



# totoro

A simple & stable front-end test tool

Zhouxuan Yang

2012.12 ~ Now

- 2008 ~ 2012



- 2012 ~ now








fool2fish  
@everywhere



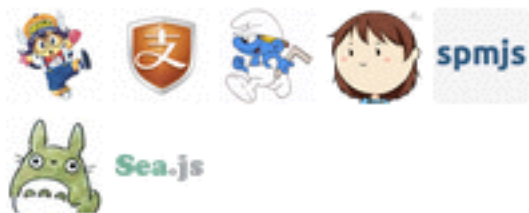


**Zhouxuan Yang**  
fool2fish

 Alipay  
 Hangzhou, China  
 fool2fish@gmail.com  
 http://fool2fish.cn  
 Joined on Jul 21, 2010

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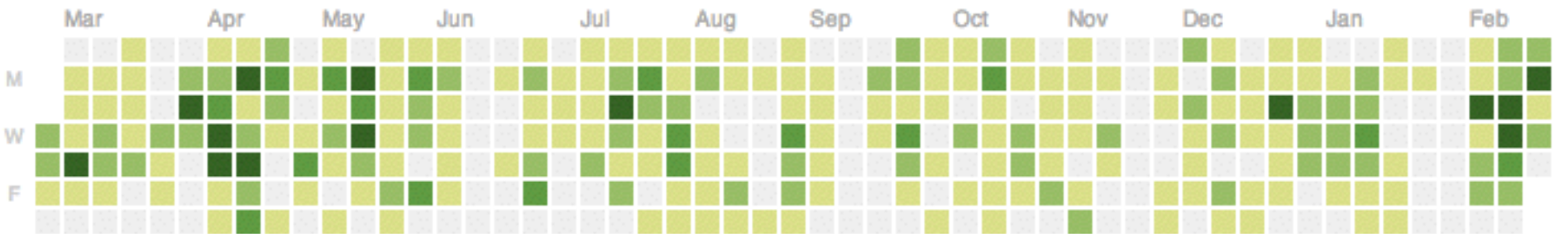
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 <a href="#">totorojs/browsers</a> A simple browser manager.	15 ★
 <a href="#">totorojs/totorojs.org</a> Official web site and docs of totoro.	56 ★

Your Contributions



**1,595 Total**  
Feb 27 2013 - Feb 27 2014

Year of Contributions

**18 days**  
April 07 - April 24

Longest Streak

**4 days**  
February 23 - February 26

Current Streak

Contribution Activity

Period: 1 Week ▾

[totorojs.org](http://totorojs.org)

**I. What ?**

# Basic feature

- Run in real browsers
- Support all test frameworks

# Simple & Stable

- Concise doc, no config
- JIT feedbacks & report
- Automatic coverage
- Debug



# Simple & Stable

- Config error
- Code error
- Browser interrupt

# Simple & Stable

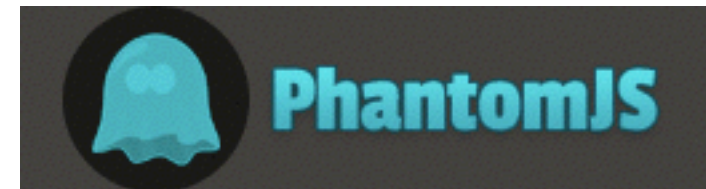
- Communication control
- Testing distribution
- Browser guard
- ...

**2. How ?**

# Reference

**Karma**

Spectacular Test Runner for JavaScript



**testling-ci**  
run your browser tests on every push



LET'S CODE  
**TDJS**



.....

## 2.1 Socket based

# How it works



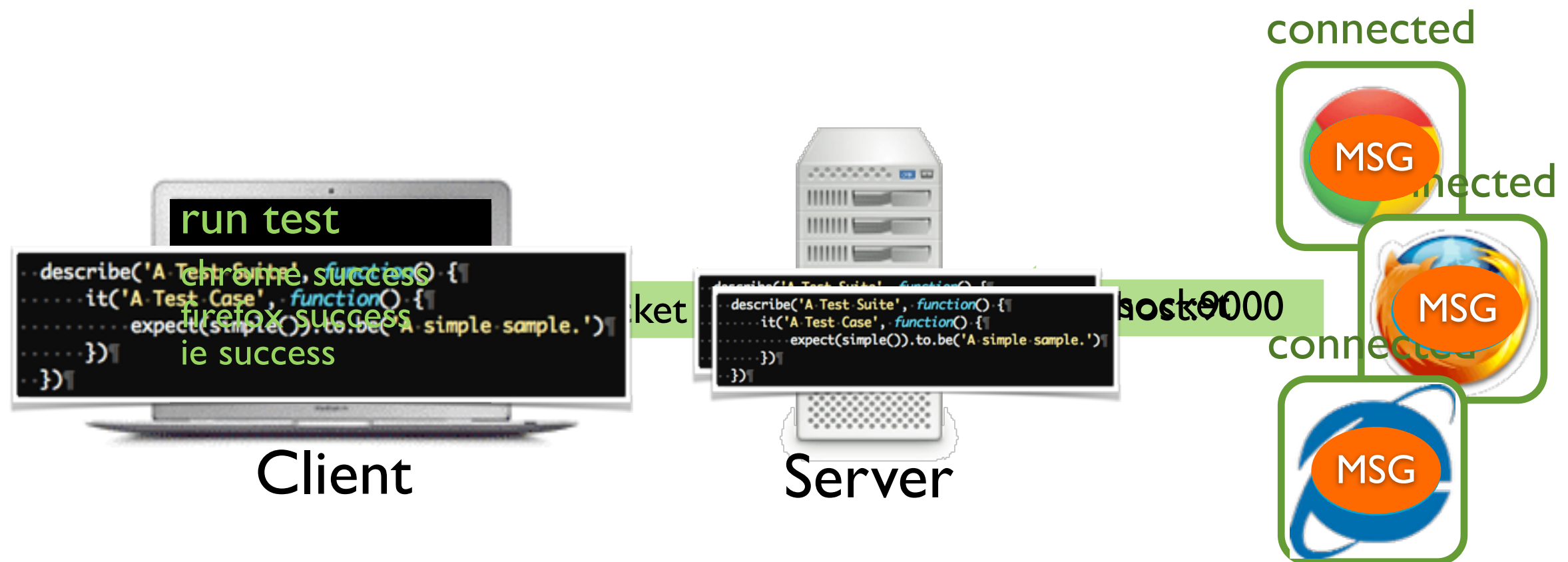
Client



Server



# How it works



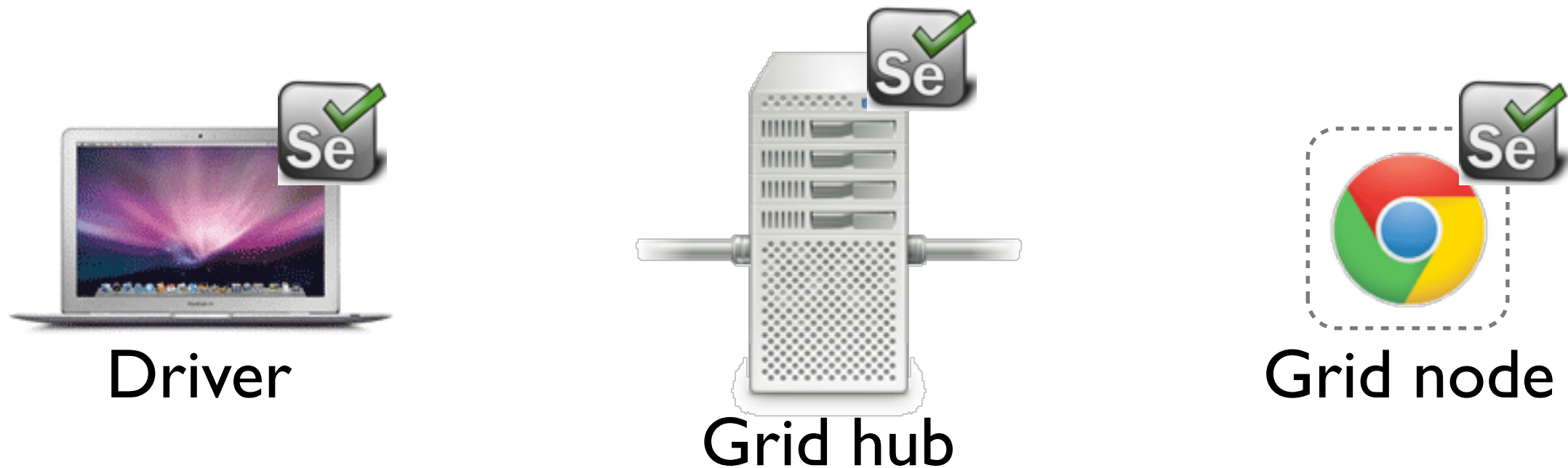
# Problems

- Fragile
  - Browser crash
  - Server crash
  - Exception

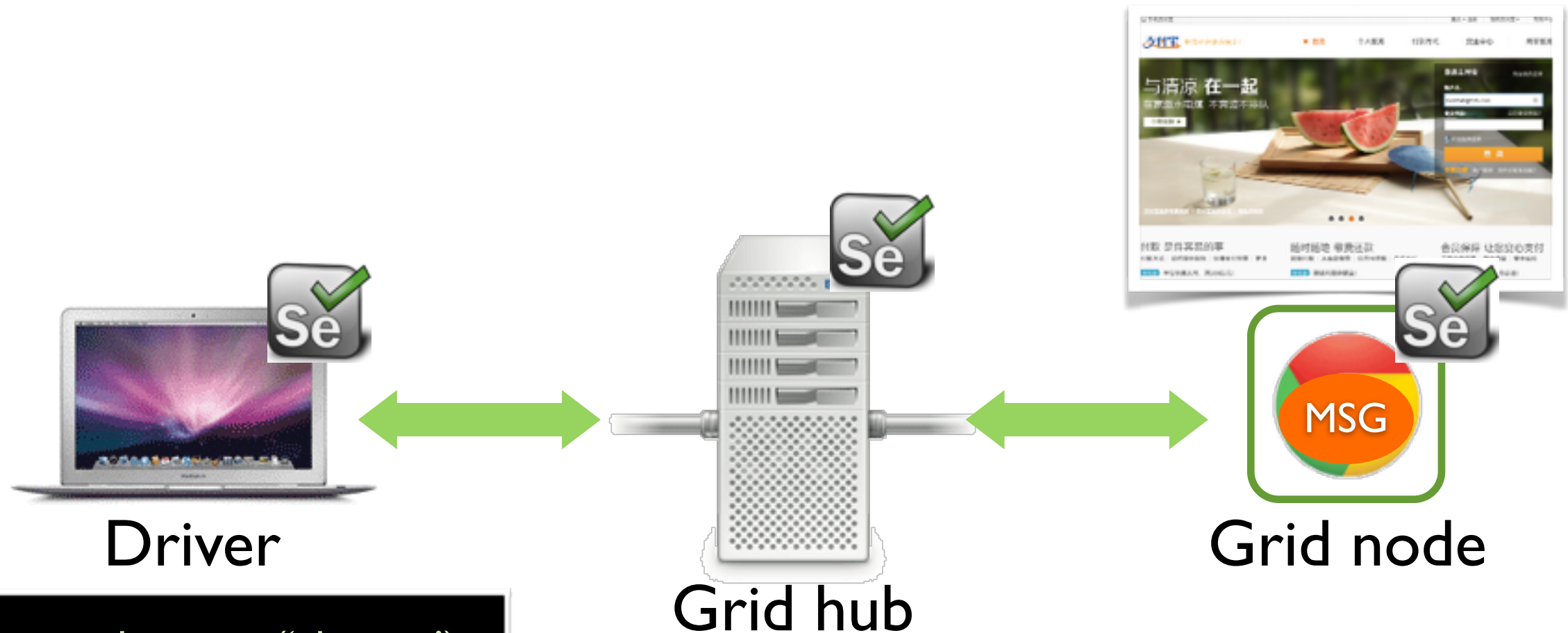


## 2.2 Selenium Grid

# How it works



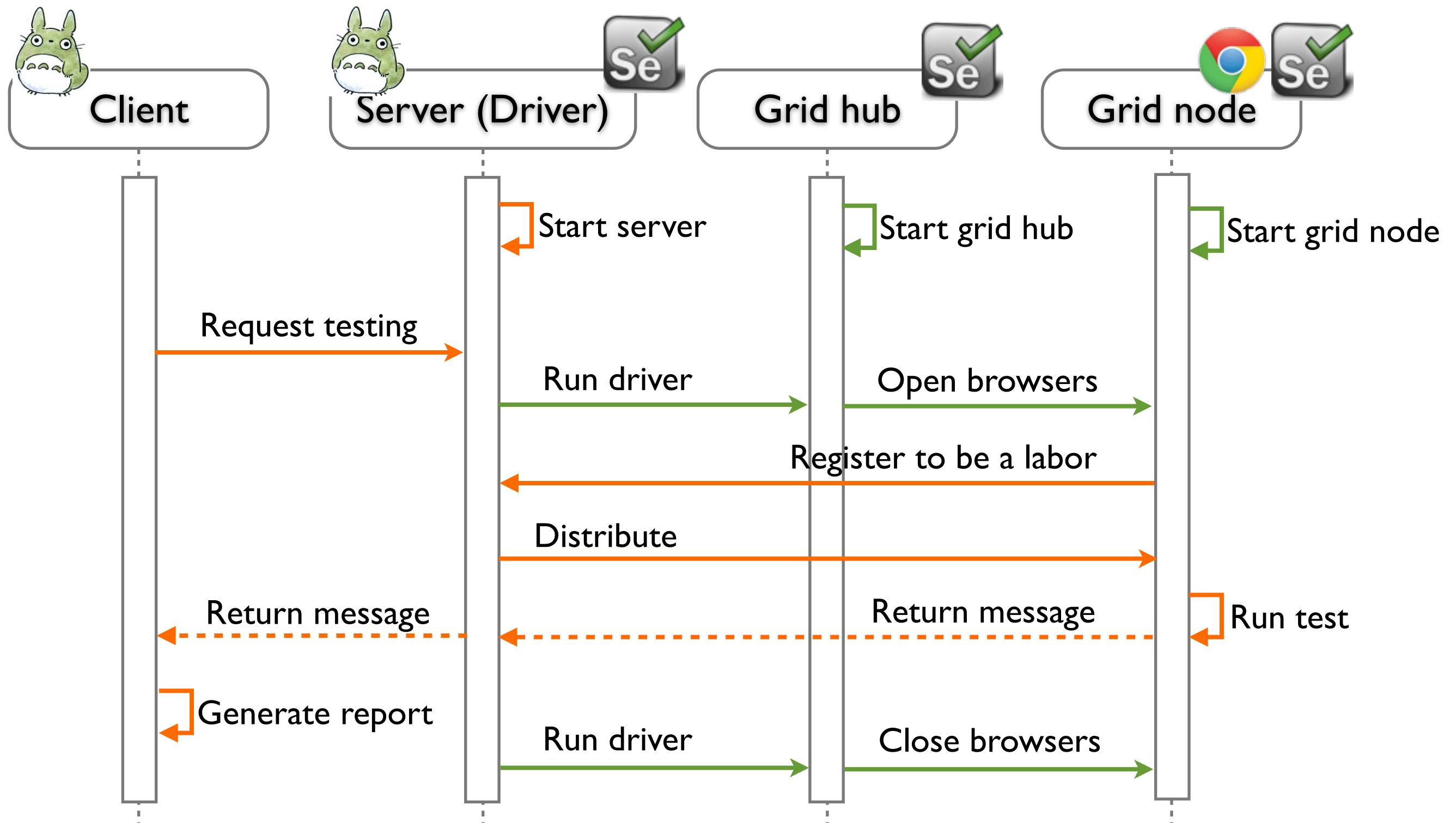
# How it works



```
browser = driver.get('chrome')  
browser.open('alipay.com')
```



# Socket + Grid



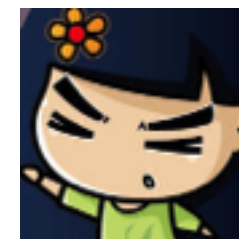
# New problems

- Too complex to use
- Strong coupling, a new incentive to crash



Crashed again!

It may be not in the mood.



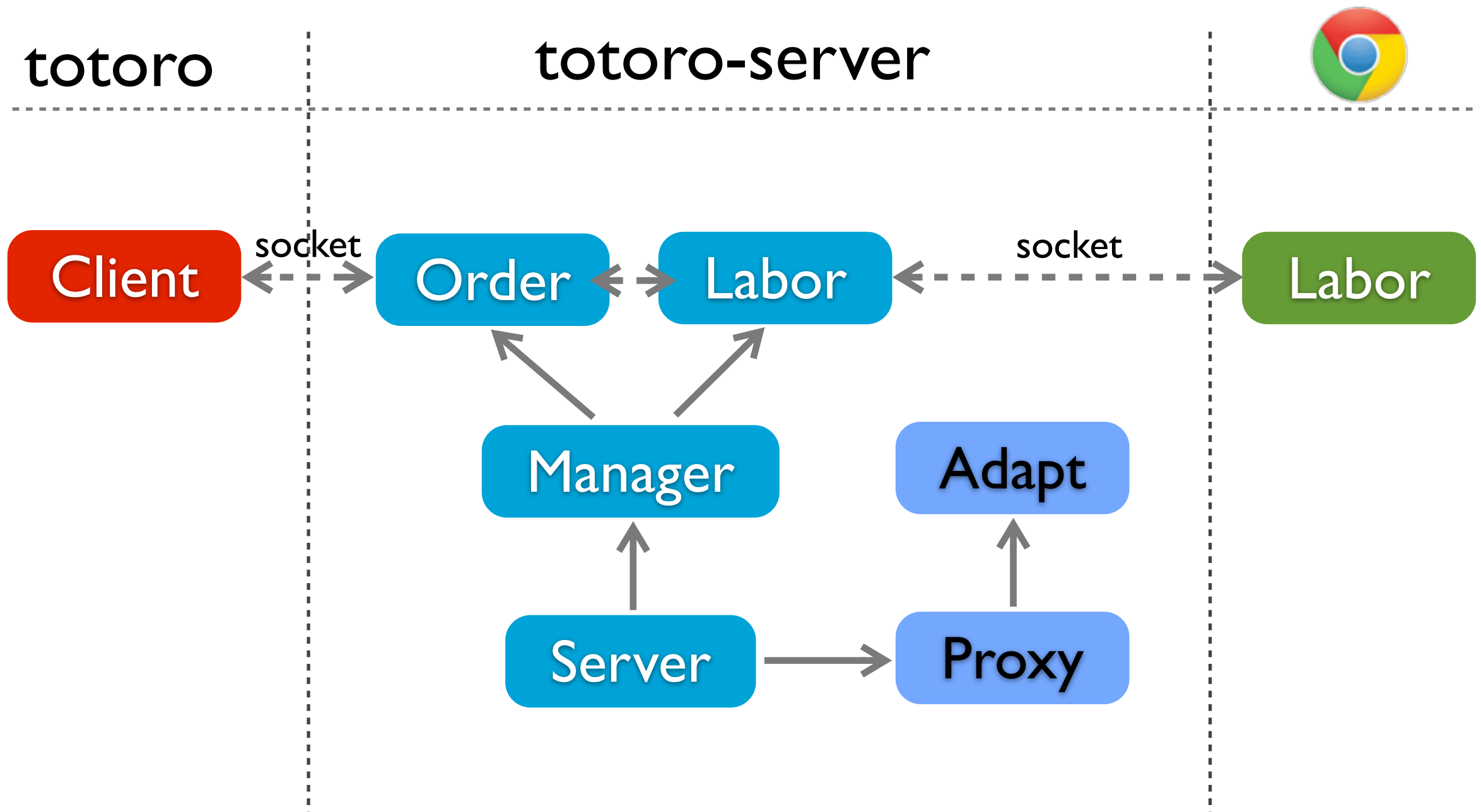




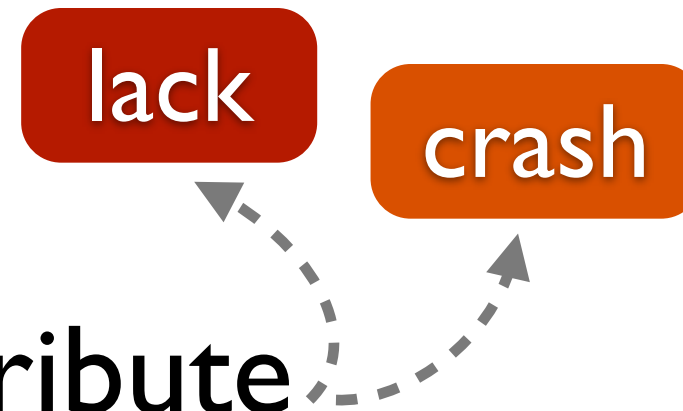
# 2.3 Totoro

Test tool

# How it works



# Testing distribution



- When should distribute
- Which browsers should distribute to

# When should distribute

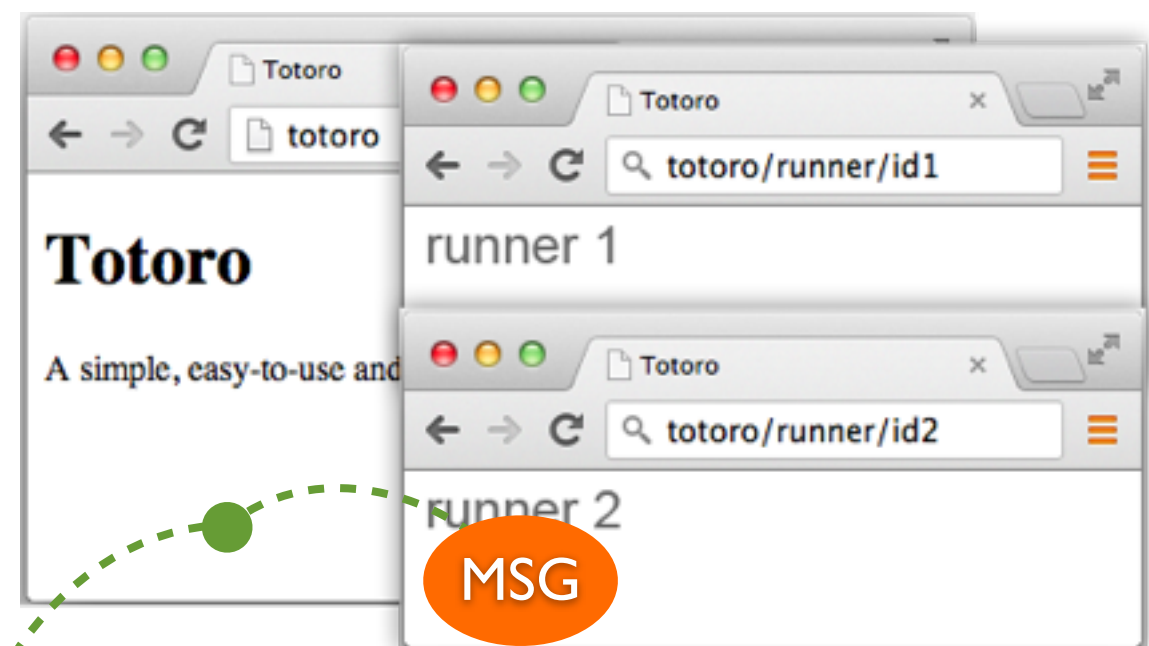
- More orders wait
- More labors available

# Iframe or window?

Run in iframe



Run in window



Server



# Why not iframe?

- Testing efficiency
- Browser stability
- Correctness of testing result

# Why not iframe?

```
it('width is not zero', function(){  
  var el = document.createElement('div')  
  document.body.appendChild(el)  
  expect(el.offsetWidth).not.toBe(0)  
})
```

ie 6.0 / windows xp  
Failed 1 of 1 tests in 16ms  
width is not zero: expect 0 to not equal 0

chrome 30.0.1599.69 / macosx 10.8.4  
Failed 1 of 1 tests in 6ms  
width is not zero: expect 0 to not equal 0

# 2.4 Browsers

Browser guard



# Basic feature

- Start browser
- Kill browser
- Visit URL

# Advanced feature

- Monitor status
  - Memory
  - CPU
  - Running
- Monitor connection

# How it works?

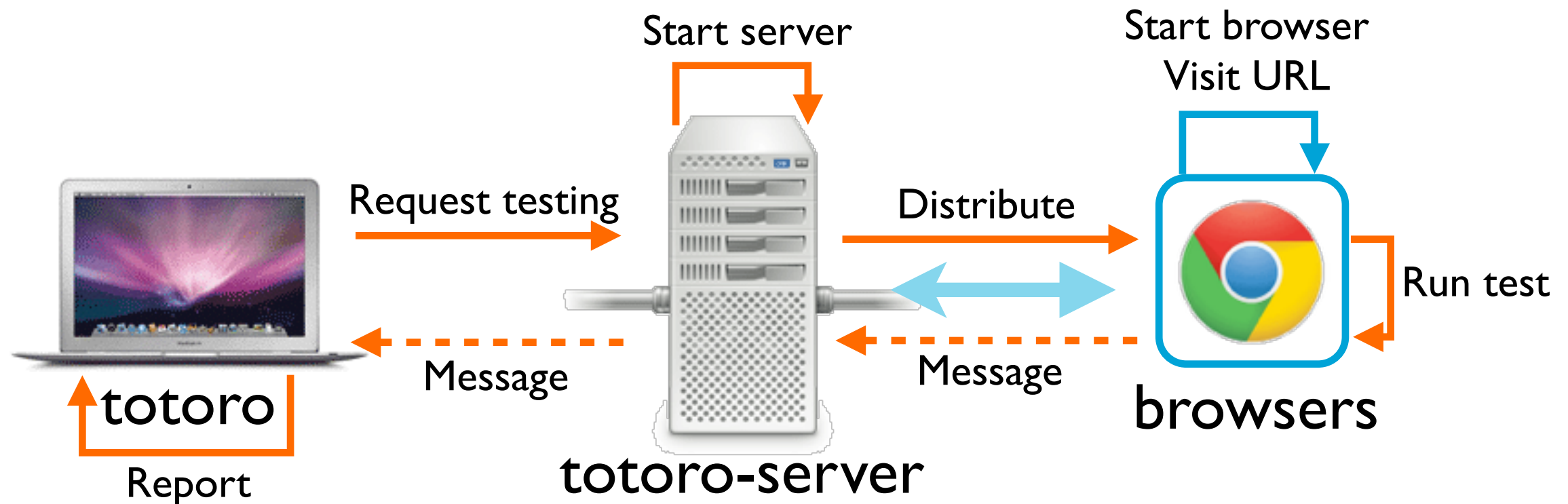
/Applications/Firefox.app/Contents/  
MacOS/firefox-bin **URL**

[https://developer.mozilla.org/en-US/docs/Mozilla/Command\\_Line\\_Options](https://developer.mozilla.org/en-US/docs/Mozilla/Command_Line_Options)

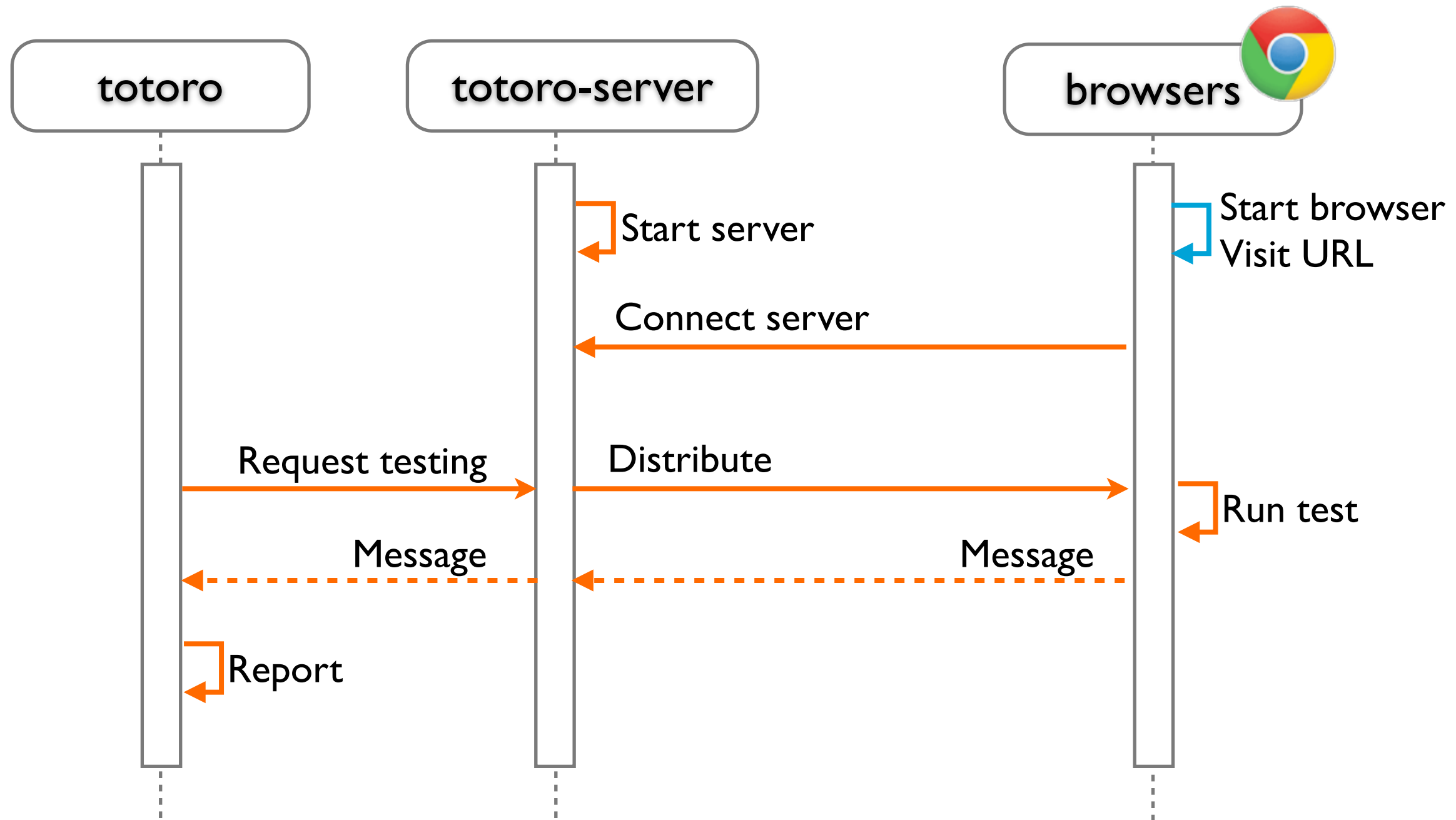
# Totoro + Browsers

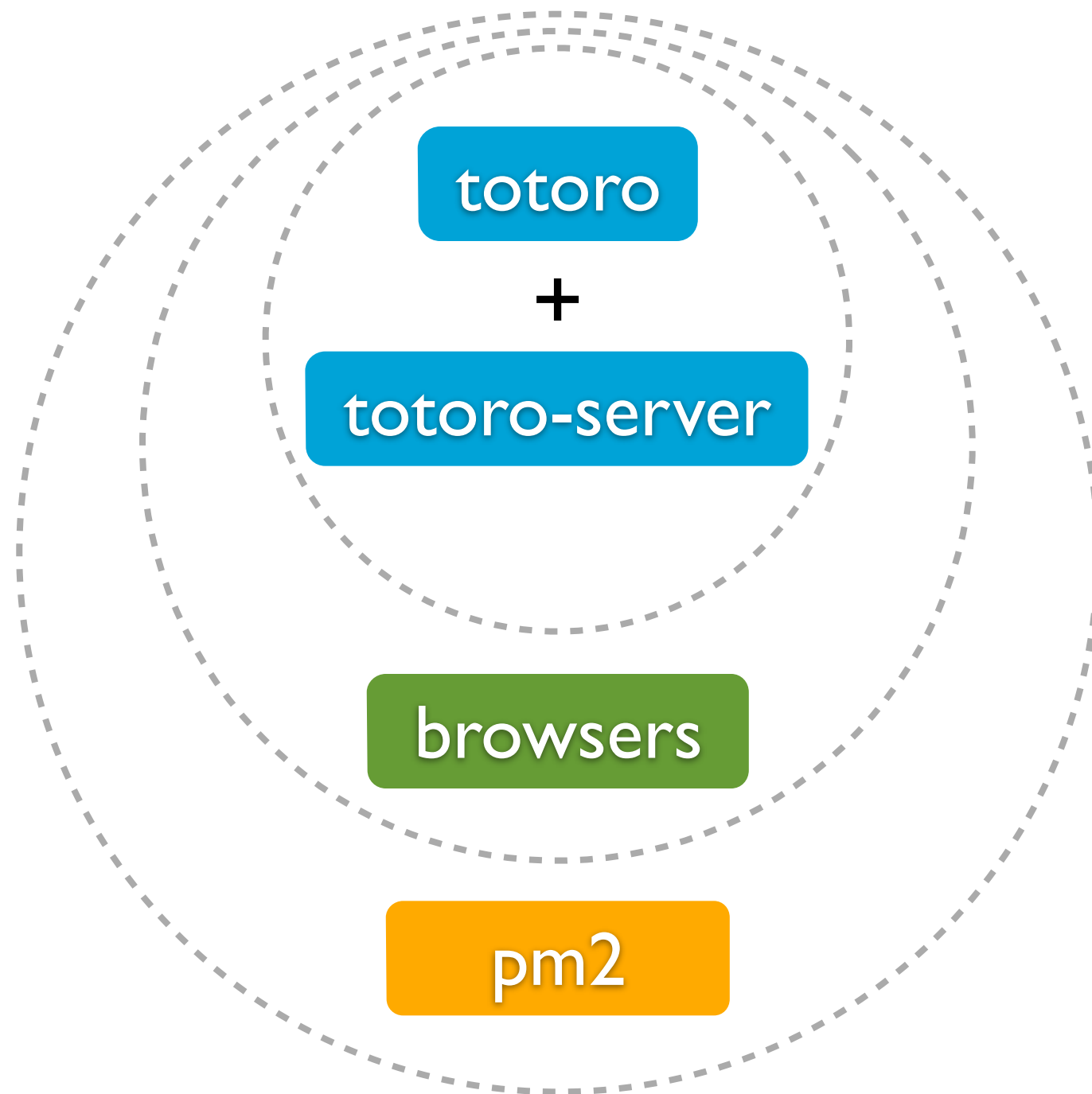


# Totoro + Browsers



# Totoro + Browsers





tla

tci

# Learned

- Clear responsibility
- Keep simple
- Eye for details



**3. Then ?**

- More stable
- Continuous integration
- Open service



[totorojs.org](http://totorojs.org)

Thank you!

Q&A