Enter your email address

Get Quote



# Integration tests?

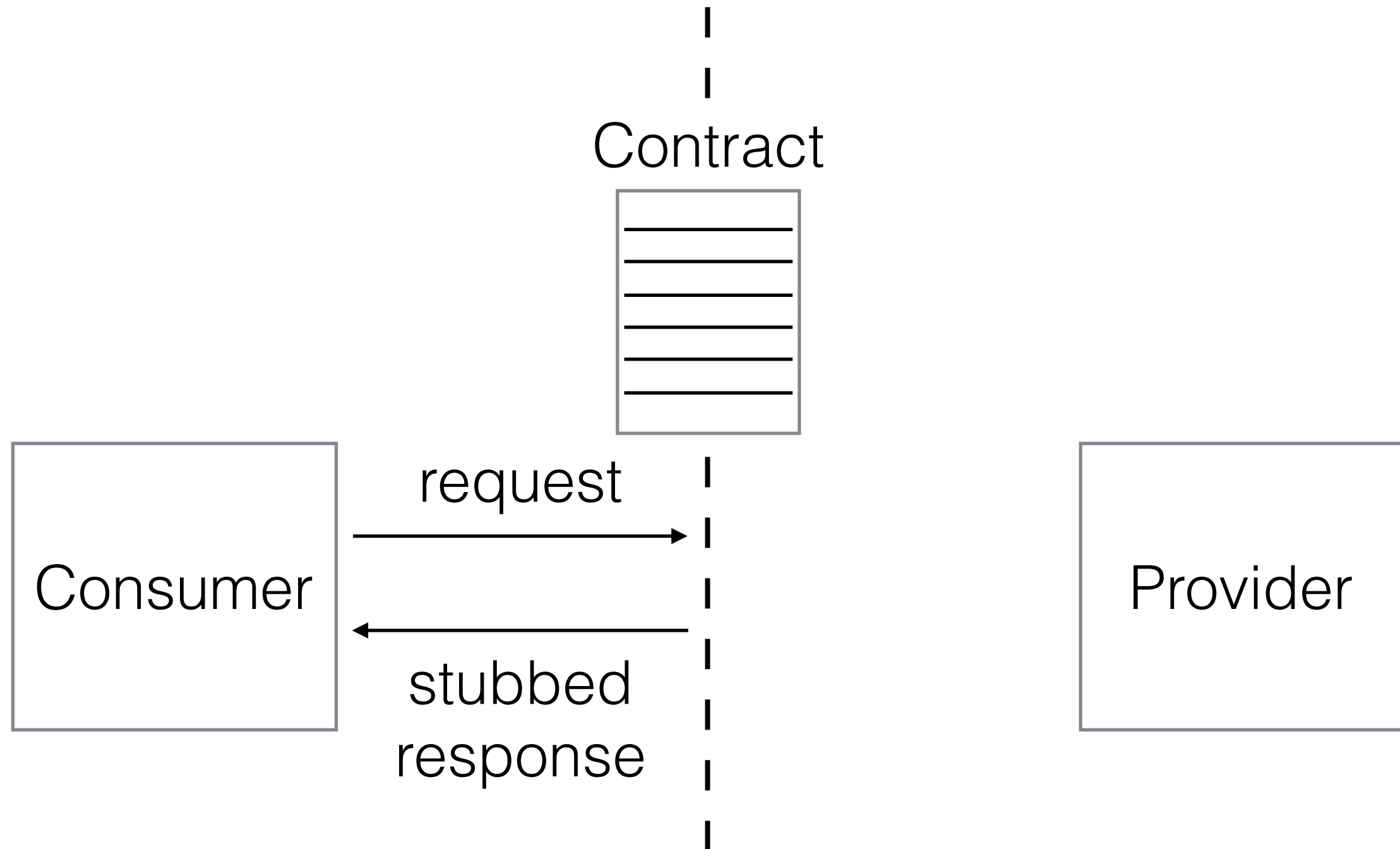


**Heavy**

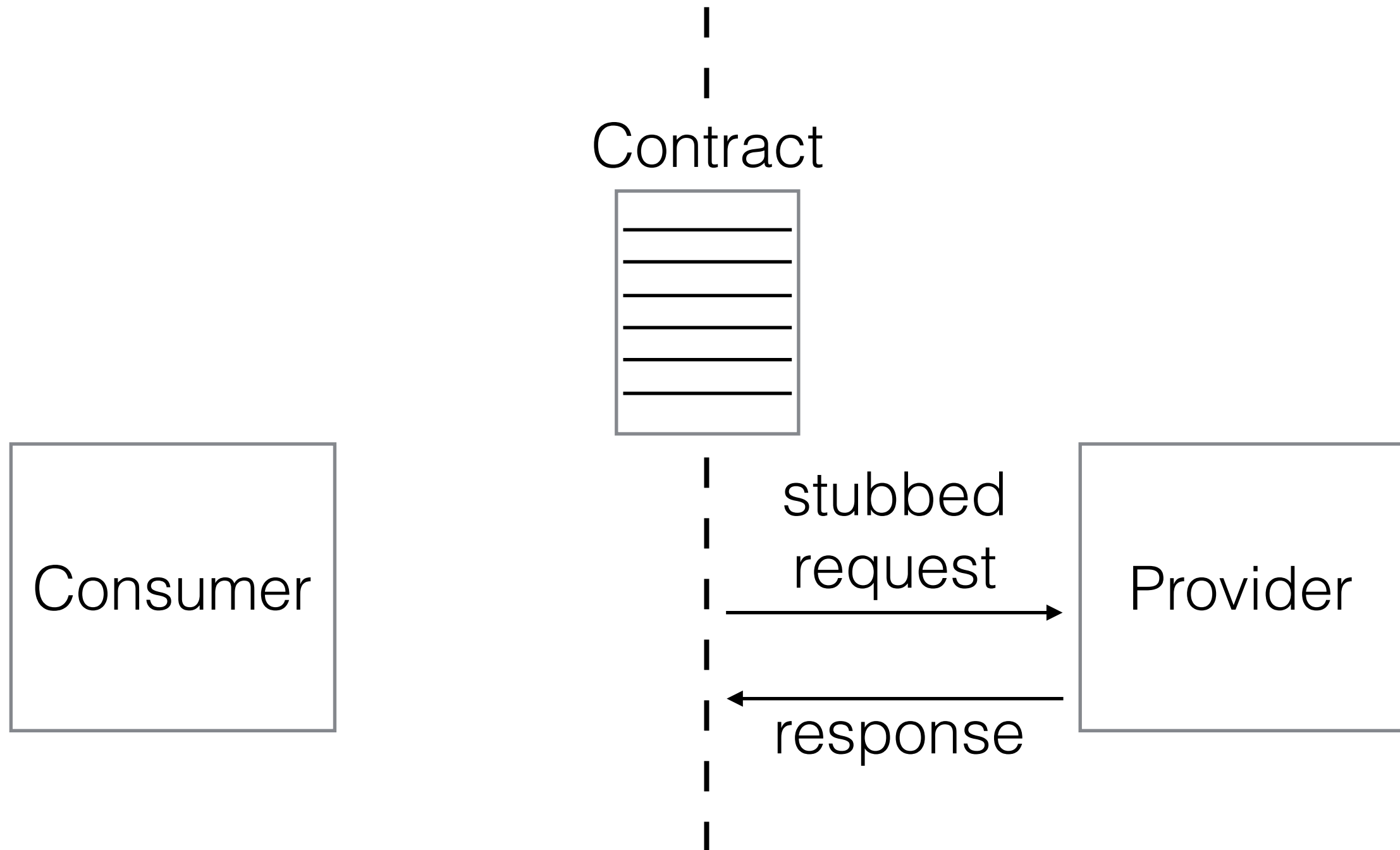
**Slow**

**Brittle**

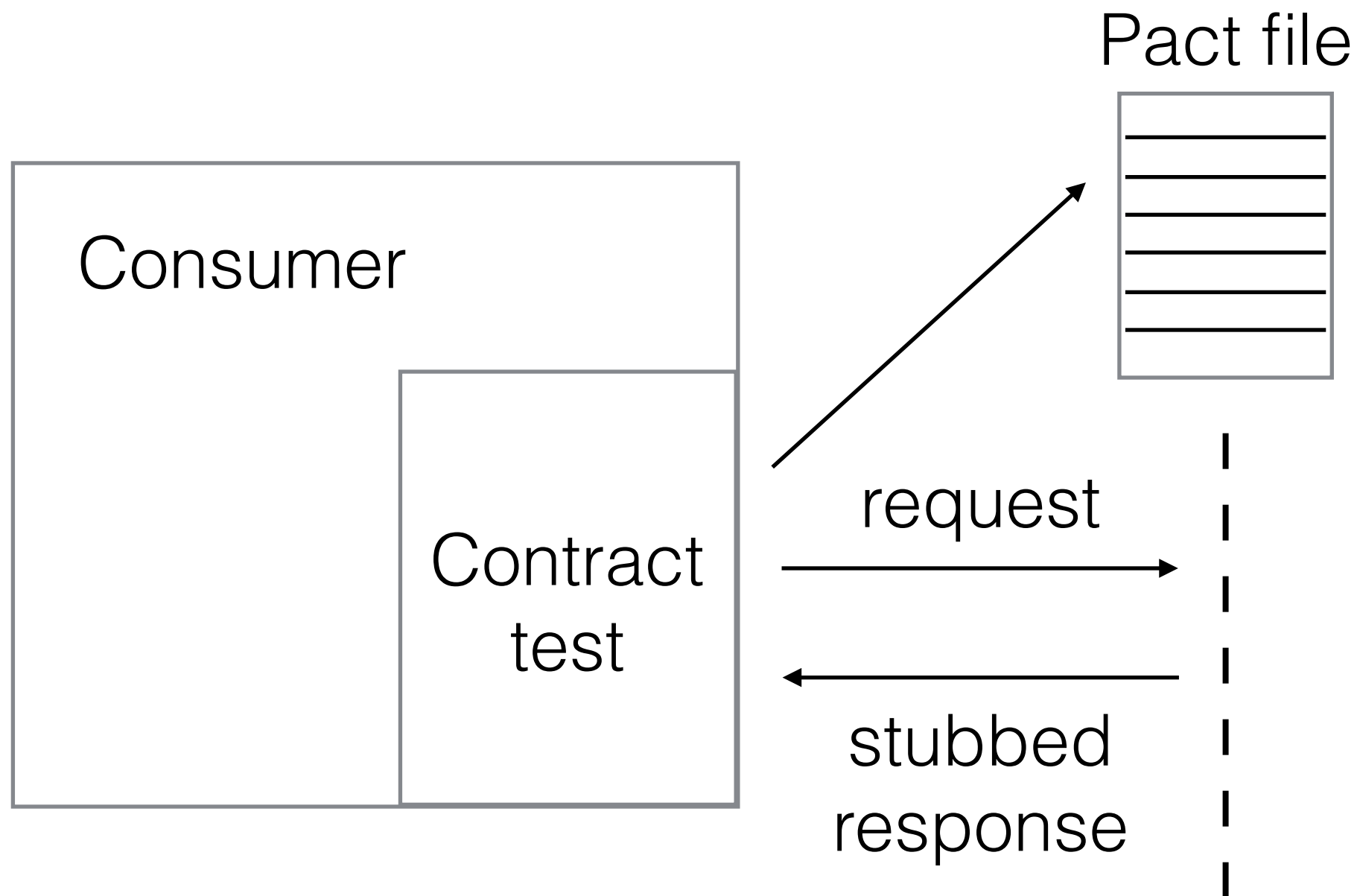
# Contract tests



# Contract tests



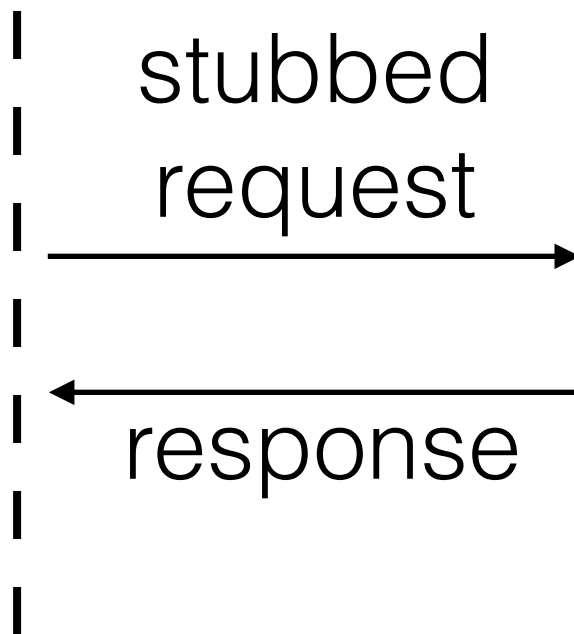
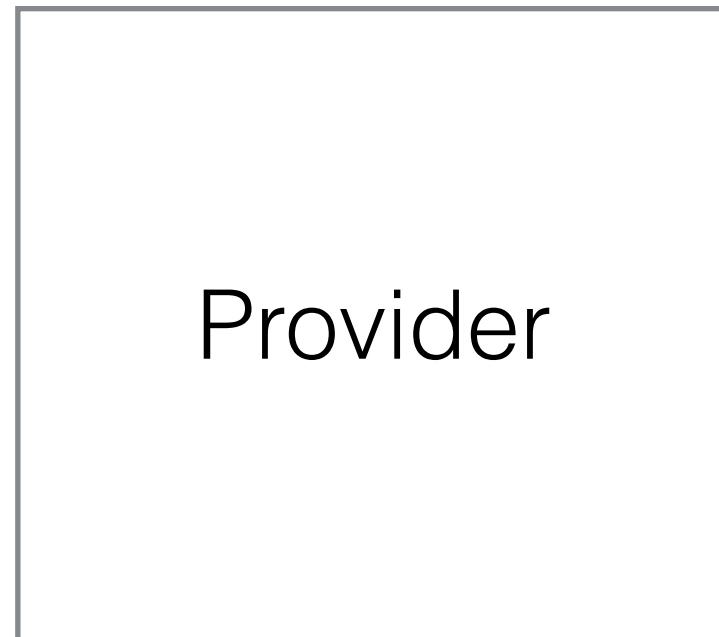
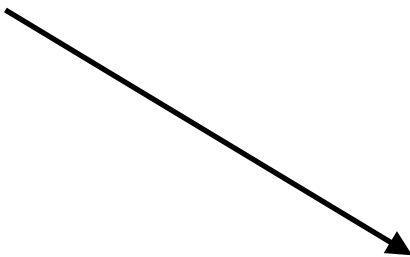
# Pact - Consumer driven contract testing





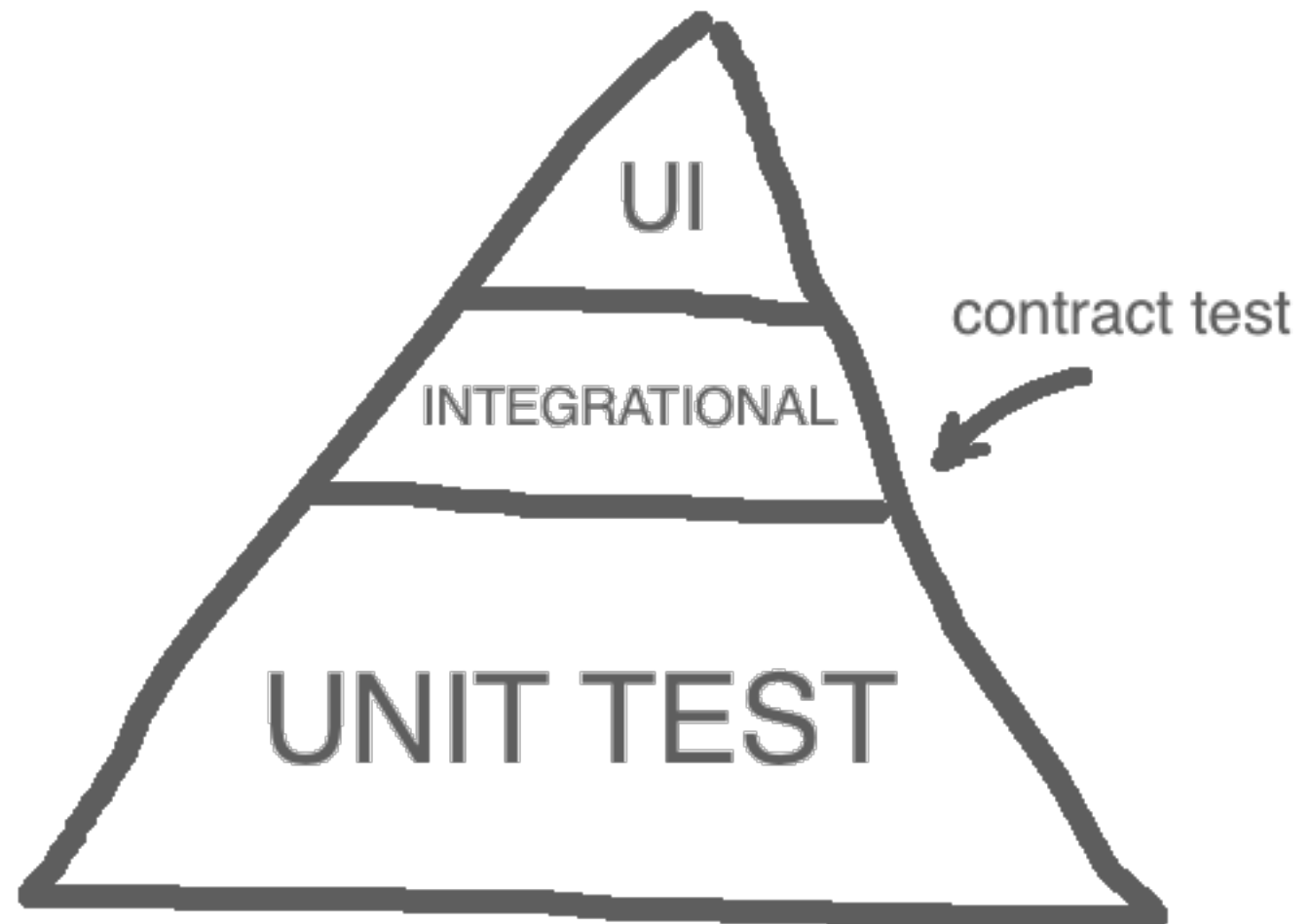
# Pact - Consumer driven contract testing

Pact file



# Advantages over integration tests


- lightweight
- fast
- less brittle



When do I use contract tests?

# Microservices

Car insurance website



**Sydney Testers Car Insurance**

**Make**

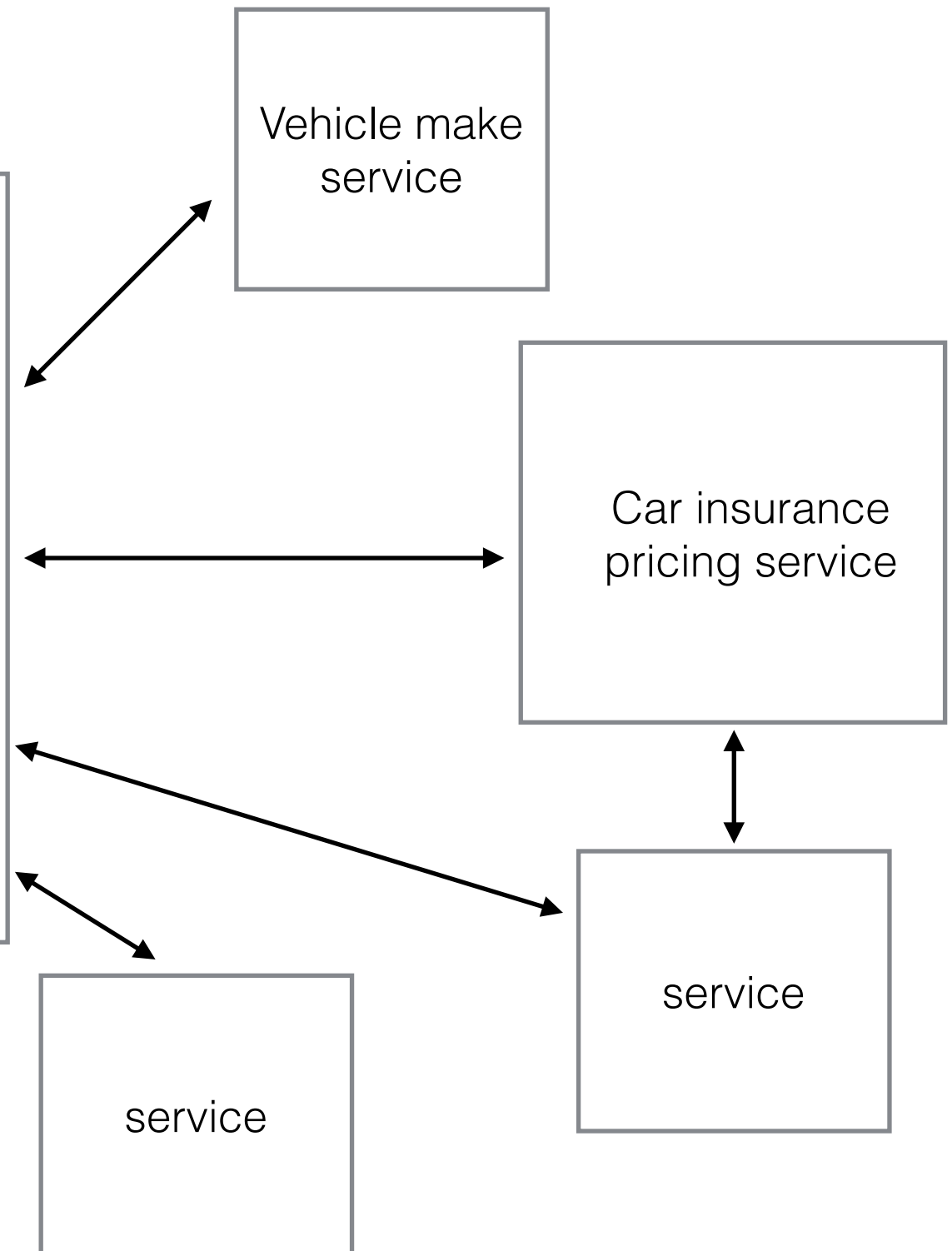
**Year**

**Driver's Age**

**Driver's Gender** ☒ Male ☐ Female

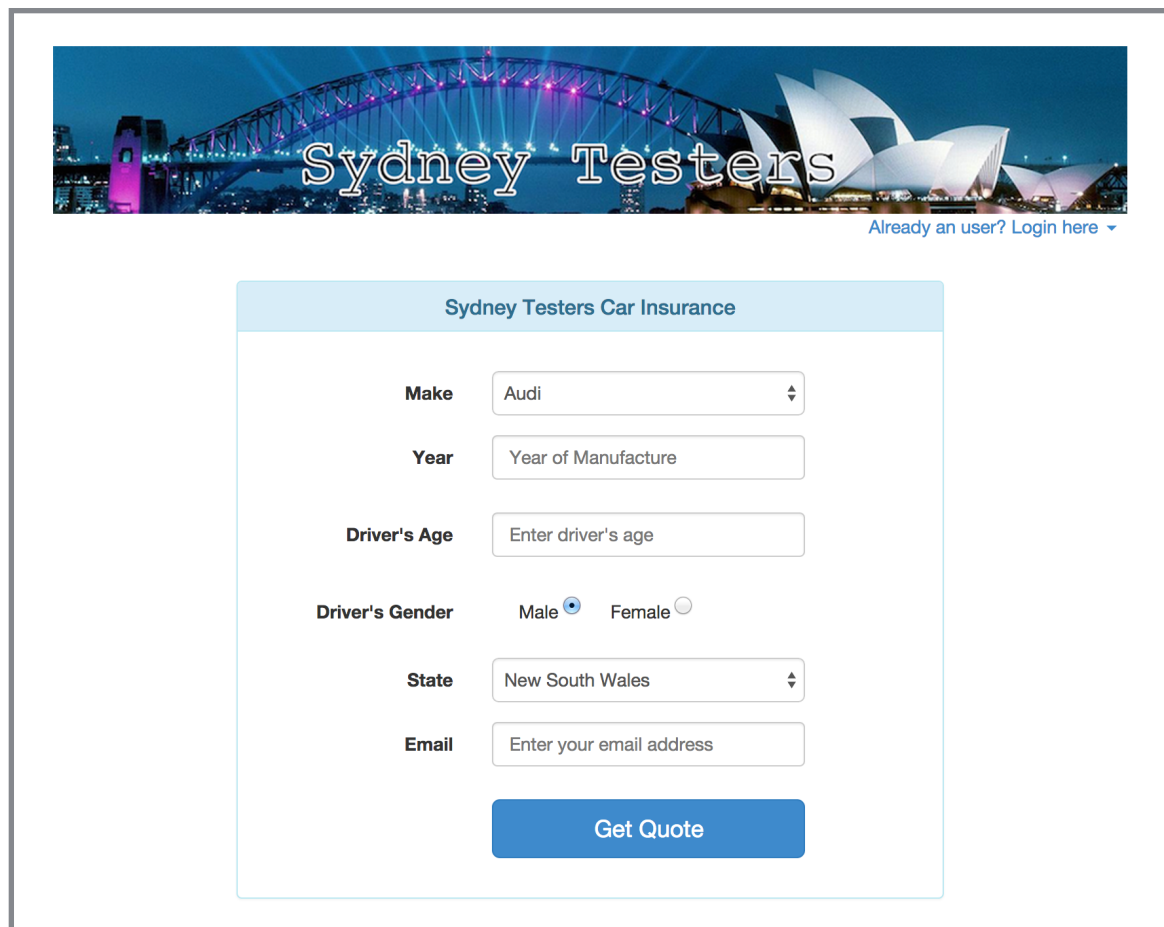
**State**

**Email**



# Our system

Car insurance website



The screenshot shows the Sydney Testers Car Insurance website. At the top is a banner image of the Sydney Opera House and Harbour Bridge at night, with the text "Sydney Testers" and a link "Already an user? Login here". Below the banner is a form titled "Sydney Testers Car Insurance" with the following fields:

- Make:** A dropdown menu with "Audi" selected.
- Year:** A text input field with the placeholder "Year of Manufacture".
- Driver's Age:** A text input field with the placeholder "Enter driver's age".
- Driver's Gender:** Radio buttons for "Male" (selected) and "Female".
- State:** A dropdown menu with "New South Wales" selected.
- Email:** A text input field with the placeholder "Enter your email address".

At the bottom of the form is a blue button labeled "Get Quote".

**Consumer**

get quote



price



Car insurance  
pricing service

**Provider**

# App Demo

## **start the car insurance website**

from the 05\_ContractTesting/Consumer directory  
rackup -p 9292

## **start the car insurance pricing service**

open a new tab in terminal  
from the 05\_ContractTesting/Provider directory  
rackup -p 4567

## **Let's request a quote from the pricing service**

"GET /price?**age=30&gender=female&make=audi&state=nsw** HTTP/  
1.1" 200 15 0.0162

...and we see our quote is \$**55.54**

```
{
  "provider": {
    "name": "Pricing Service"
  },

  "consumer": {
    "name": "Website"
  },

  "interactions": [
    {
      "description": "a valid request for a price",
      "request": {
        "method": "get",
        "path": "/price",
        "query": "age=30&gender=female&make=audi&state=nsw"
      },

      "response": {
        "status": 200,
        "headers": {
          "Content-Type": "application/json"
        },
        "body": {
          "price": 55.54
        }
      }
    }
  ],

  "metadata": {
    "pactSpecificationVersion": "1.0.0"
  }
}
```

# Run the tests

## **run the car insurance website contract test**

from the 05\_ContractTesting/Consumer directory

```
rspec spec/carQuote_spec.rb
```

> 1 example, 0 failures

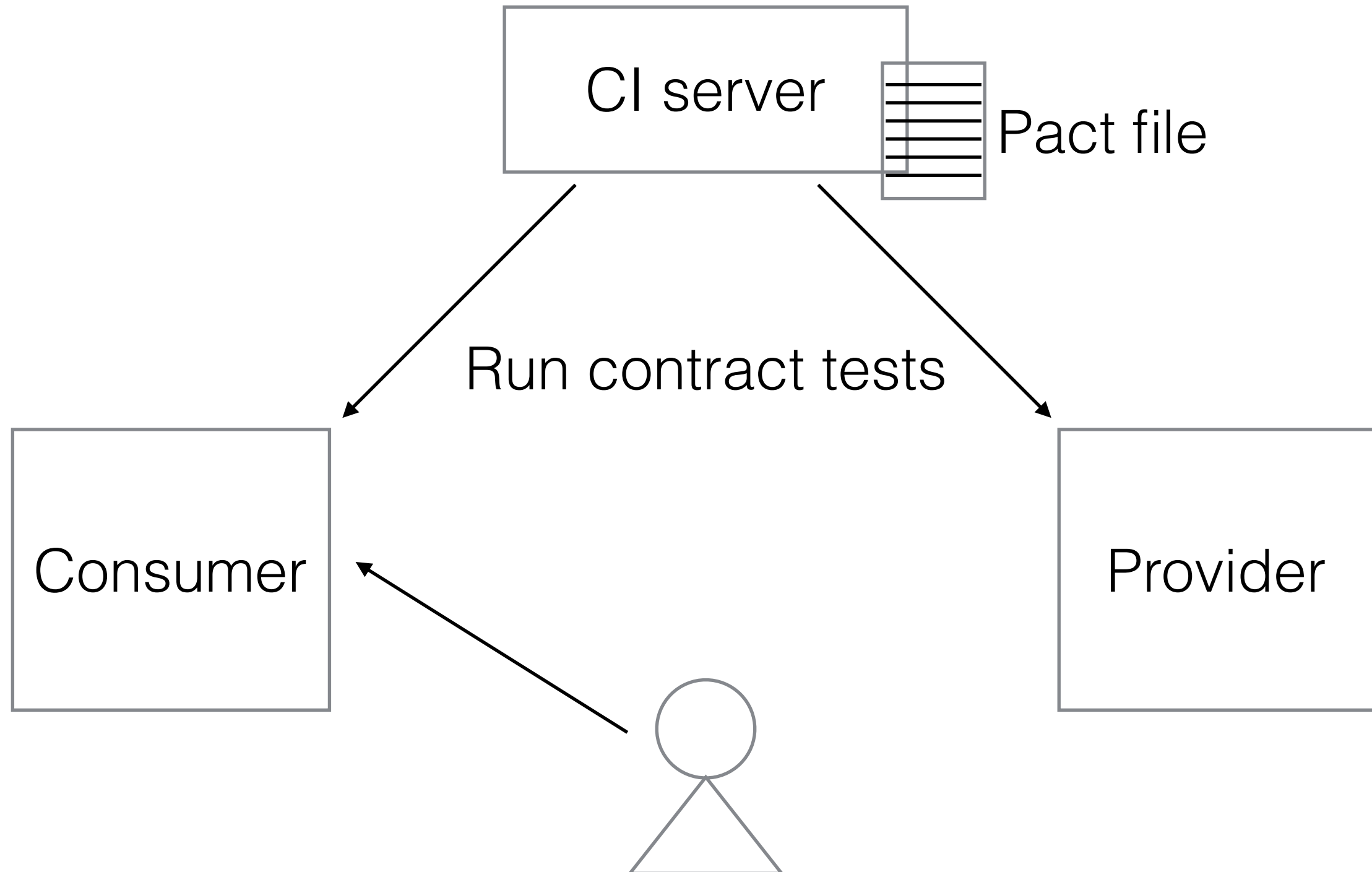
## **run the car insurance pricing service contract test**

from the 05\_ContractTesting/Provider directory

```
rake pact:verify
```

> 1 interaction, 0 failures

# Continuous integration





# Let's break stuff

open Consumer/lib/carQuote.rb

in the 'get\_premium' function, edit the request string to have an incorrect parameter name

```
"http://localhost:4567/price?  
age=#@age&gender=#@gender&make=#@make&state=#@state"
```

```
"http://localhost:4567/price?  
age=#@age&gender=#@gender&model=#@make&state=#@state"
```

run 'rake'

```
Consumer specs FAIL  
Provider specs PASS
```

change it back so both tests pass when you run rake

# Let's break more stuff

open Provider/pricing\_service.rb

in the get '/price' function, edit the price value to include the AUD '\$'

price: value.to\_f

price: '\$' + value

run 'rake'

Consumer specs PASS

Provider specs FAIL

change it back so both tests pass when you run rake

# Too easy? Try to add to the contract

we type the year into the car insurance quote form, but we don't really use it. How about you try to add it to your contract?

Hint:

- add a year parameter to the query string in the consumer spec file
- add that same year to the car quote before the test expectation
- add the year parameter to the car quote get request string
- have the pricing service retrieve the year parameter from the query string