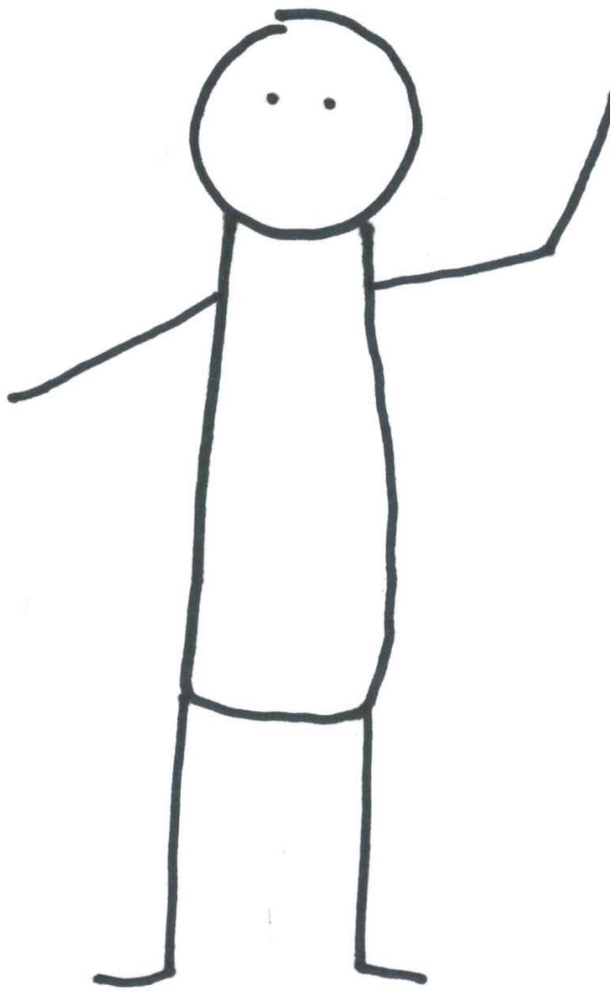
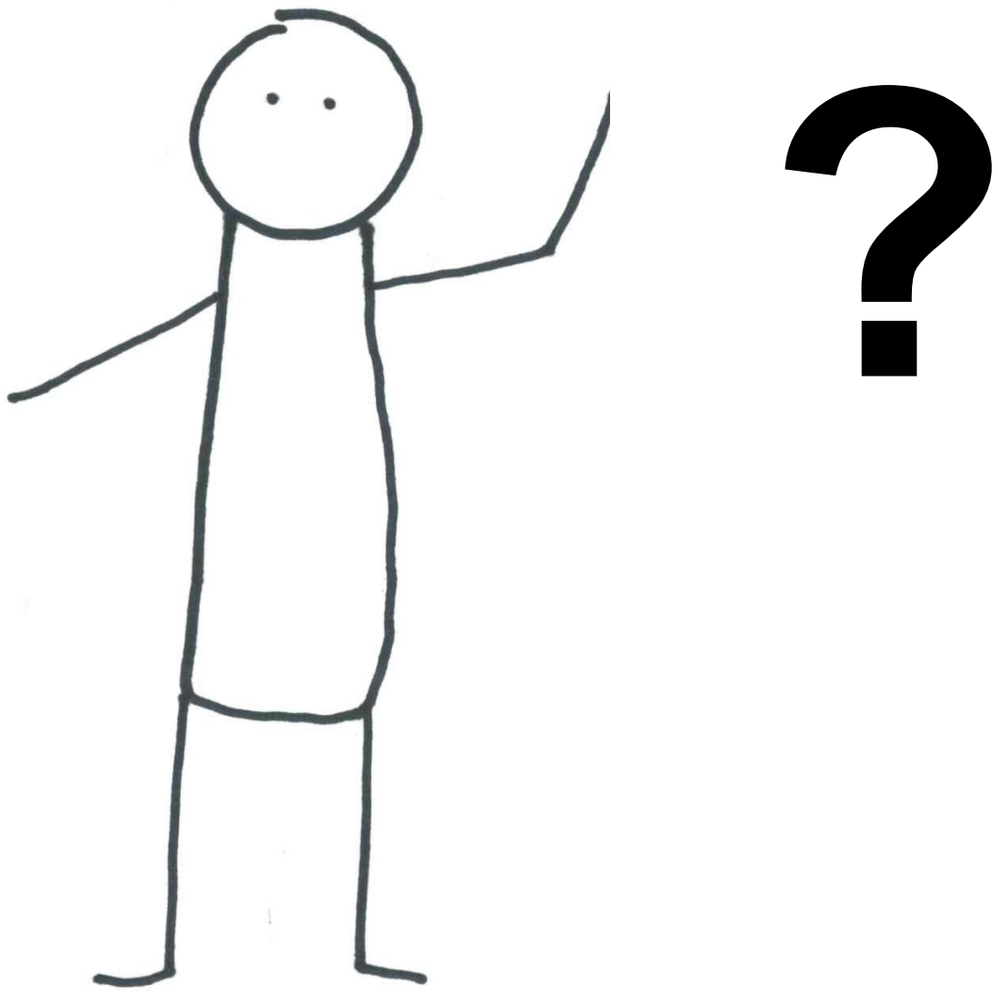
The Lazy Developer's Guide to Cloud Foundry

Holly Cummins
@holly_cummins

Document number
© 2014 IBM Corporation

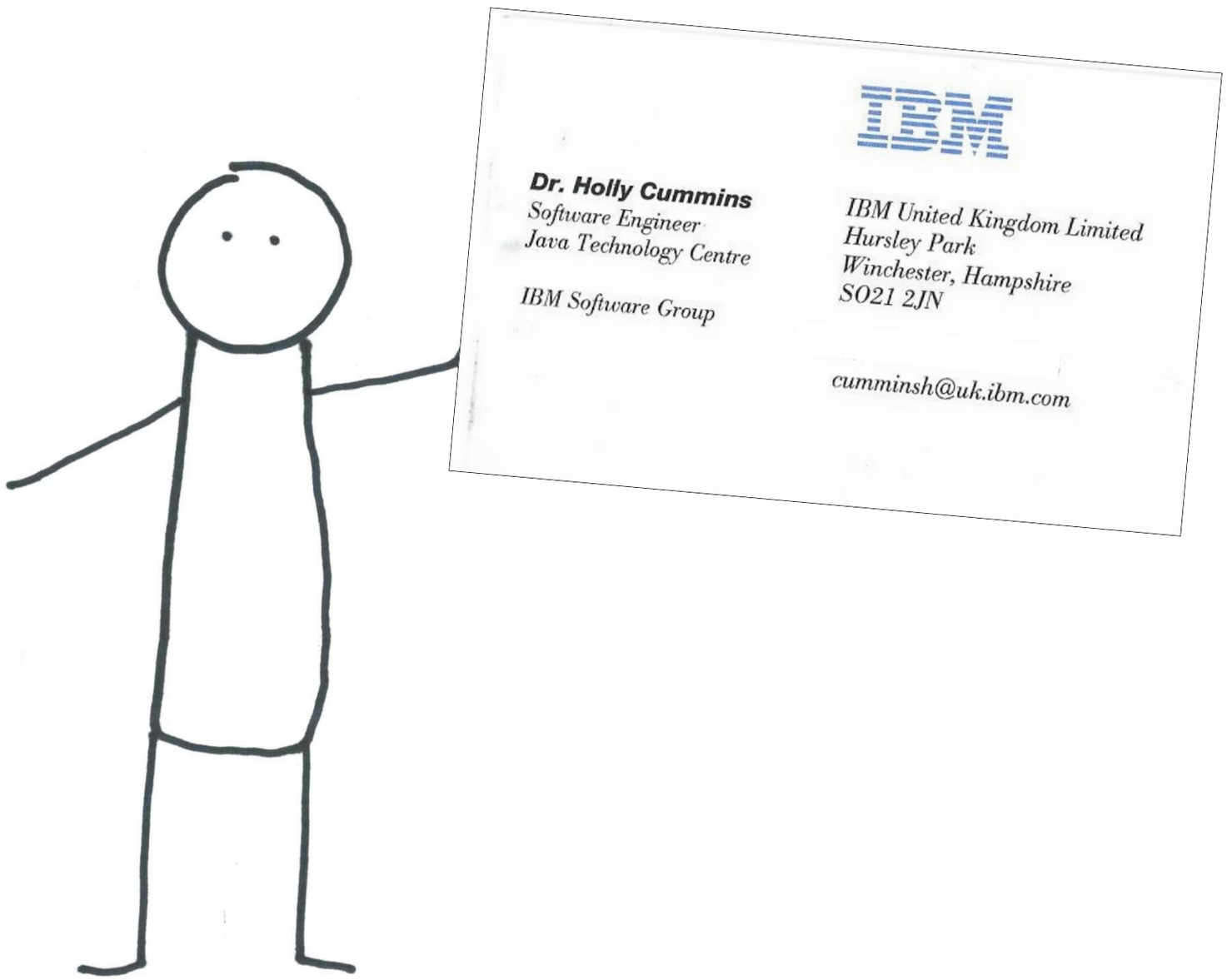


© 2014 IBM Corporation

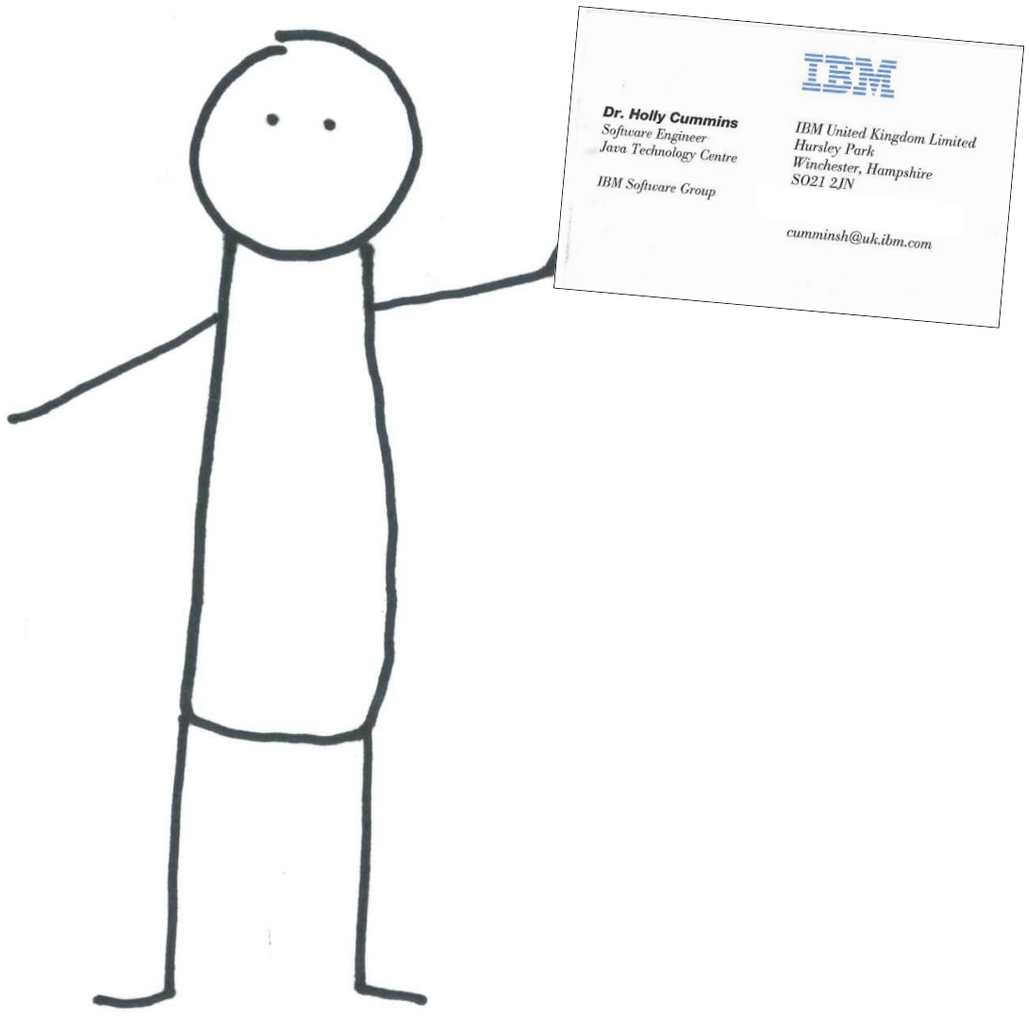


?

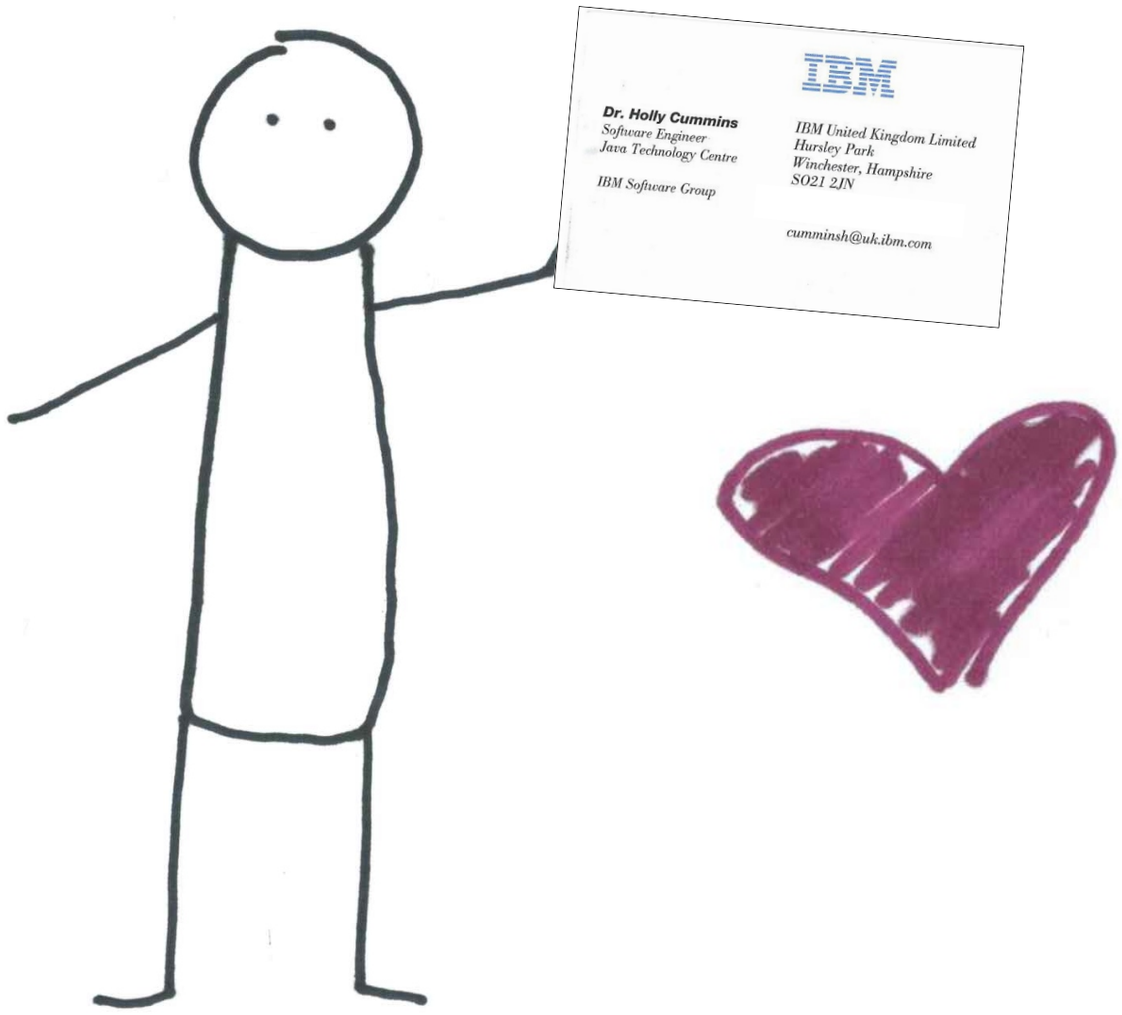
© 2014 IBM Corporation



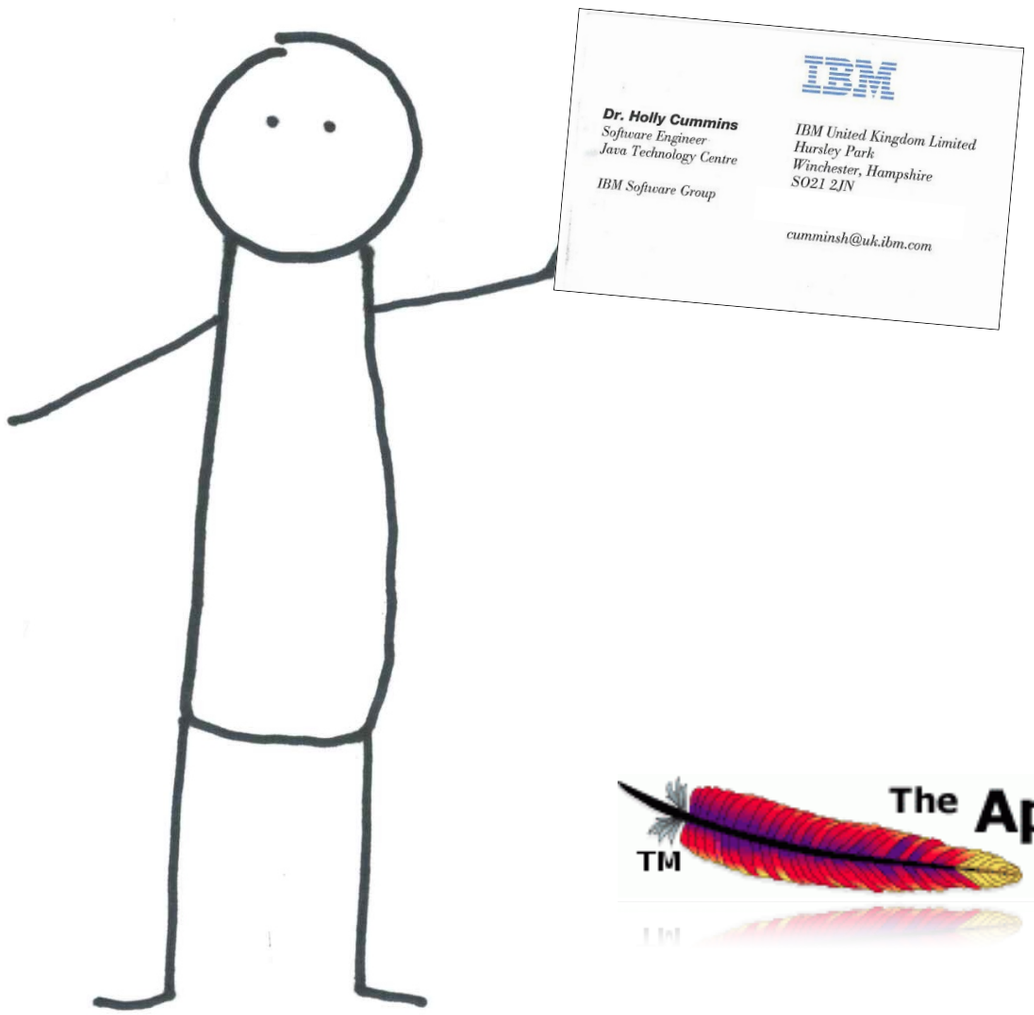
© 2014 IBM Corporation



© 2014 IBM Corporation

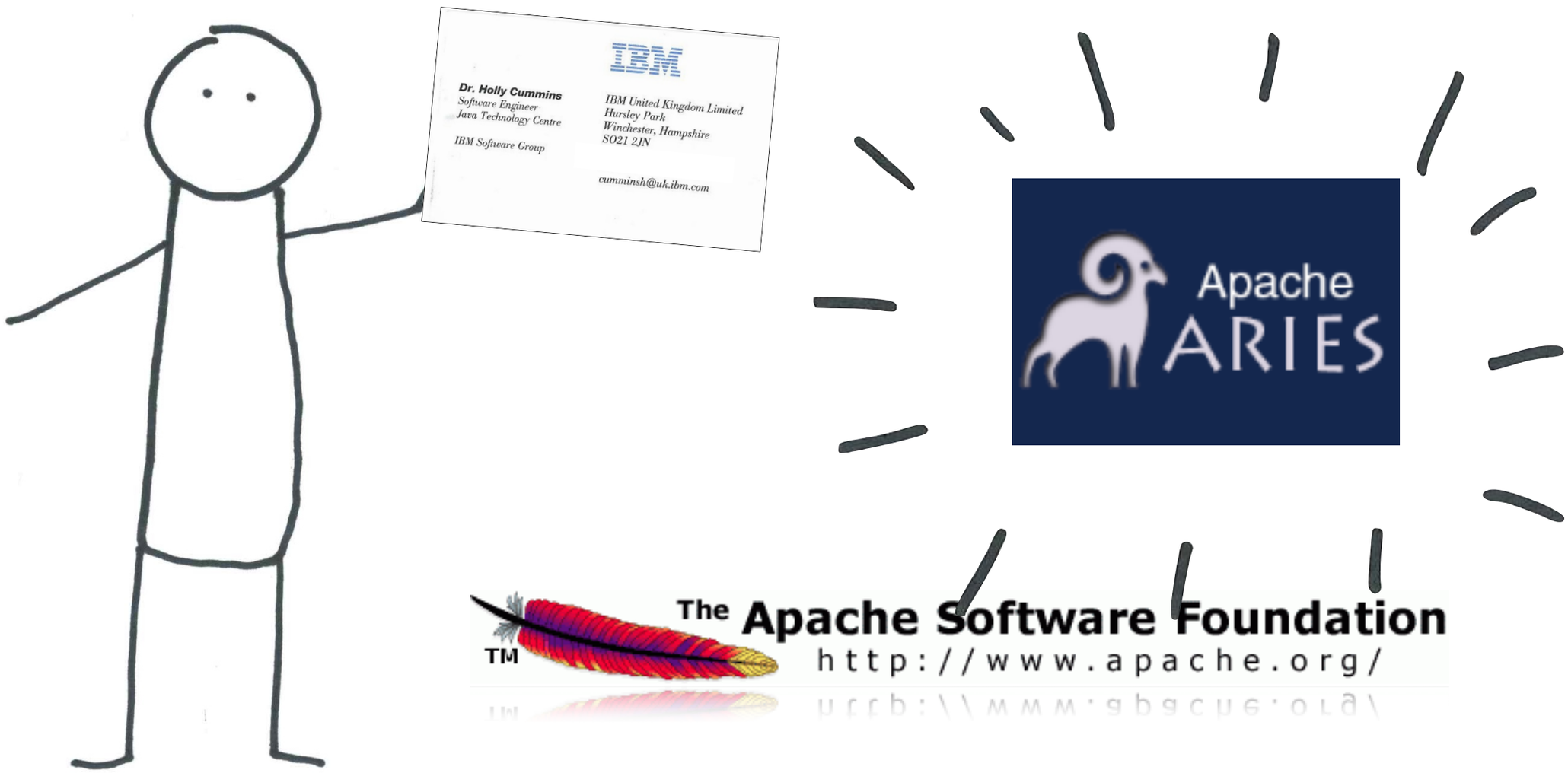


© 2014 IBM Corporation



The Apache Software Foundation
http://www.apache.org/

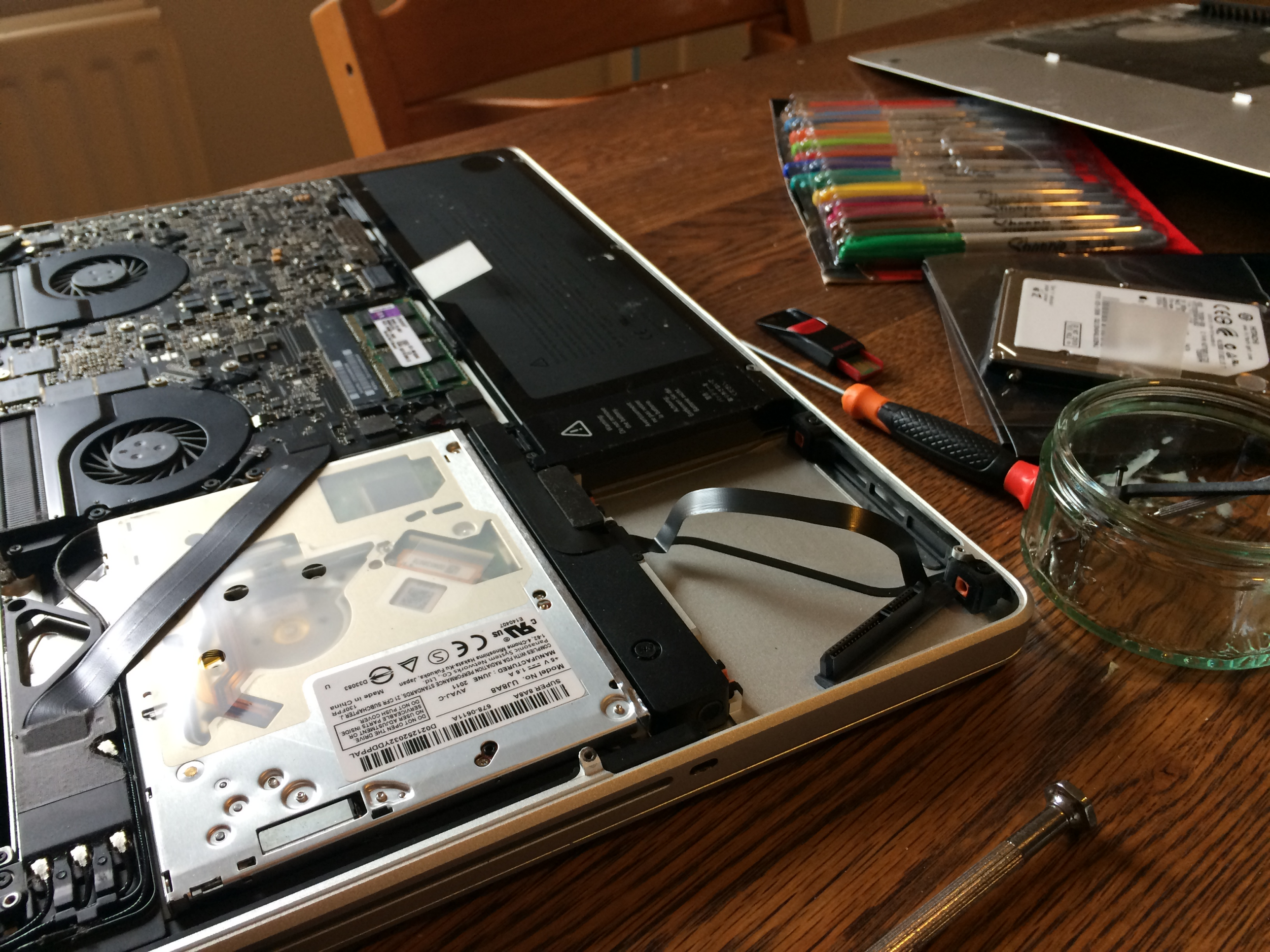
© 2014 IBM Corporation



© 2014 IBM Corporation

© 2014 IBM Corporation

PILGRIMS


SUPER 8A8A
Model No. UJ8A8
AVAJ-C
DO NOT OPEN THE DRIVE.
NO USER ADJUSTMENT OR
SERVICEABLE PARTS INSIDE.
DO NOT PUSH COVER.
Made in China
D33083

The Art of Destroying Software

Date: Tuesday, October 14, 2014 - 14:00 to 14:30

Room: Auditorium

One of the most important “ilities” in software is the ability to delete it and start over. In this talk we will look at this “ility”, why it is important, and how we can optimize for it. Imagine never being afraid of your code ever again!

Greg Young

Independent Consultant

© 2014 IBM Corporation

A model for excellence in public speaking

The Art of Destroying Software

Date: Tuesday, October 14, 2014 - 14:00 to 14:30

Room: Auditorium

One of the most important “ilities” in software is the ability to delete it and start over. In this talk we will look at this “ility”, why it is important, and how we can optimize for it. Imagine never being afraid of your code ever again!

Greg Young

Independent Consultant

© 2014 IBM Corporation

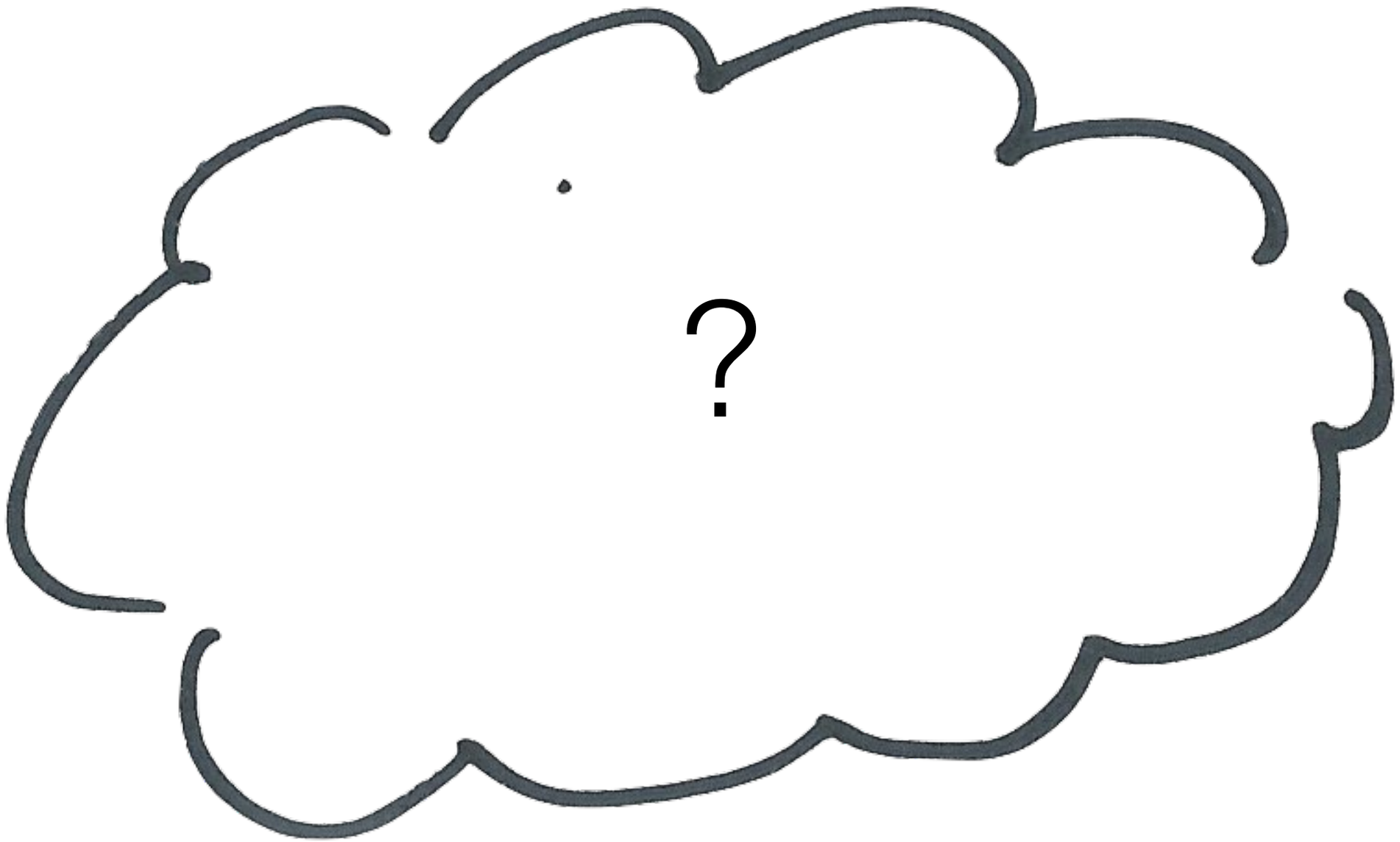
Cloud Foundry

```
> cf push
```

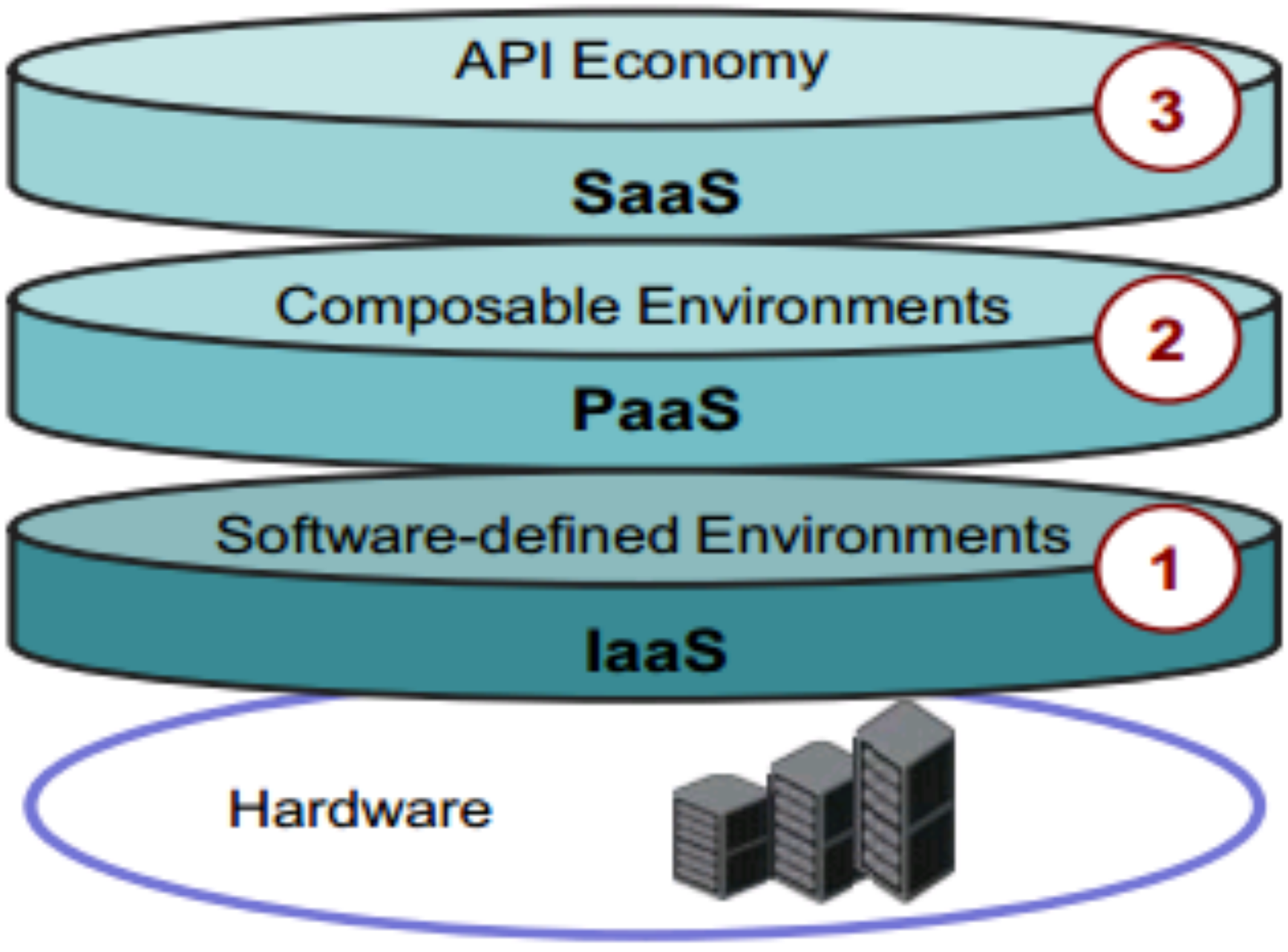
© 2014 IBM Corporation

Any questions?

© 2014 IBM Corporation

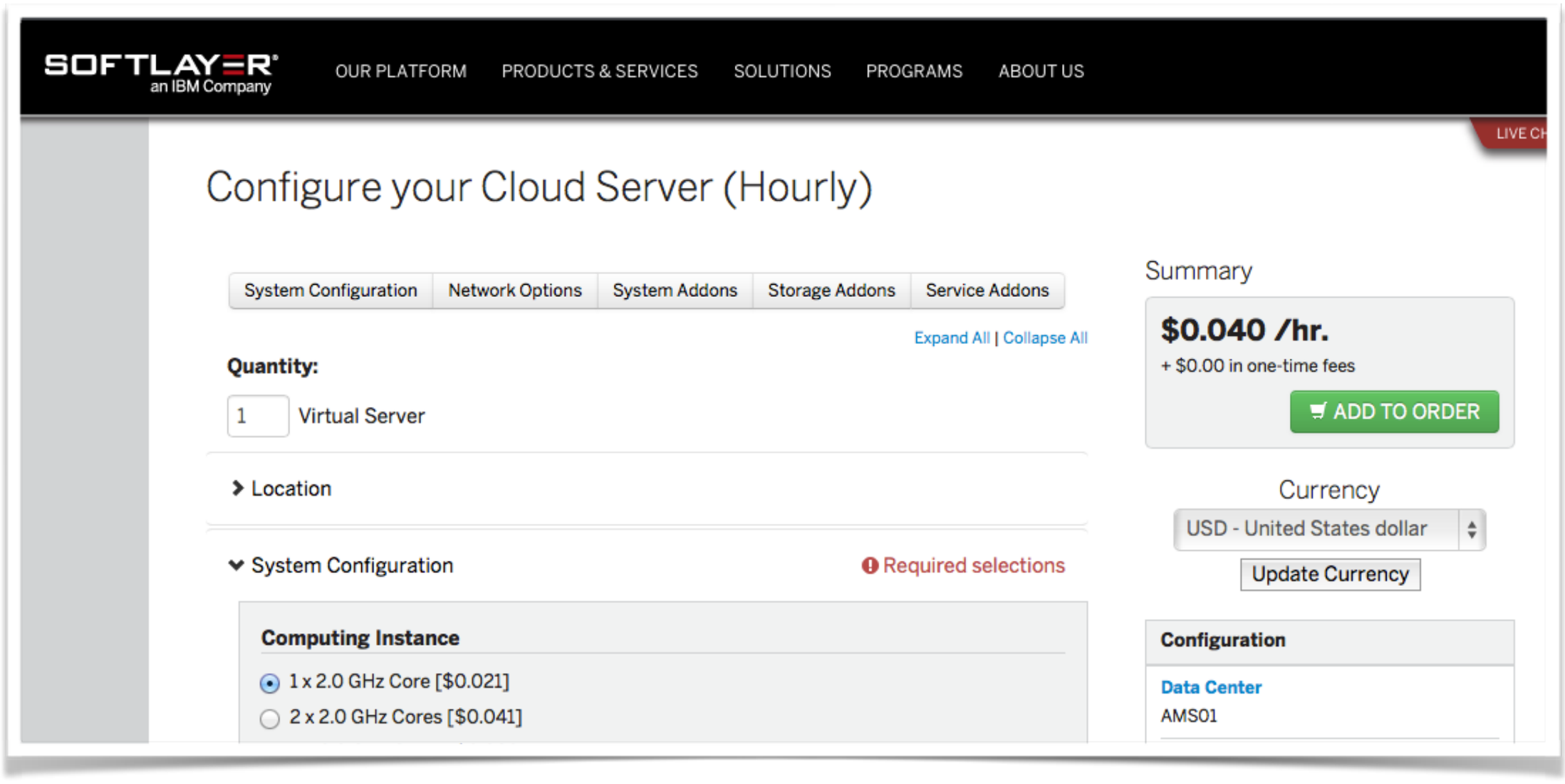


© 2014 IBM Corporation



© 2014 IBM Corporation

IaaS



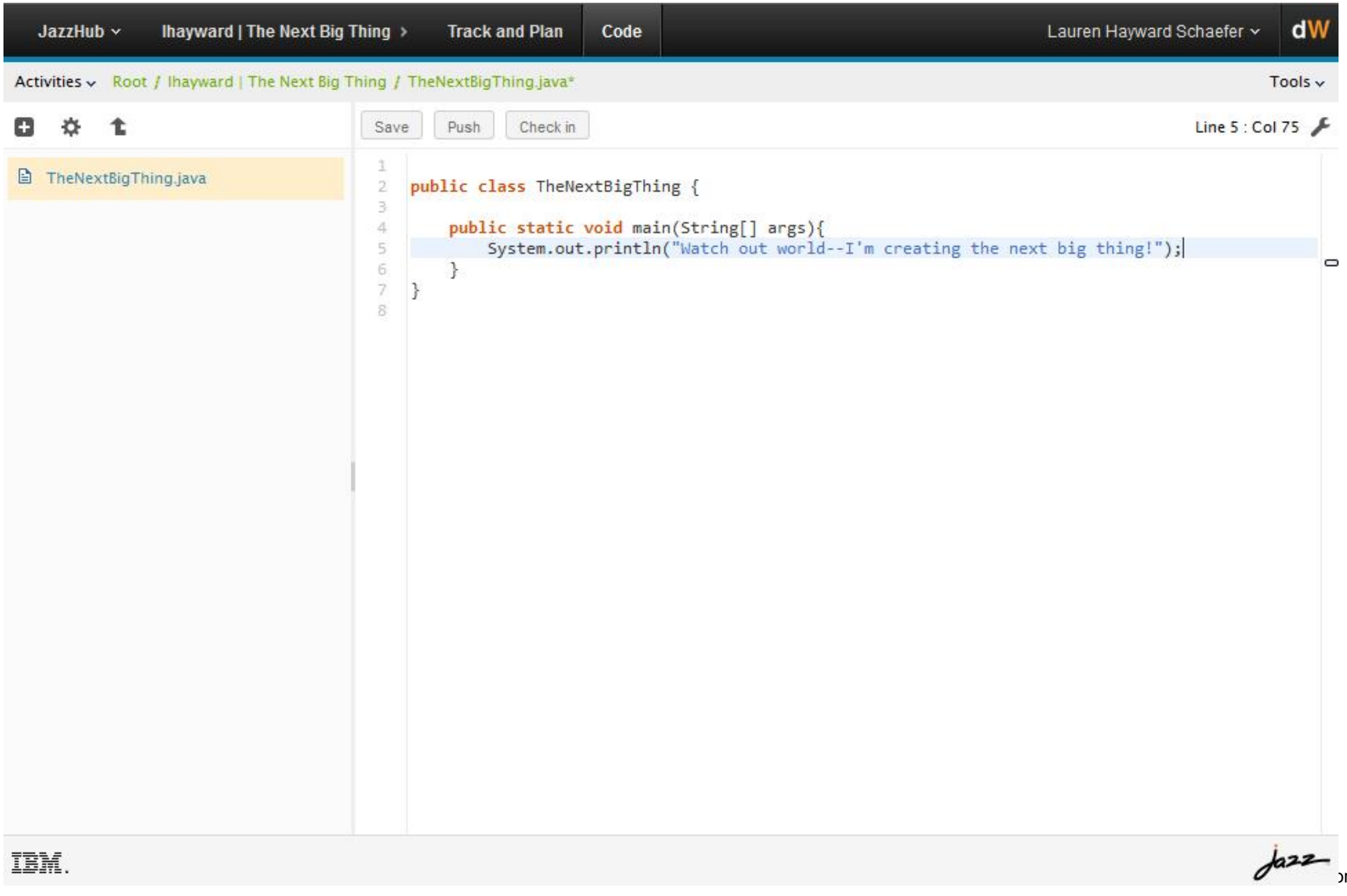
© 2014 IBM Corporation

PaaS

CLOUD FOUNDRY™

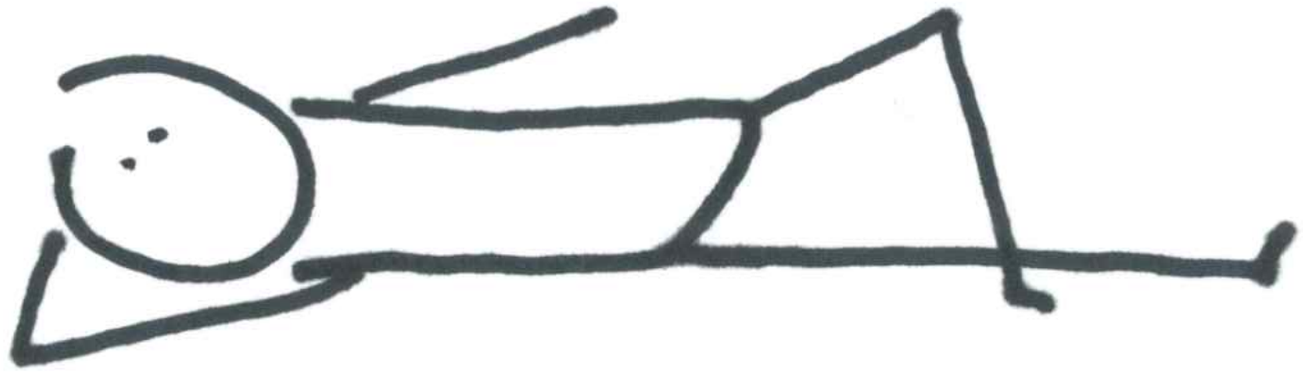
© 2014 IBM Corporation

SaaS



orporation

The joy of cloud



© 2014 IBM Corporation

IBM

Introducing Cloud Foundry

CLOUD FOUNDRY™

© 2014 IBM Corporation

IBM

The Cloud Foundry Foundation

© 2014 IBM Corporation

The Cloud Foundry Foundation

Platinum

Pivotal
EMC²
IBM
hp
rackspace HOSTING
vmware
SAP

Gold

accenture High performance. Delivered.
intel
BNY MELLON
Capgemini CONSULTING.TECHNOLOGY.OUTSOURCING
CenturyLink
swisscom
GE
ERICSSON
ActiveState
NTT
verizon

Silver

TELUS
CANONICAL
mongoDB
bluebox
Piston CLOUD COMPUTING
ALTOROS
JFrog
docker
redislabs
APPDYNAMICS
anynines
AZUL SYSTEMS
Stark&Wayne.
ANCHORA MoPaaS
CloudCredo

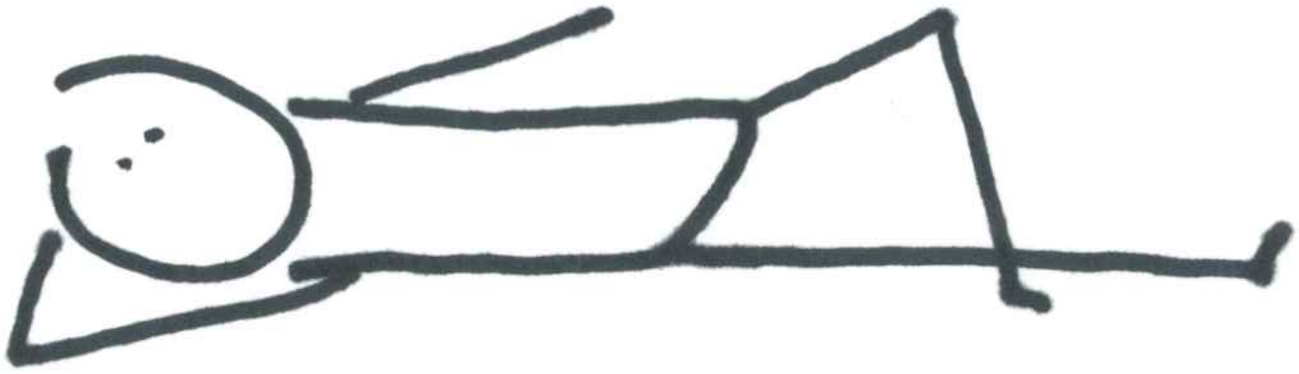
© 2014 IBM Corporation

Public or private cloud?

© 2014 IBM Corporation

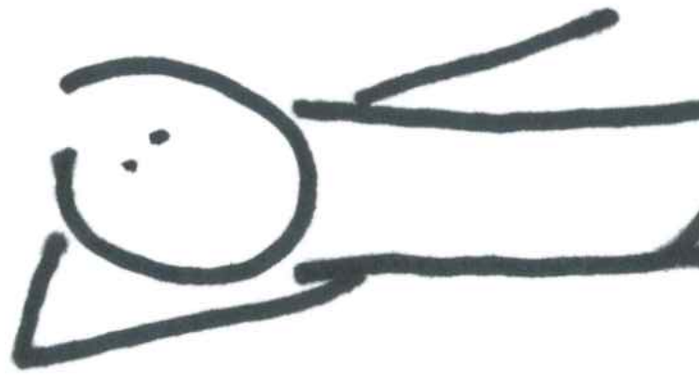
IBM

Public cloud



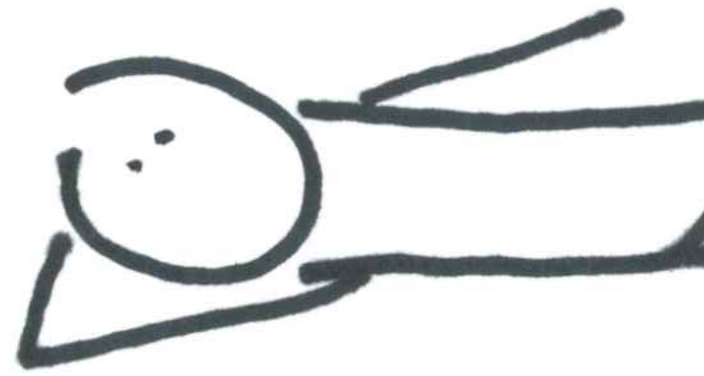
© 2014 IBM Corporation

Public cloud



© 2014 IBM Corporation

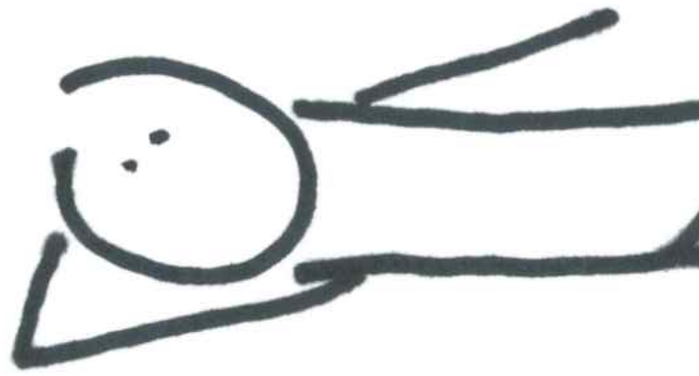
Public cloud



This is supposed to show it's easy to get going.

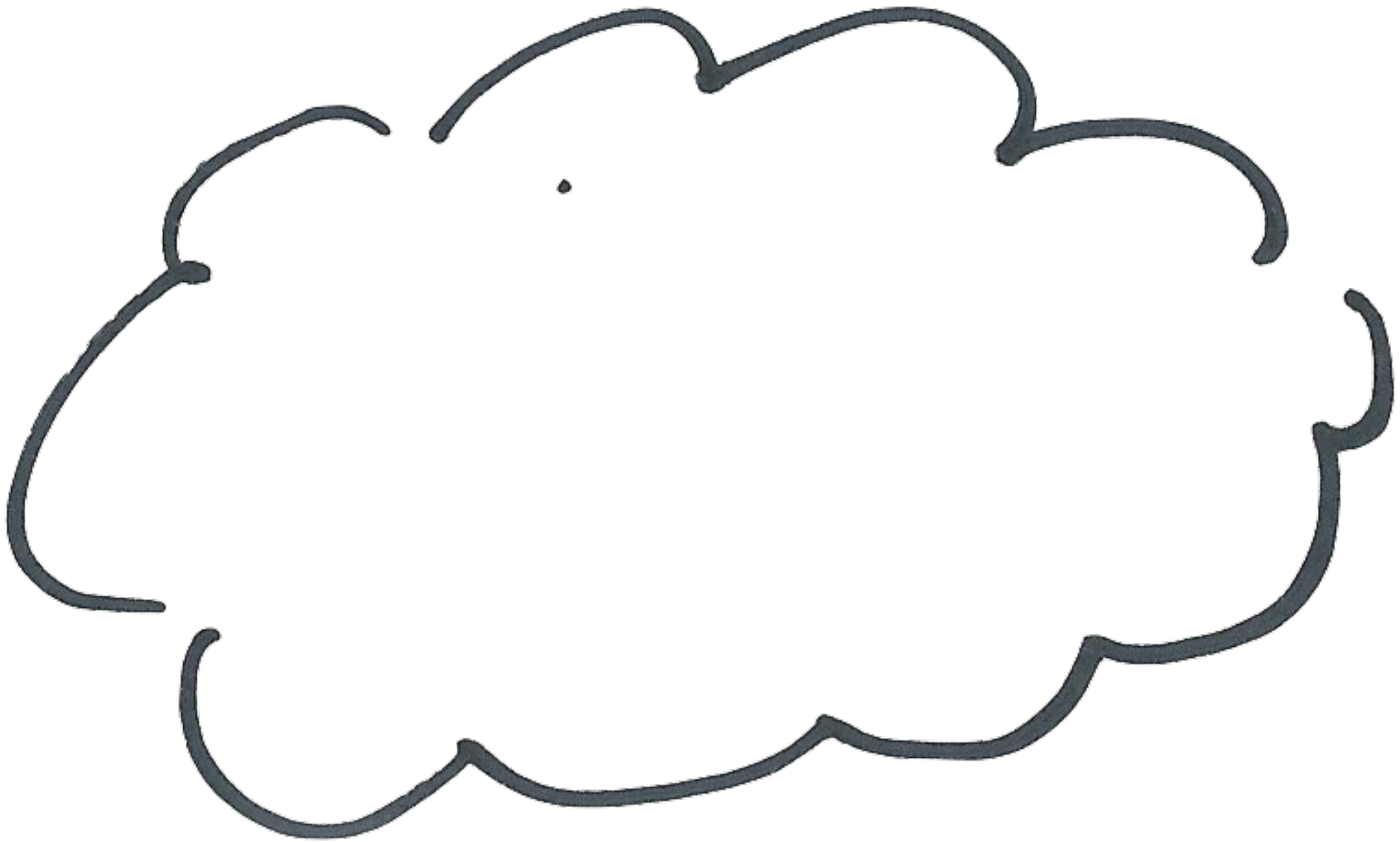
© 2014 IBM Corporation

Public cloud



This is supposed to show it's easy to get going.
It's a bad graphic but a great benefit.

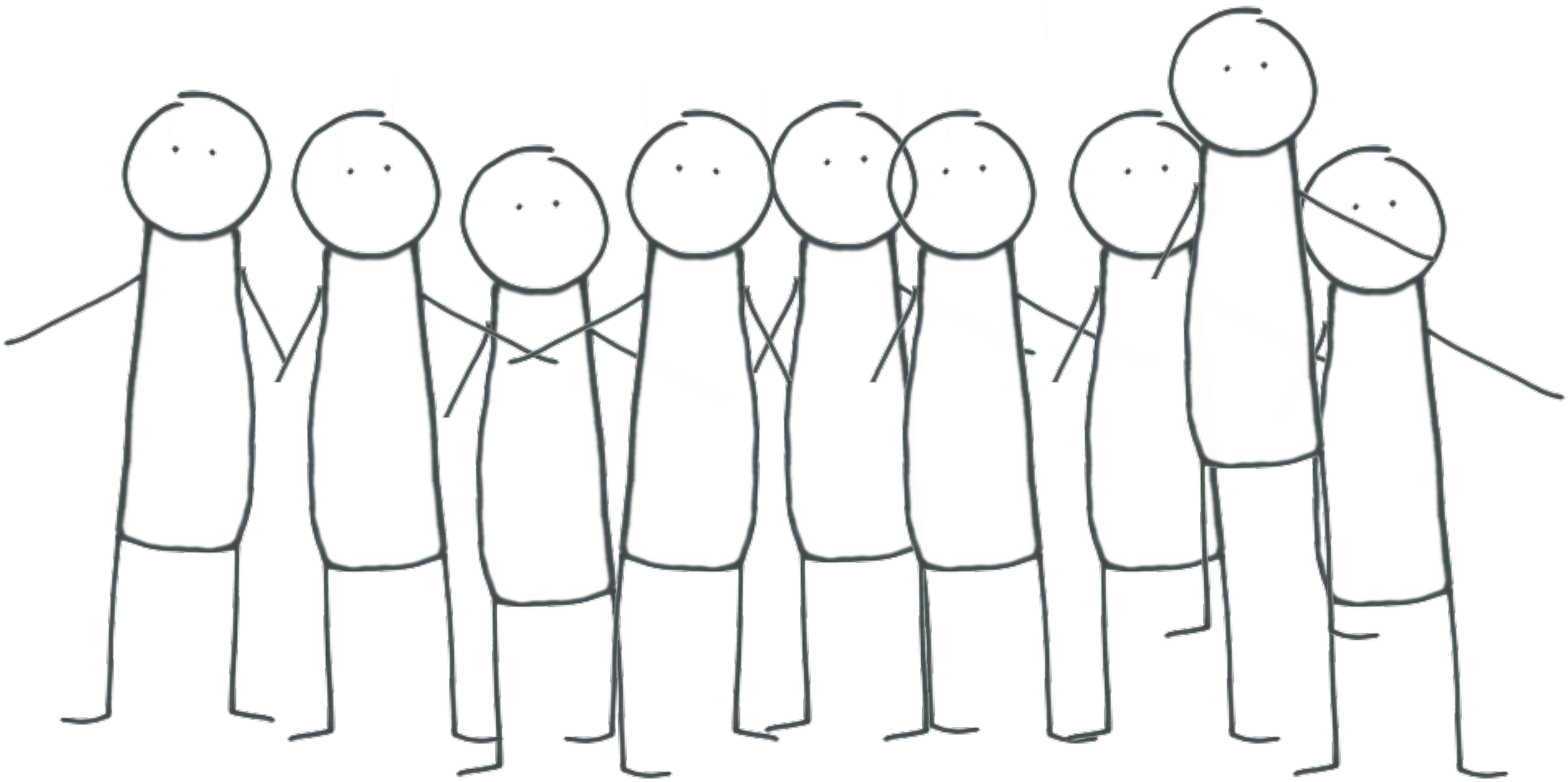
© 2014 IBM Corporation



© 2014 IBM Corporation

© 2014 IBM Corporation

© 2014 IBM Corporation

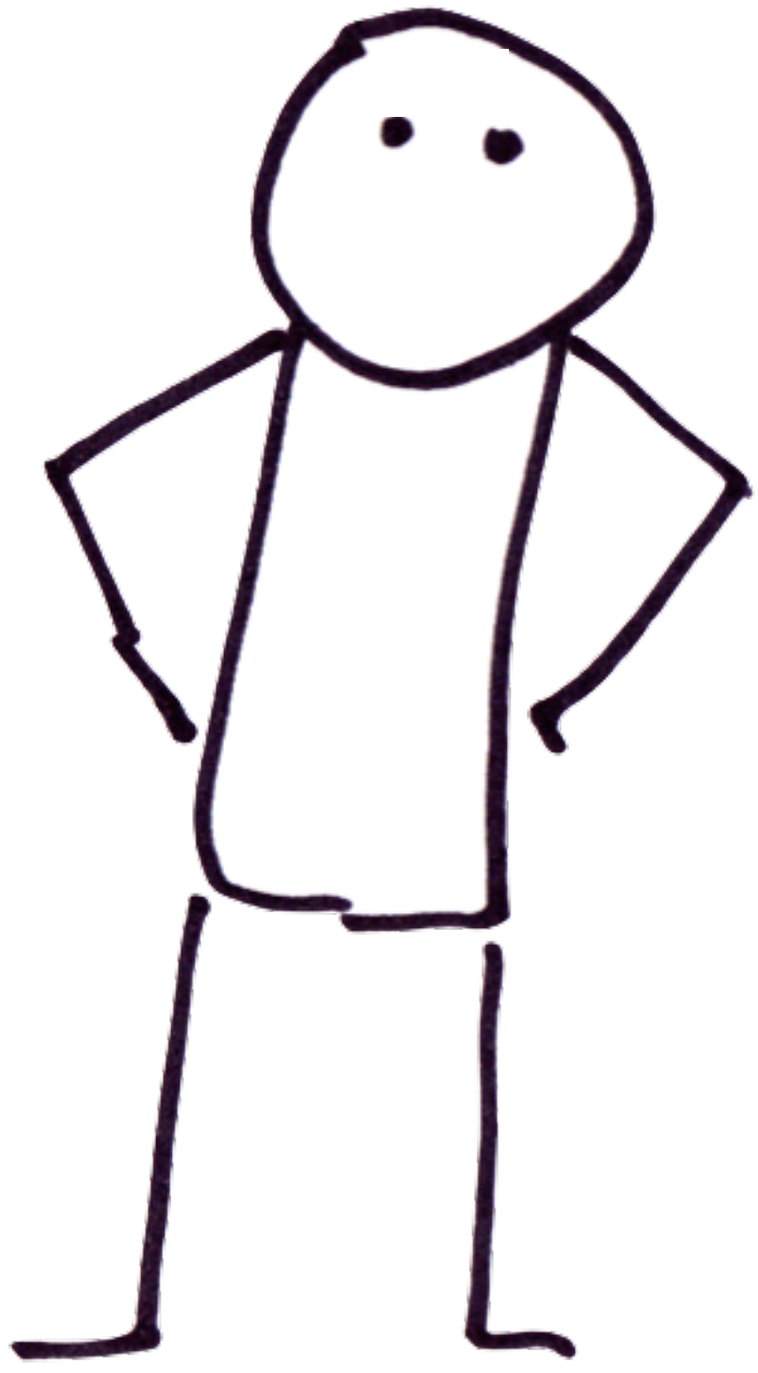


© 2014 IBM Corporation

System capacity still matters

© 2014 IBM Corporation

© 2014 IBM Corporation



© 2014 IBM Corporation

© 2014 IBM Corporation

Security

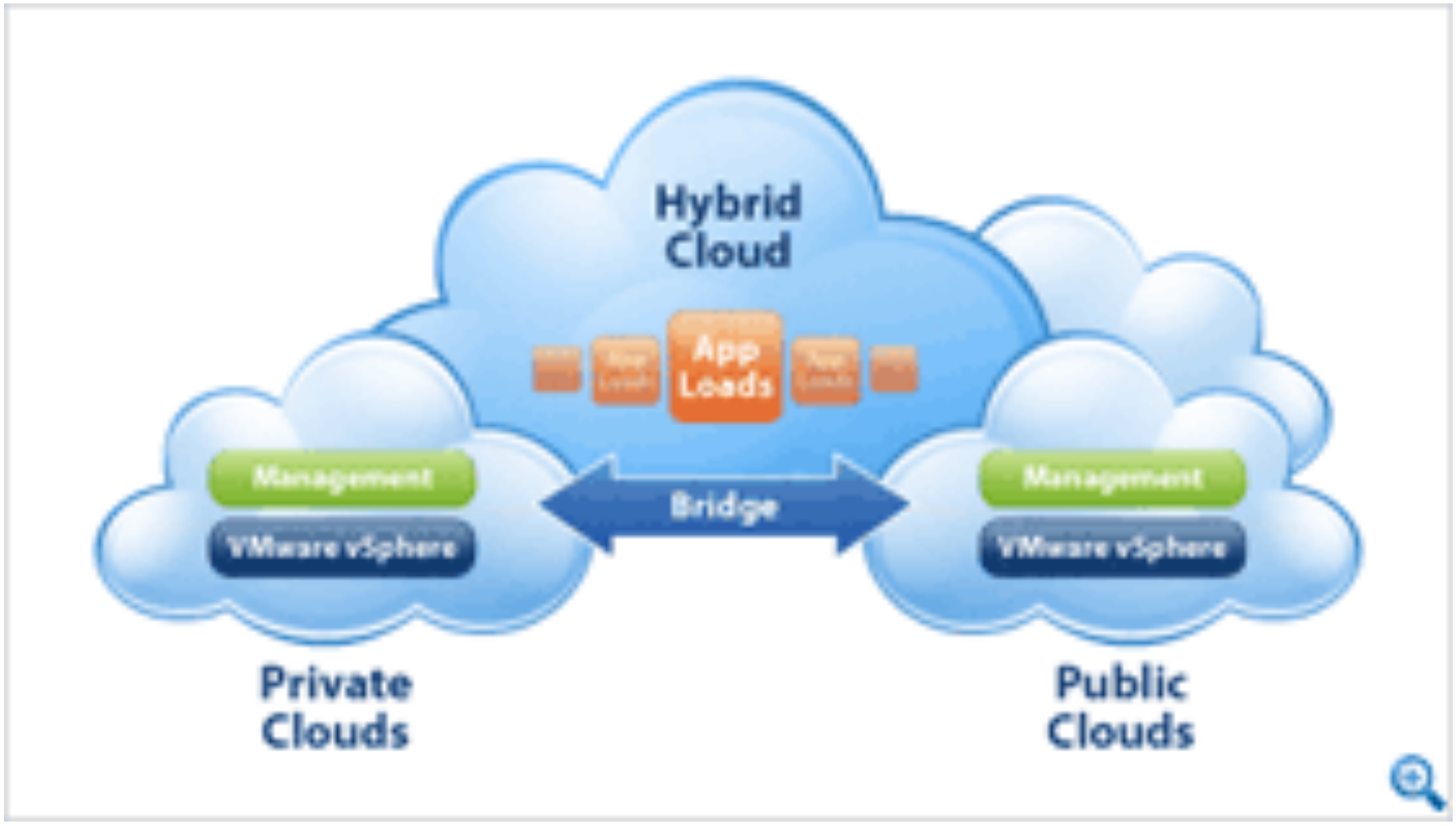
© 2014 IBM Corporation

Security is not just physical

- Who has access to the data?
- Who manages the servers?
- What's the patching policy?

© 2014 IBM Corporation

Hybrid cloud

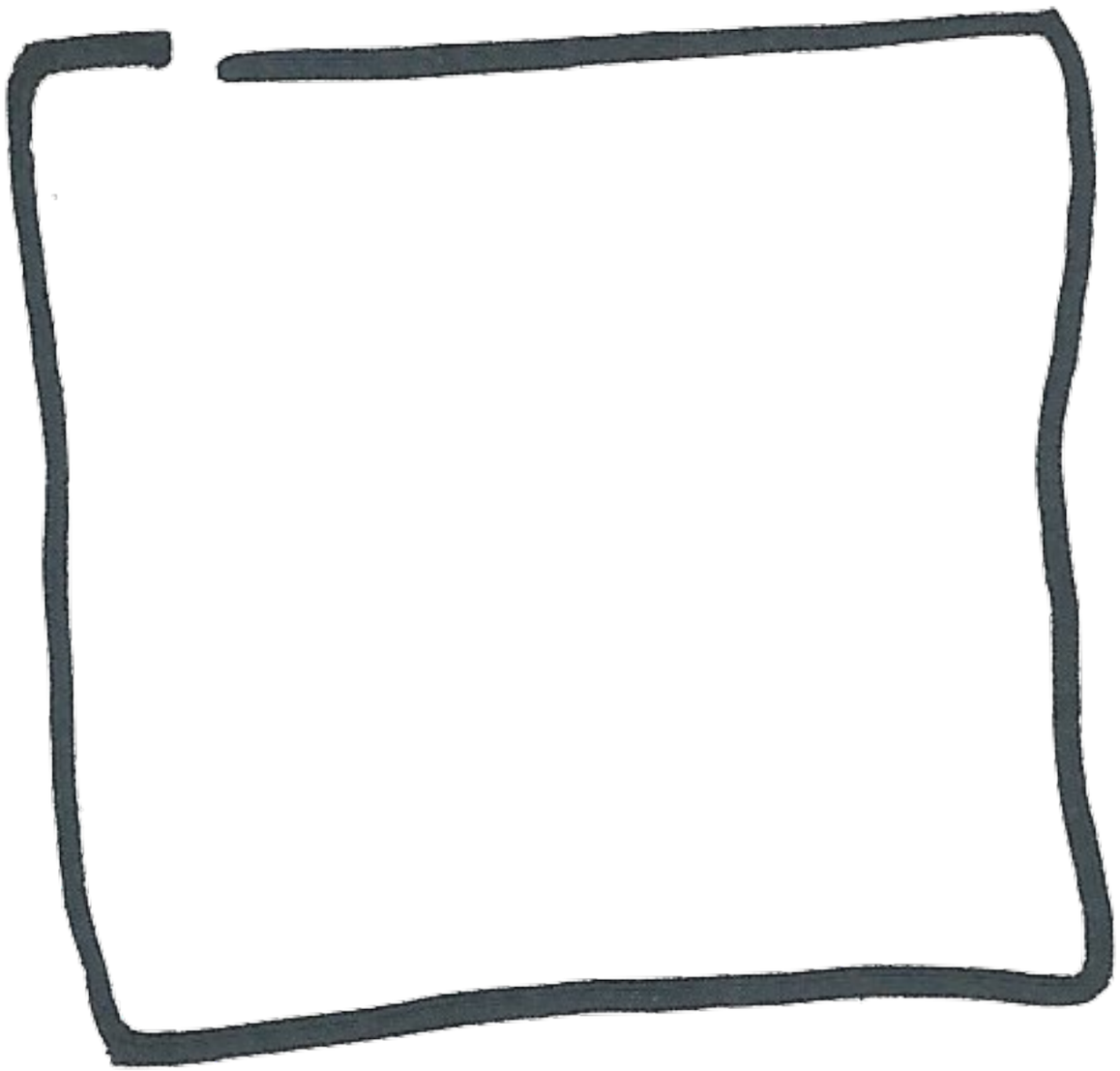


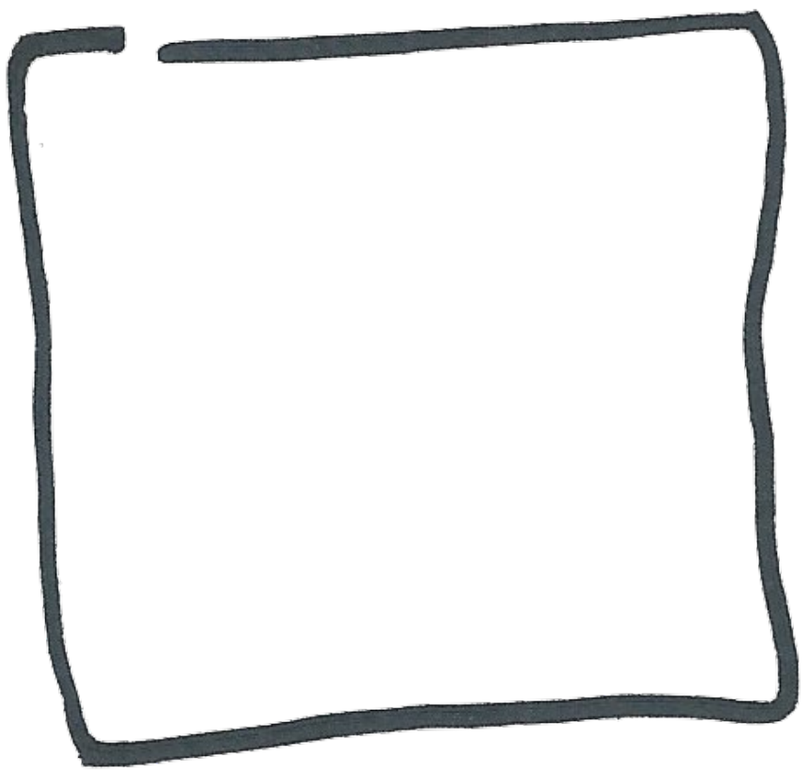
© 2014 IBM Corporation

Public or private cloud?

© 2014 IBM Corporation

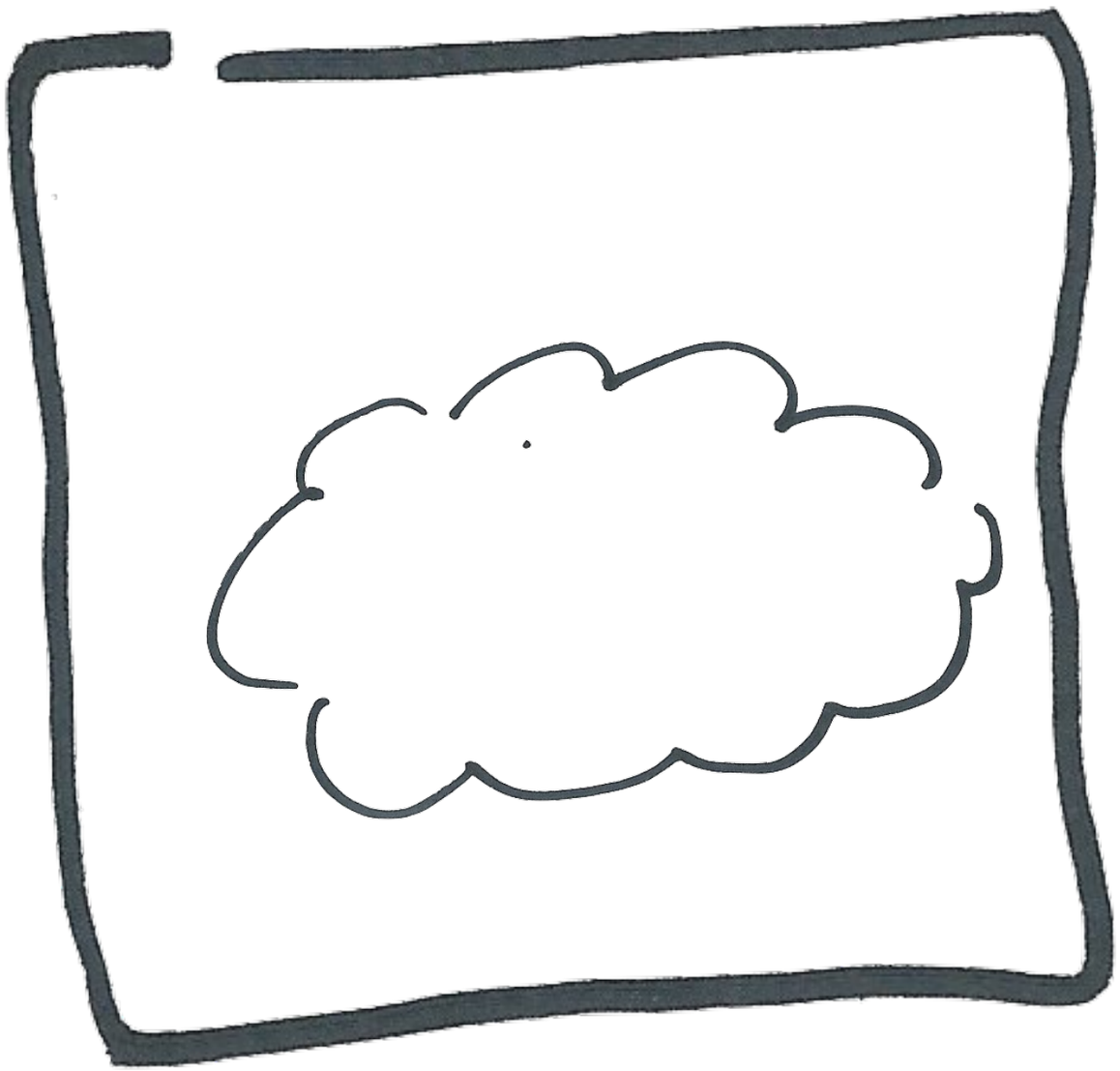
How big is your organisation?

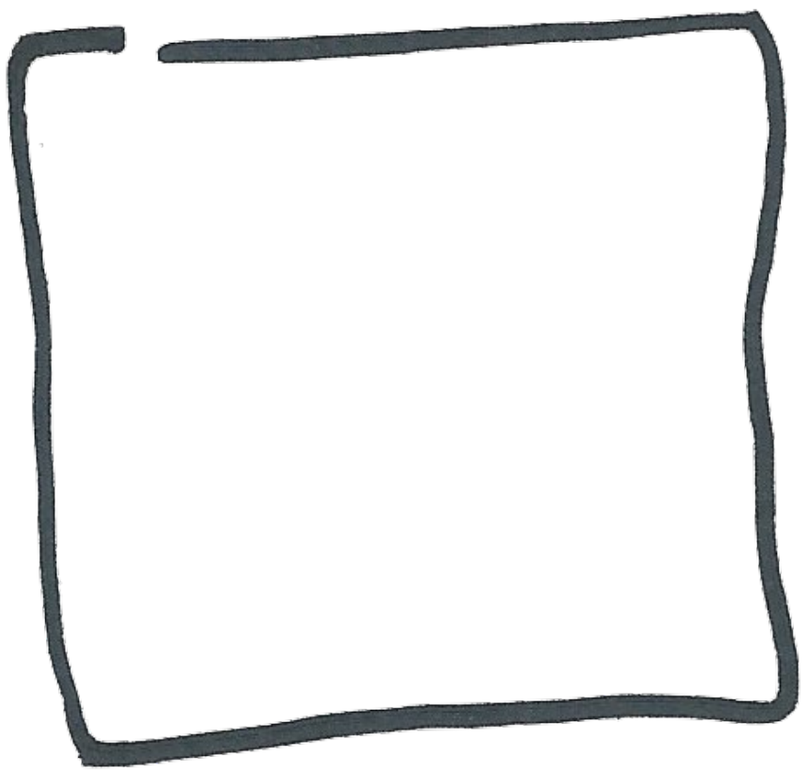




© 2014 IBM Corporation

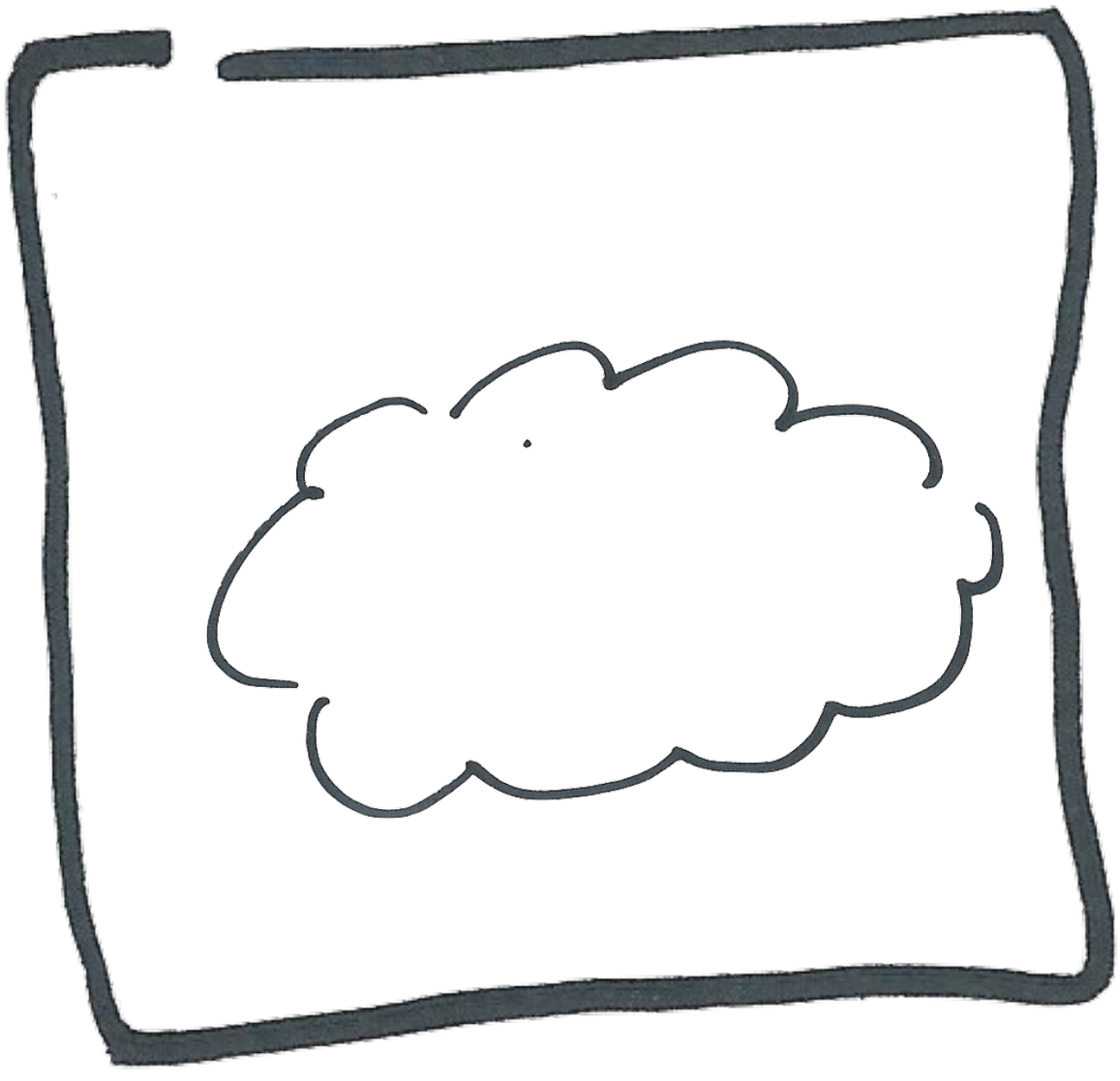
How big is your organisation?

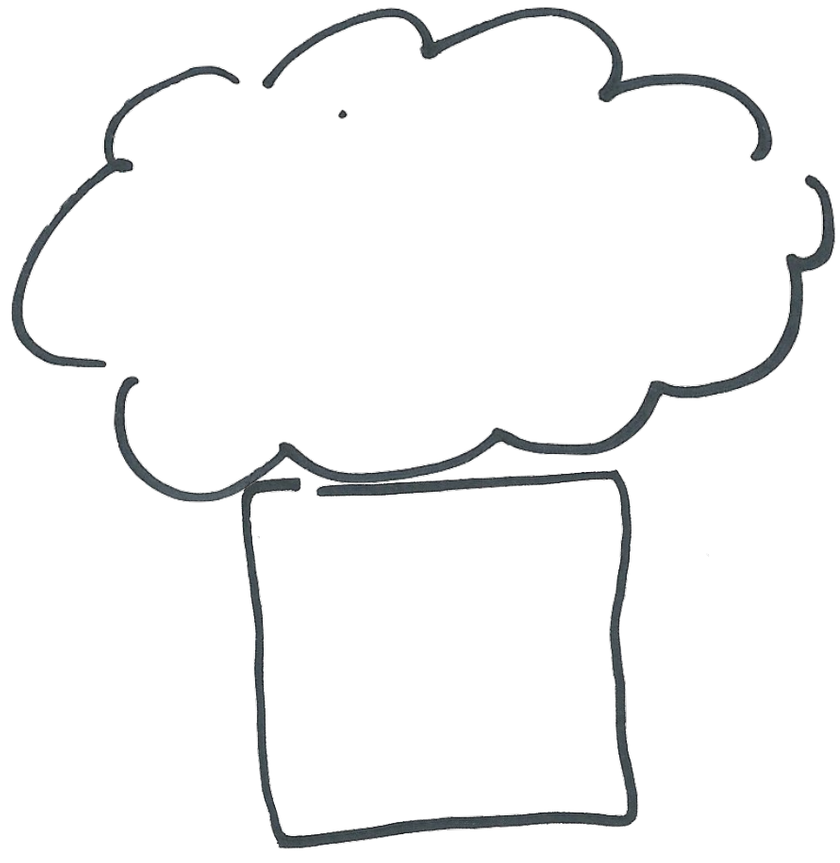




© 2014 IBM Corporation

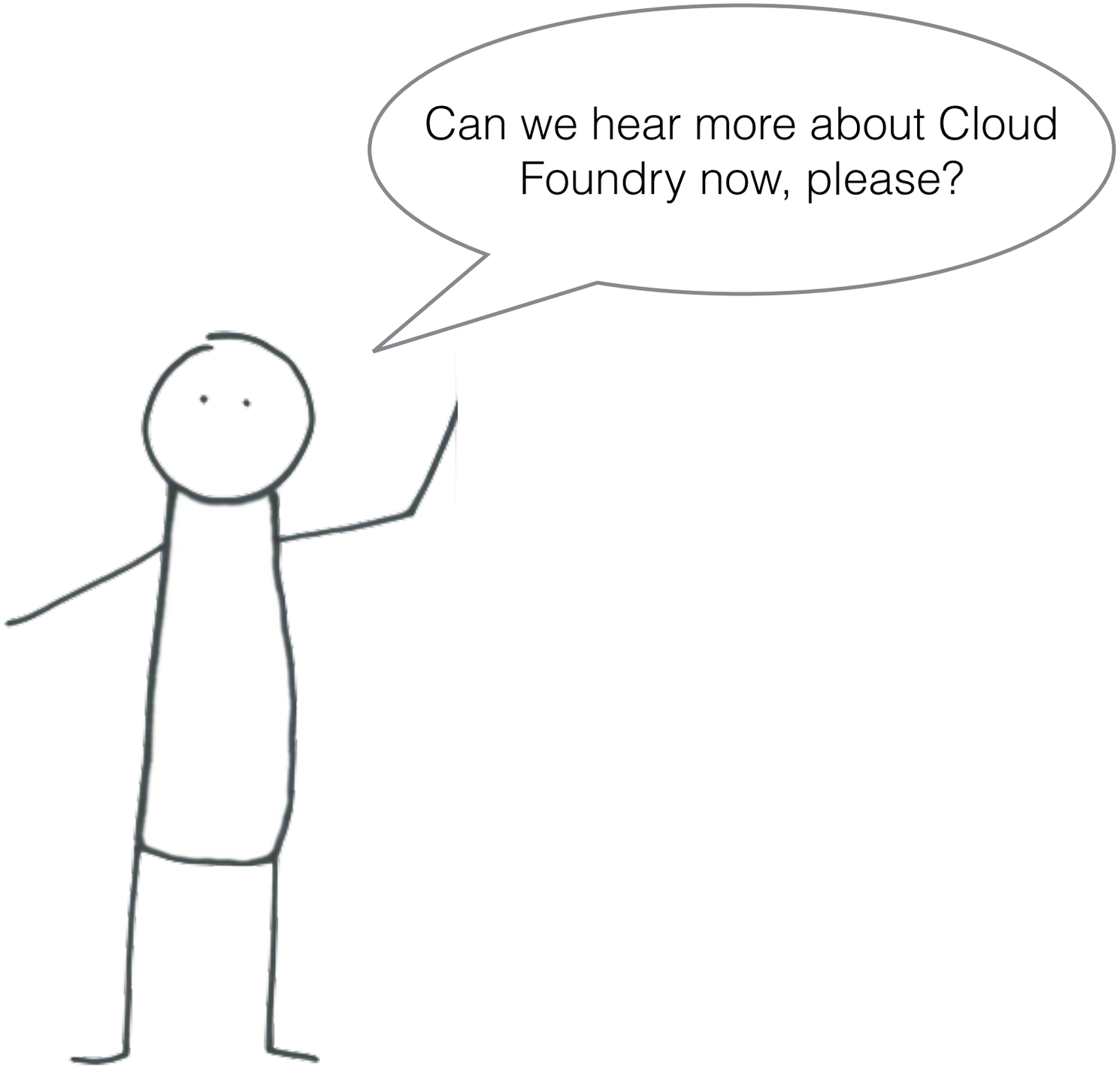
How big is your organisation?





© 2014 IBM Corporation

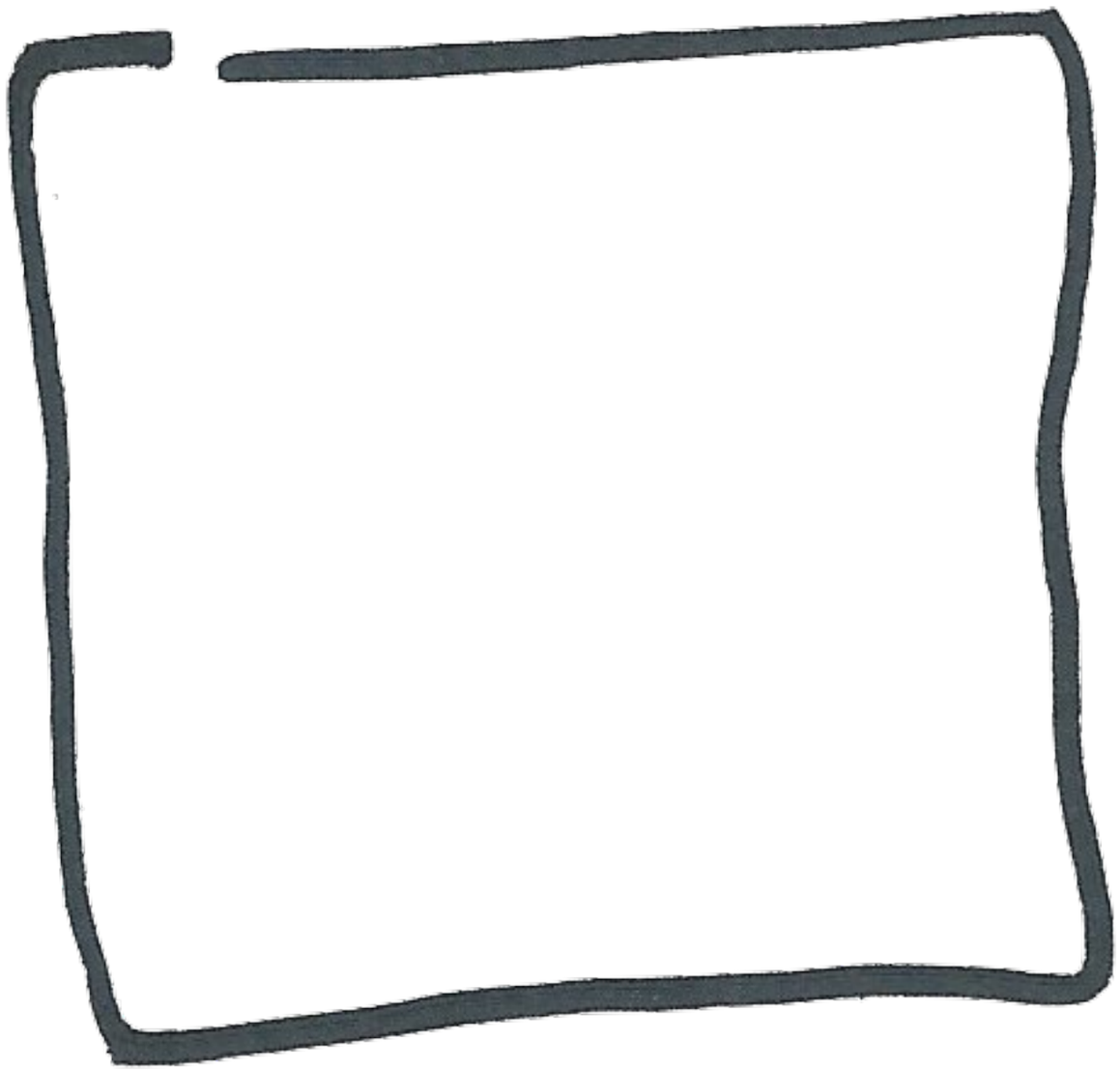
© 2014 IBM Corporation

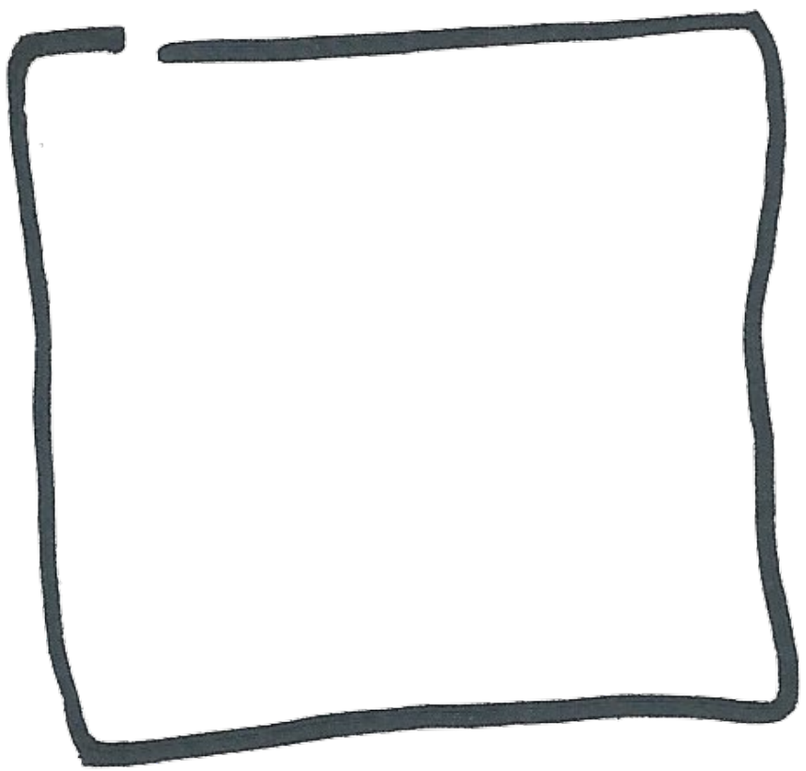


© 2014 IBM Corporation

IBM

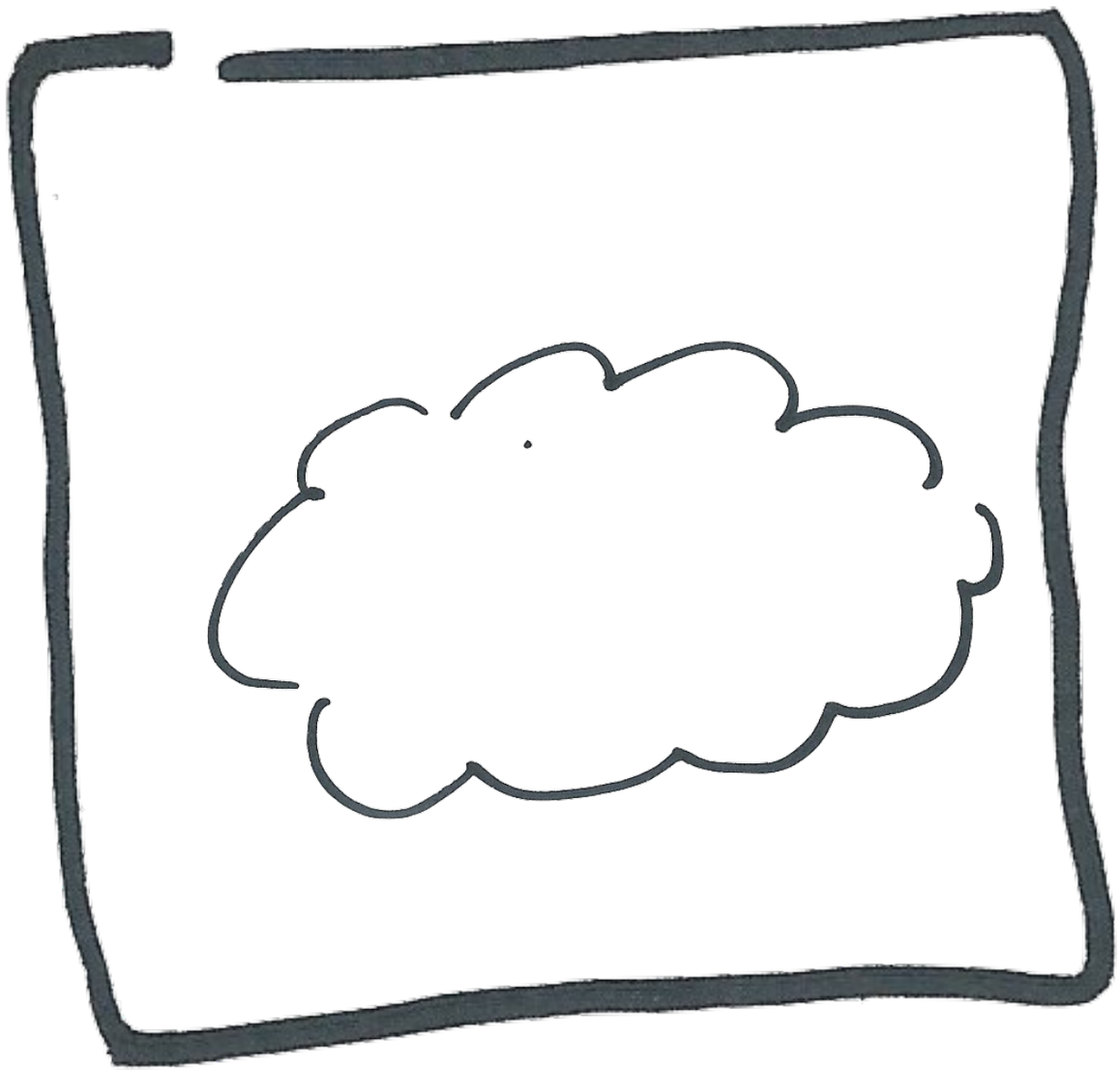
Public or private Cloud Foundry?

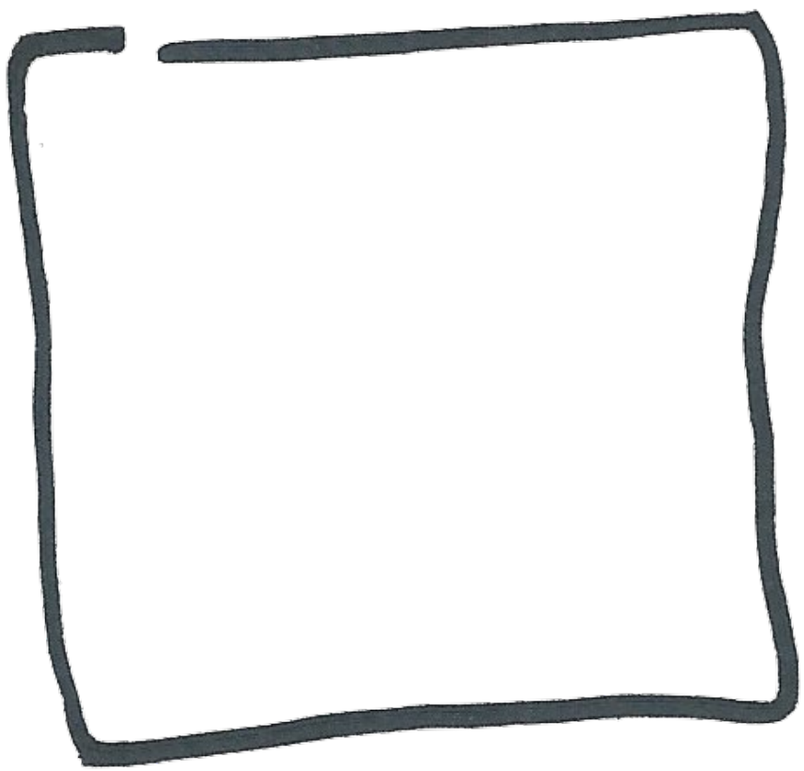




© 2014 IBM Corporation

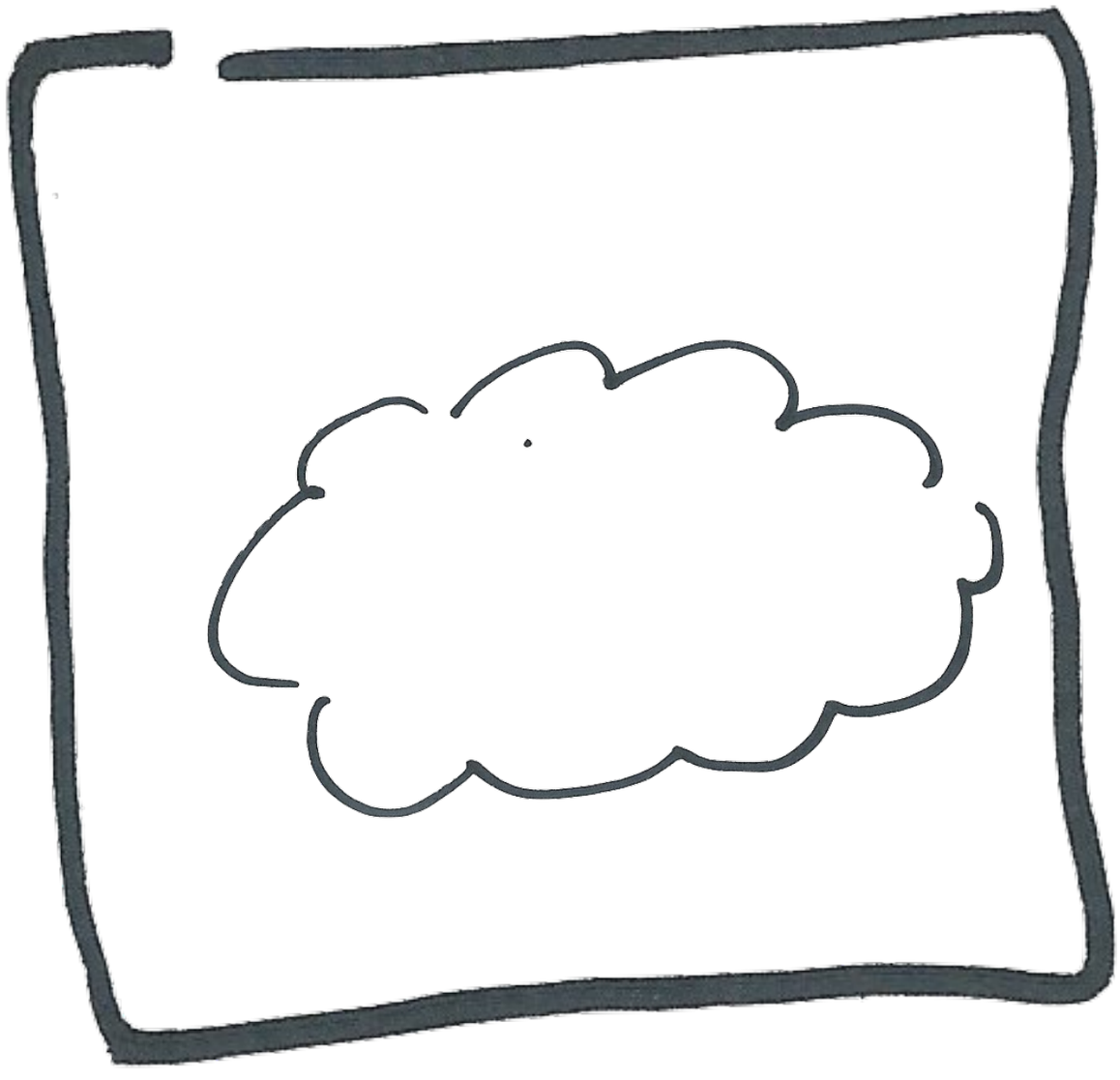
Public or private Cloud Foundry?

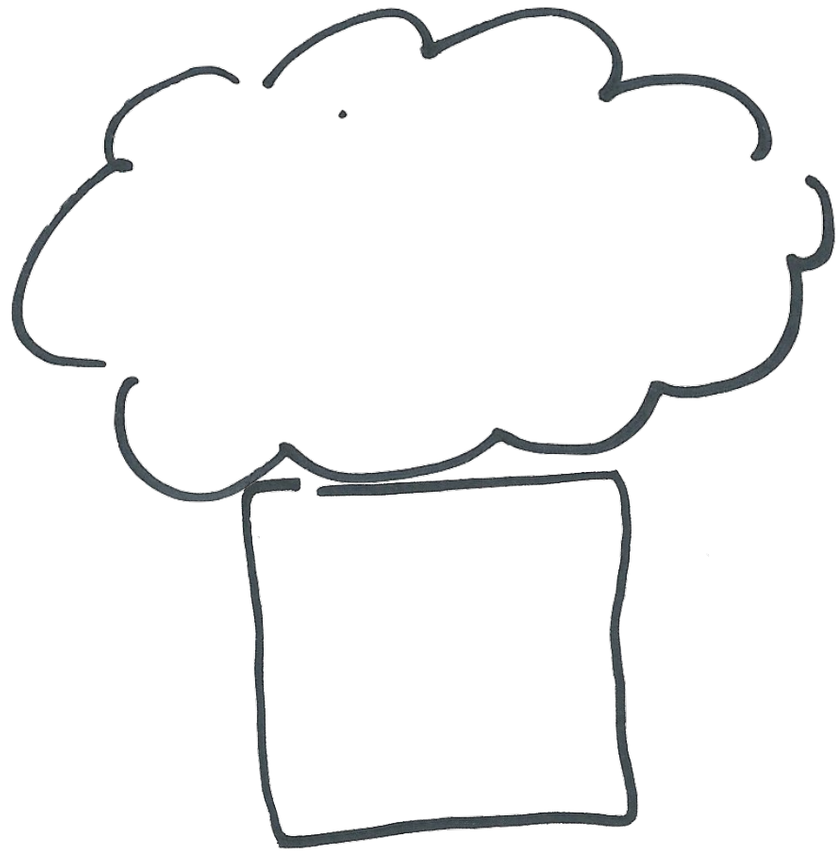




© 2014 IBM Corporation

Public or private Cloud Foundry?





© 2014 IBM Corporation

Cloud Foundry

```
> cf push
```

© 2014 IBM Corporation

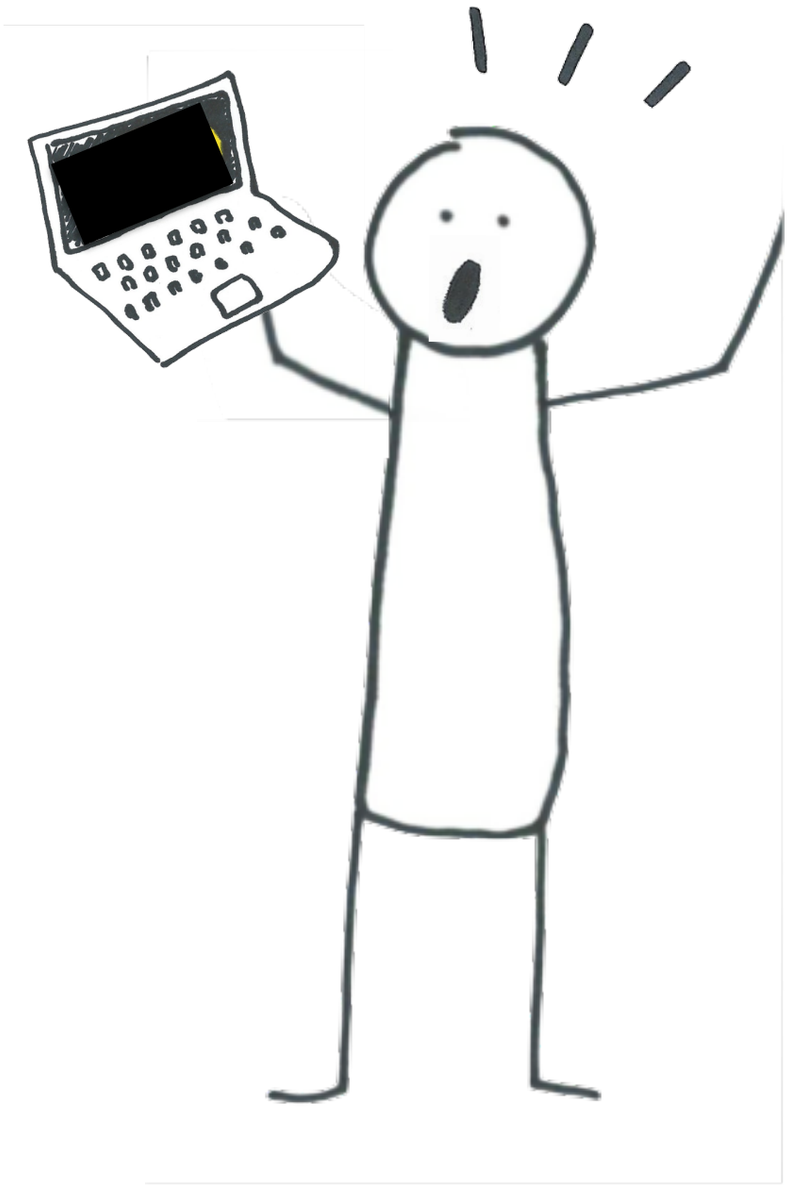
Putting your demo where your mouth is

© 2014 IBM Corporation

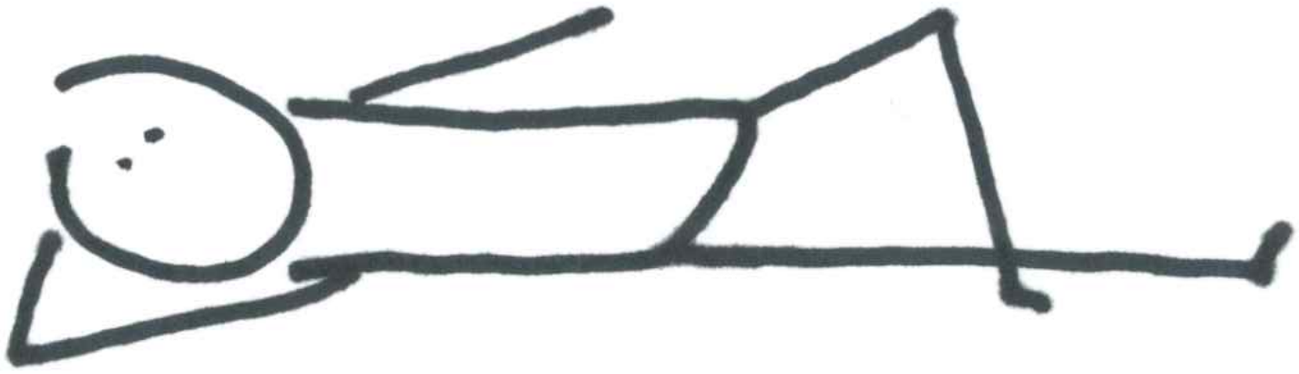
No really, that was cool

© 2014 IBM Corporation

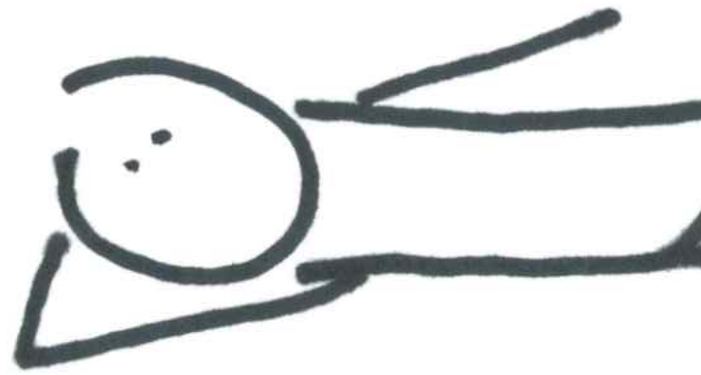
No really, that was cool



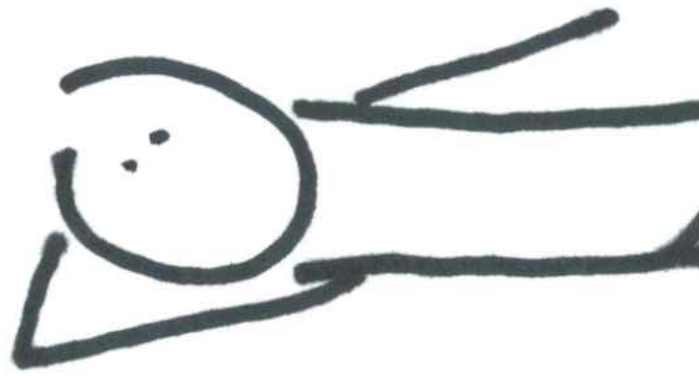
© 2014 IBM Corporation



© 2014 IBM Corporation



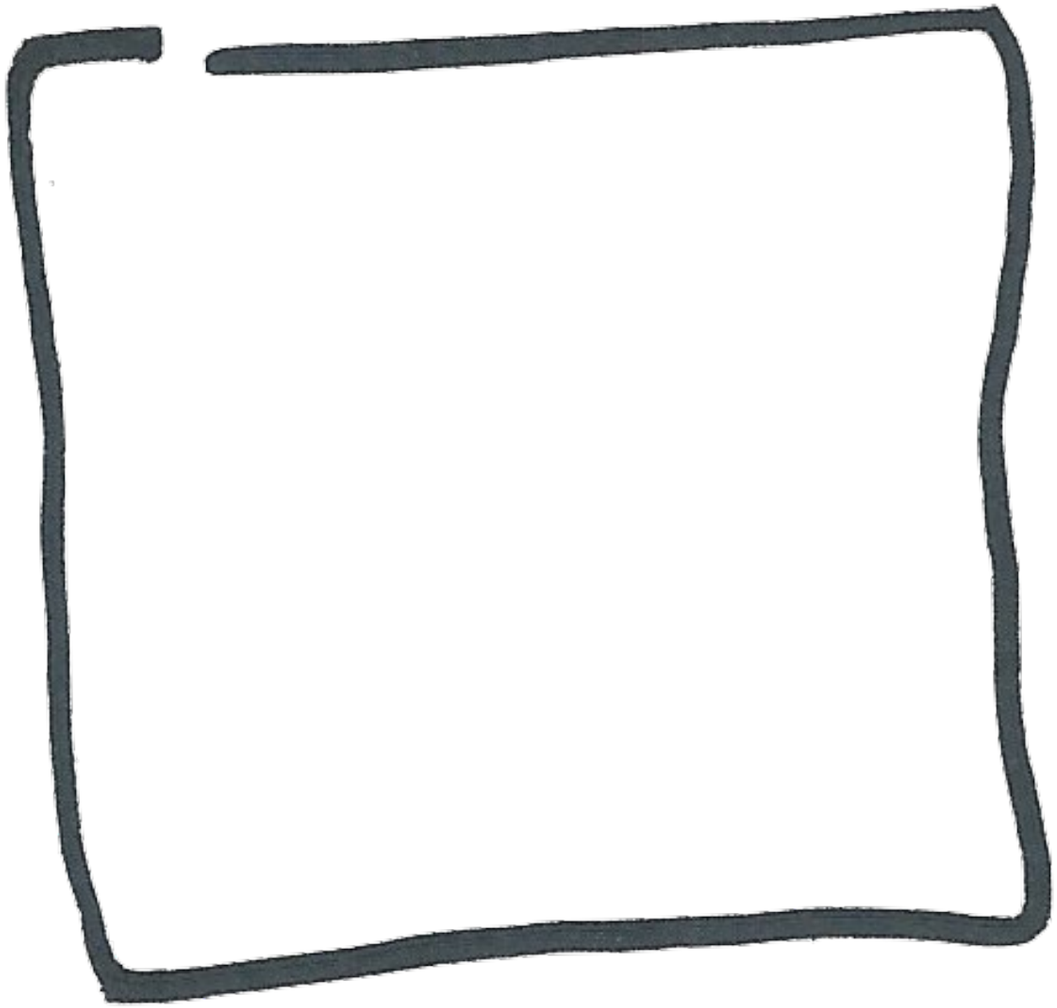
© 2014 IBM Corporation



Remember that I said it was easy to get going?

© 2014 IBM Corporation

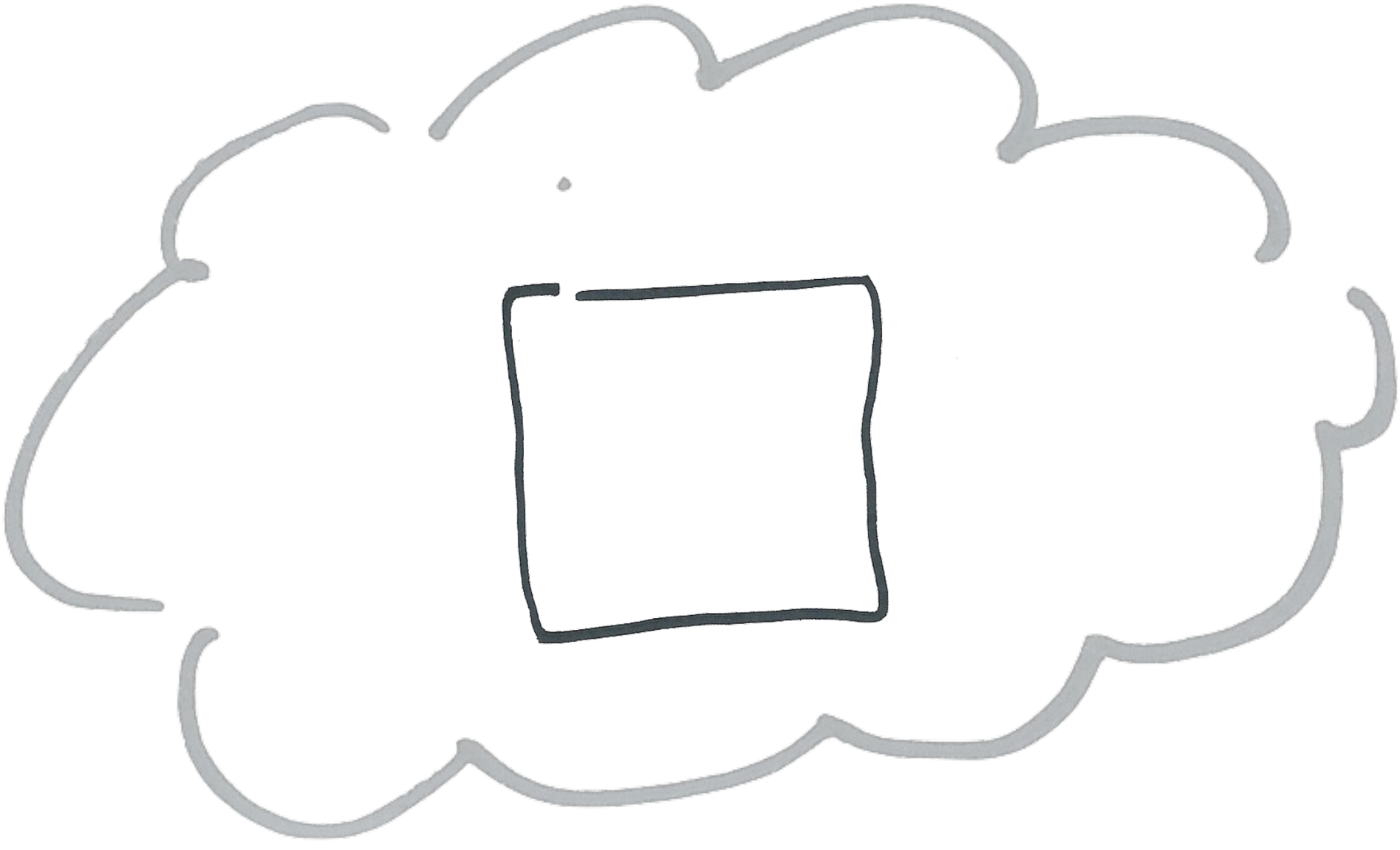
Buildpacks



© 2014 IBM Corporation

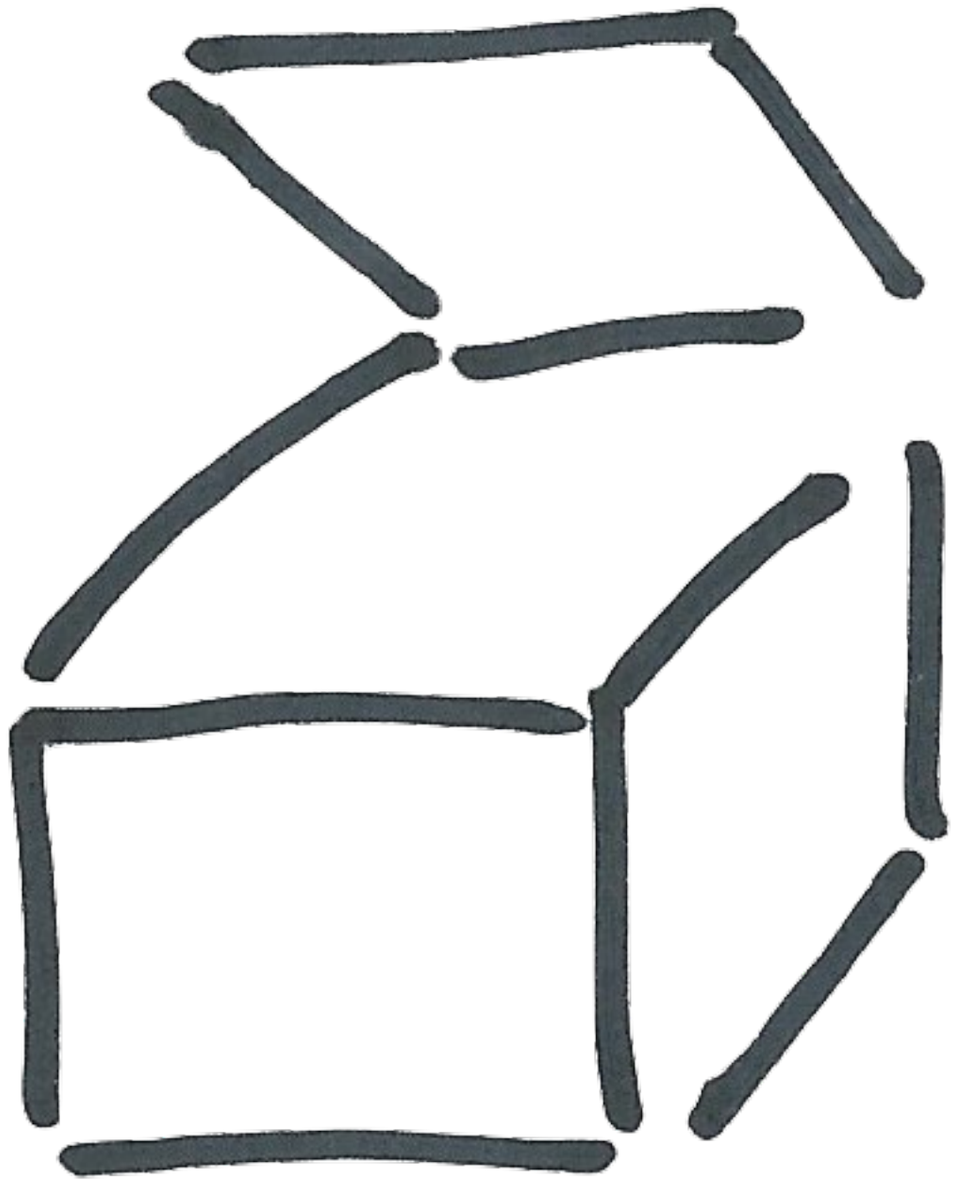
IBM

Buildpacks



© 2014 IBM Corporation

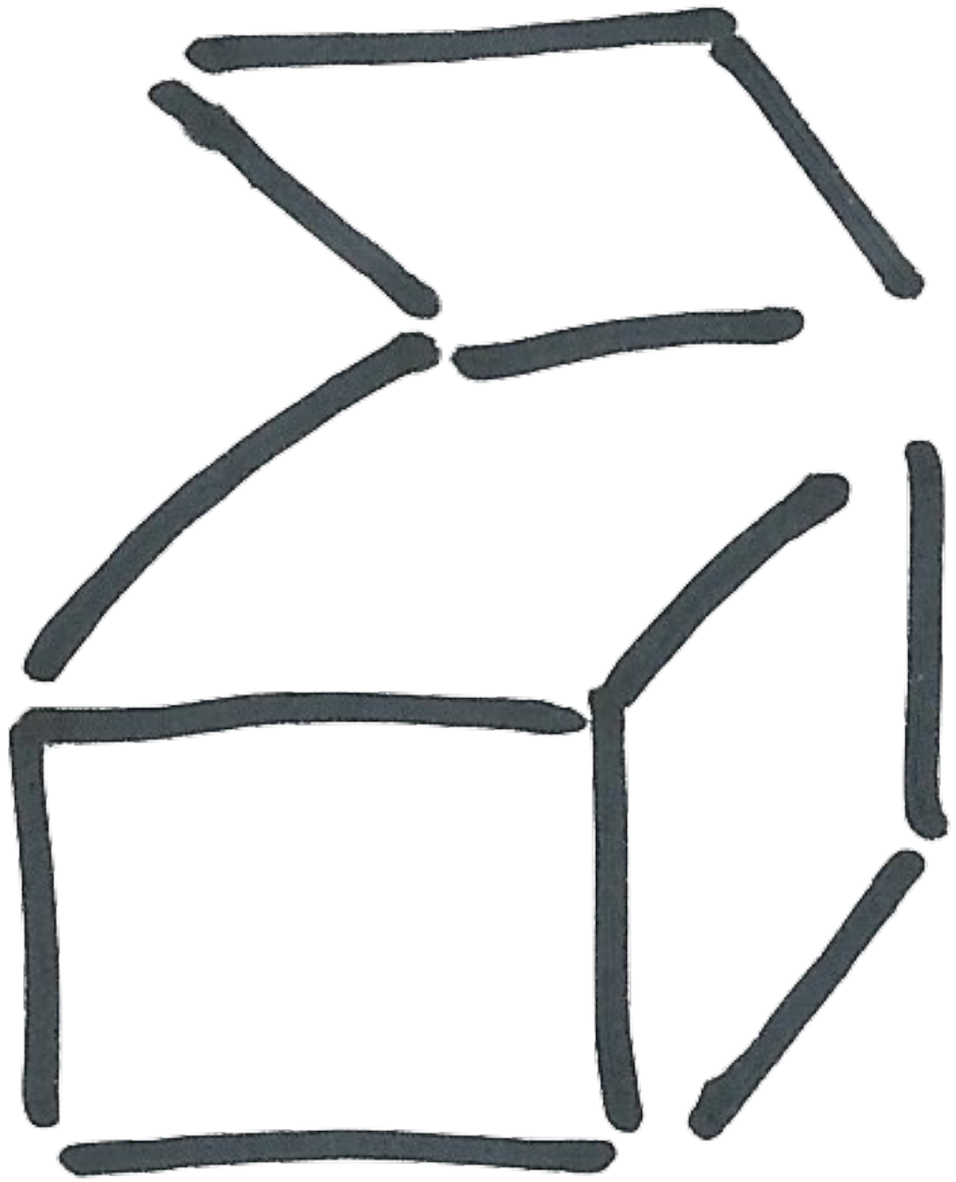
Out of the box



© 2014 IBM Corporation

Out of the box

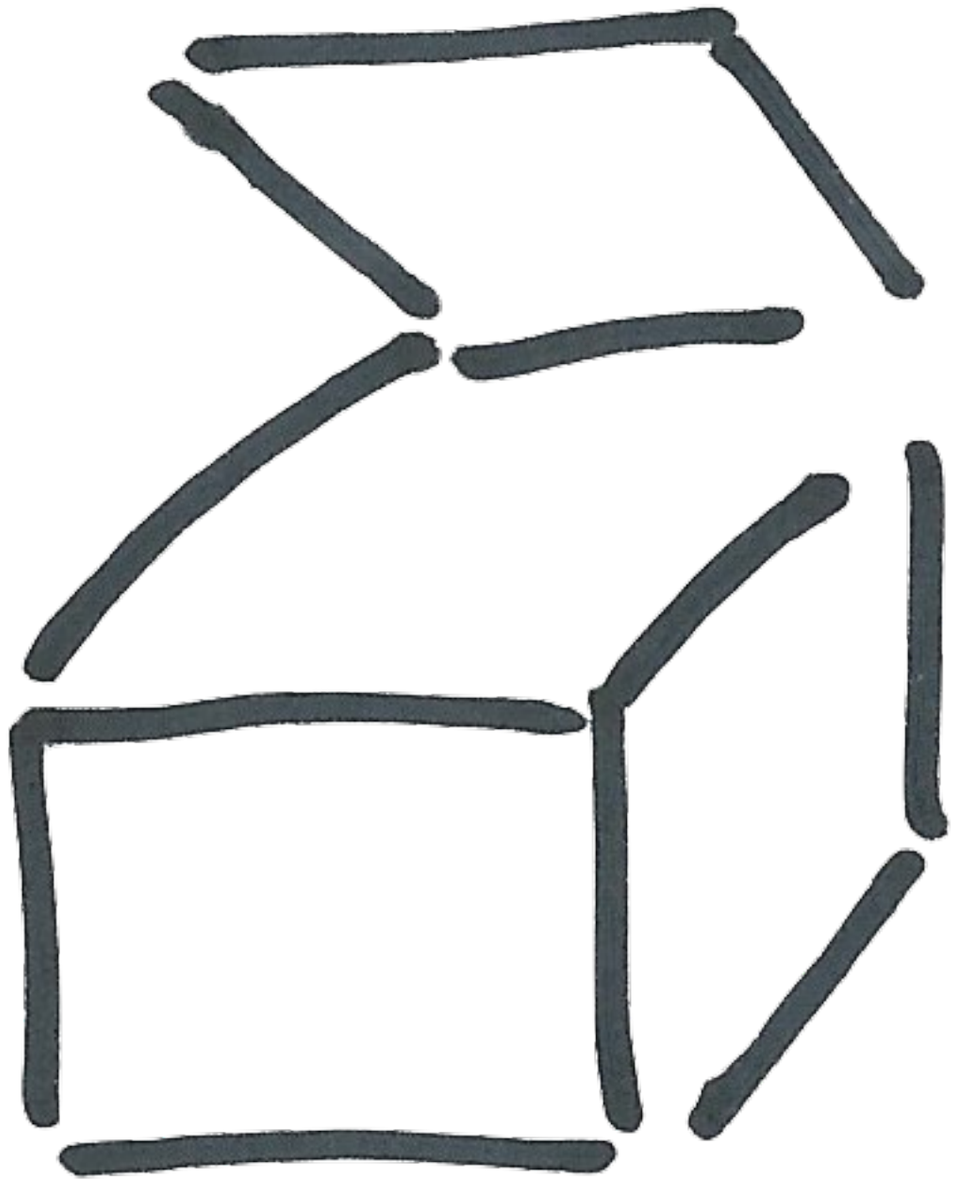
- Java



© 2014 IBM Corporation

Out of the box

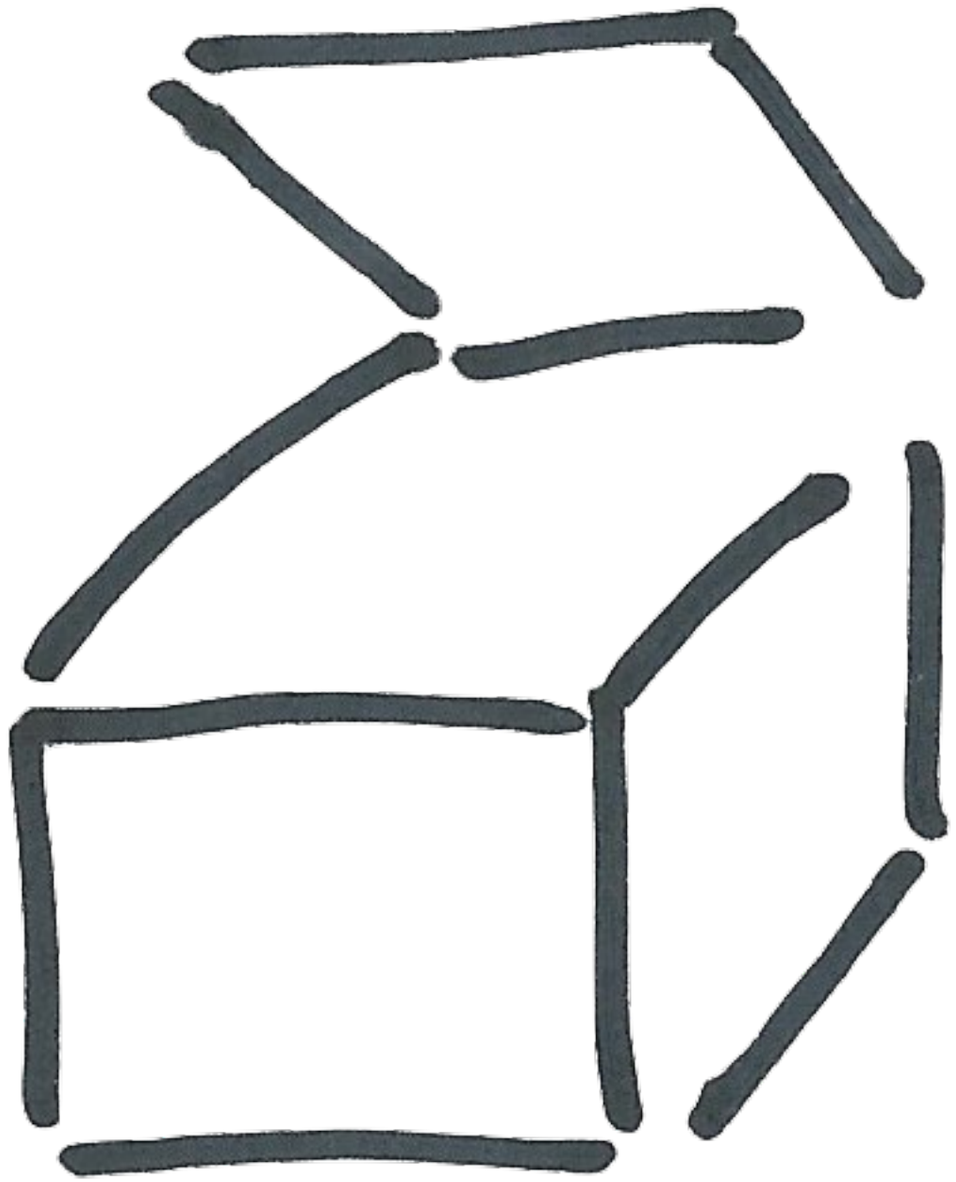
- Java
- Node.js



© 2014 IBM Corporation

Out of the box

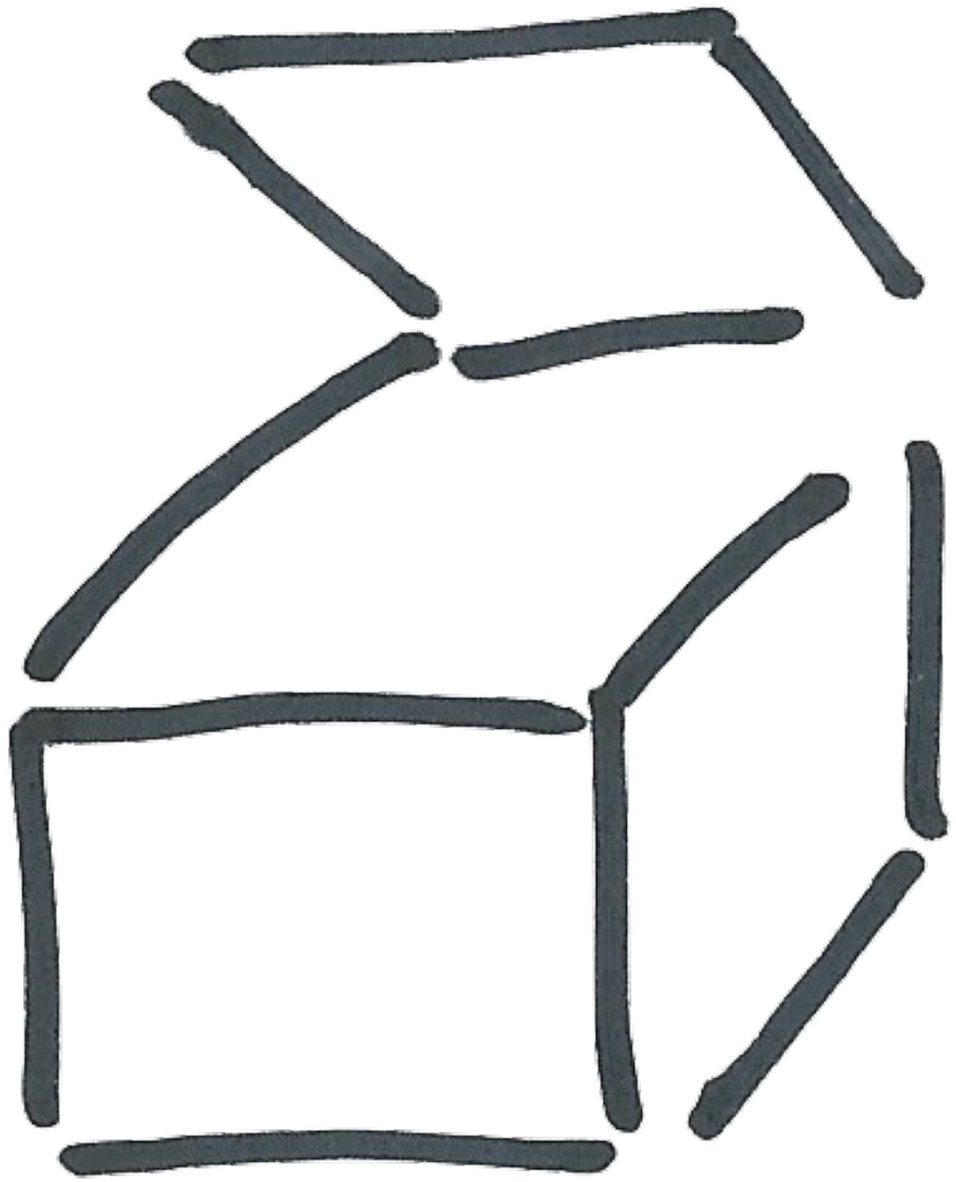
- Java
- Node.js
- PHP



© 2014 IBM Corporation

Out of the box

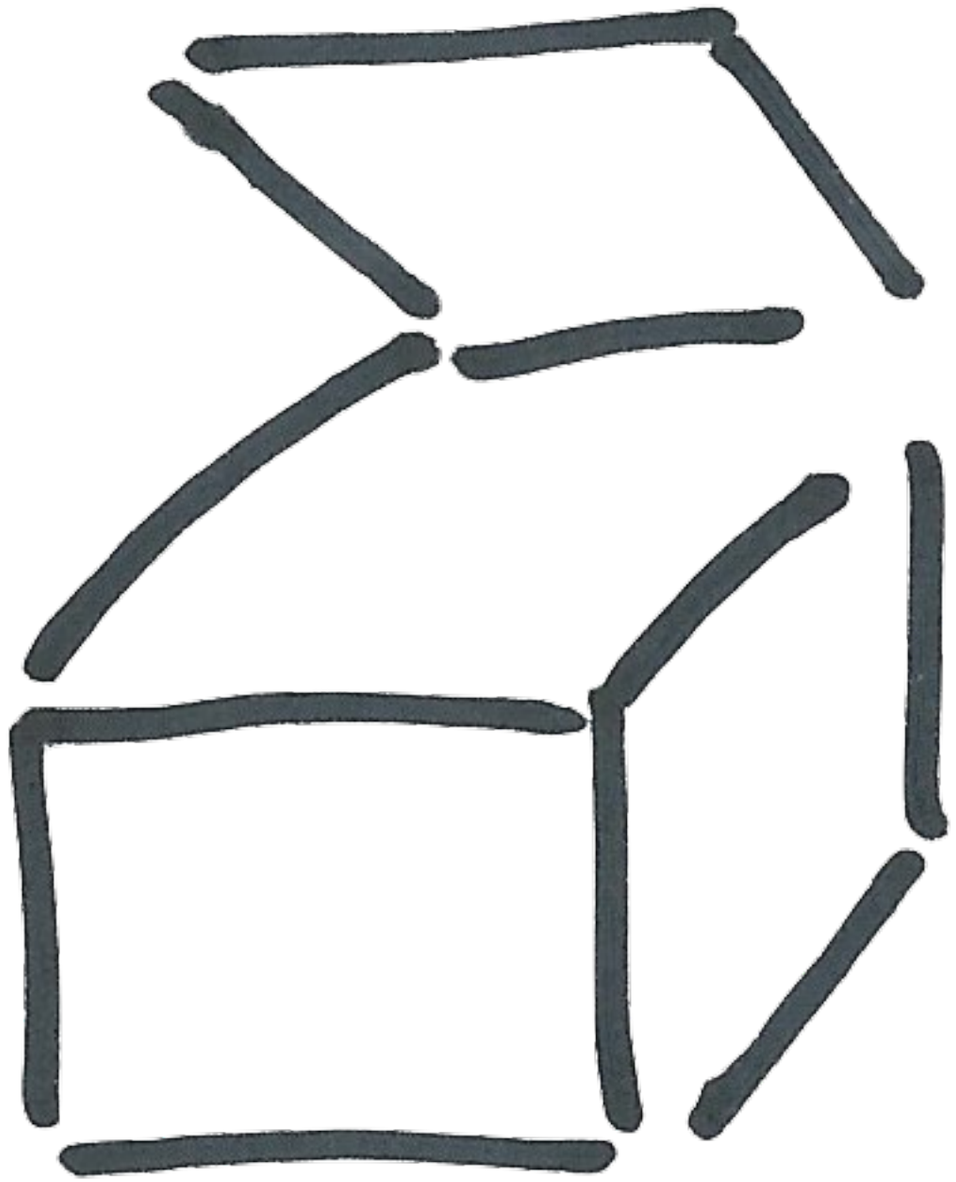
- Java
- Node.js
- PHP
- Python



© 2014 IBM Corporation

Out of the box

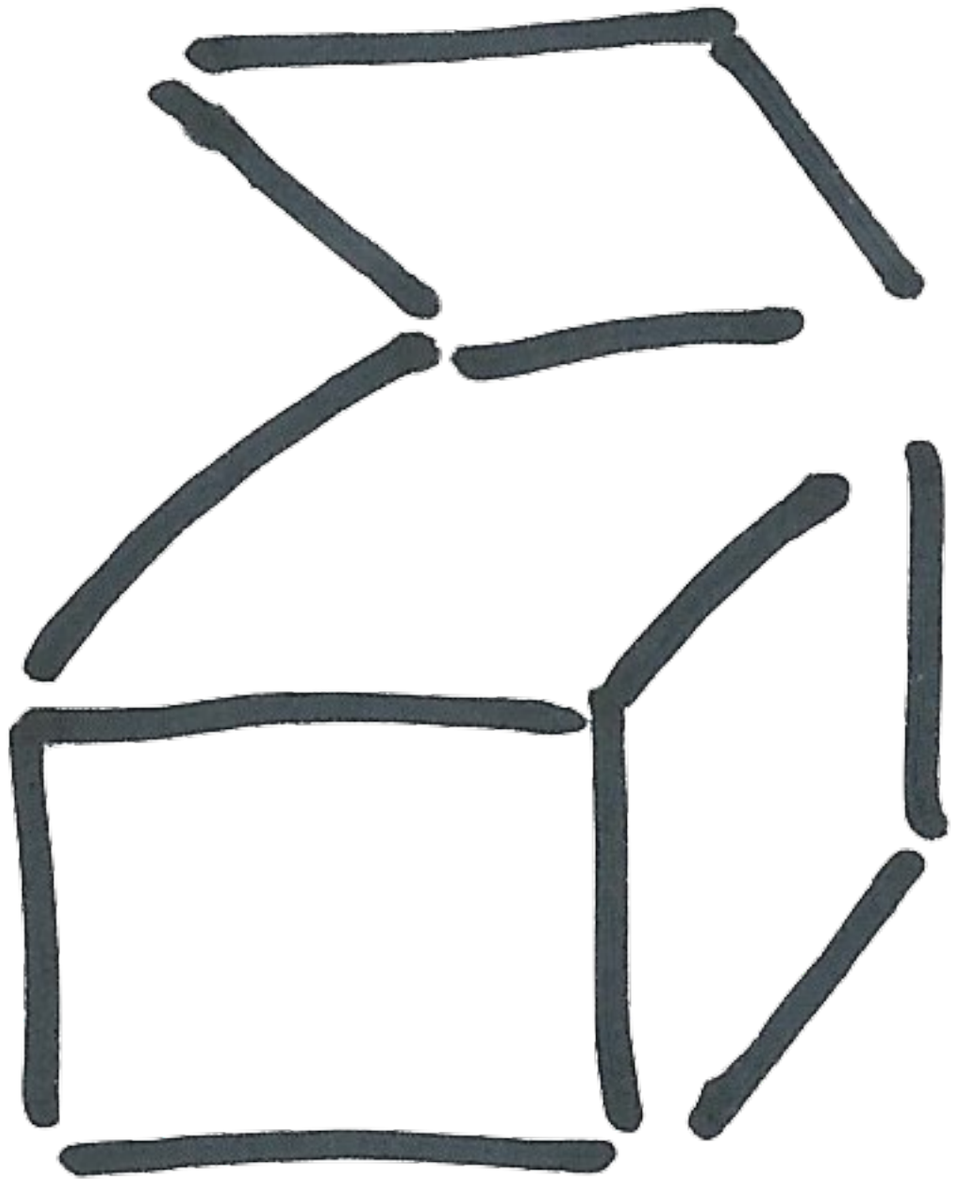
- Java
- Node.js
- PHP
- Python
- Ruby



© 2014 IBM Corporation

Out of the box

- Java
- Node.js
- PHP
- Python
- Ruby
- Go



© 2014 IBM Corporation

Bring your own

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala
- That thing you saw Greg Young talk about yesterday

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala
- That thing you saw Greg Young talk about yesterday
  - Erlang

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala
- That thing you saw Greg Young talk about yesterday
  - Erlang
- The dark side

© 2014 IBM Corporation

Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala
- That thing you saw Greg Young talk about yesterday
  - Erlang
- The dark side
  - .NET

© 2014 IBM Corporation

IBM

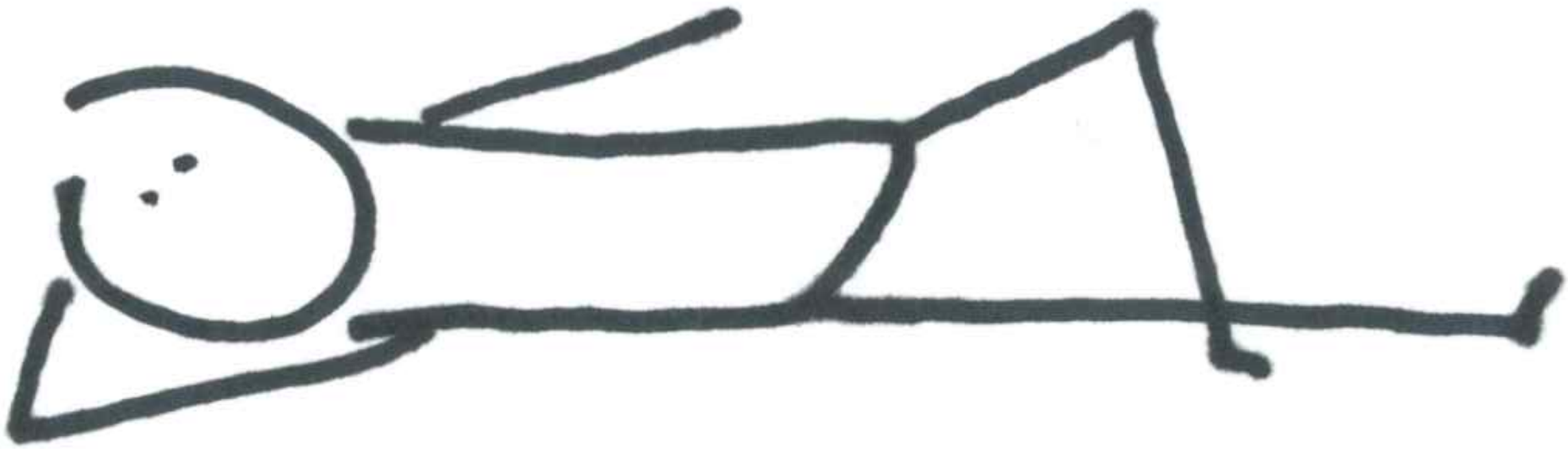
Bring your own

- Your preferred app server flavour
  - WebSphere Liberty Profile (of course!)
  - Jetty
  - nginx
- The functional language to impress your colleagues with
  - Haskell
  - Clojure
  - Scala
- That thing you saw Greg Young talk about yesterday
  - Erlang
- The dark side
  - .NET
- ….

© 2014 IBM Corporation

IBM

Bring someone else's



© 2014 IBM Corporation

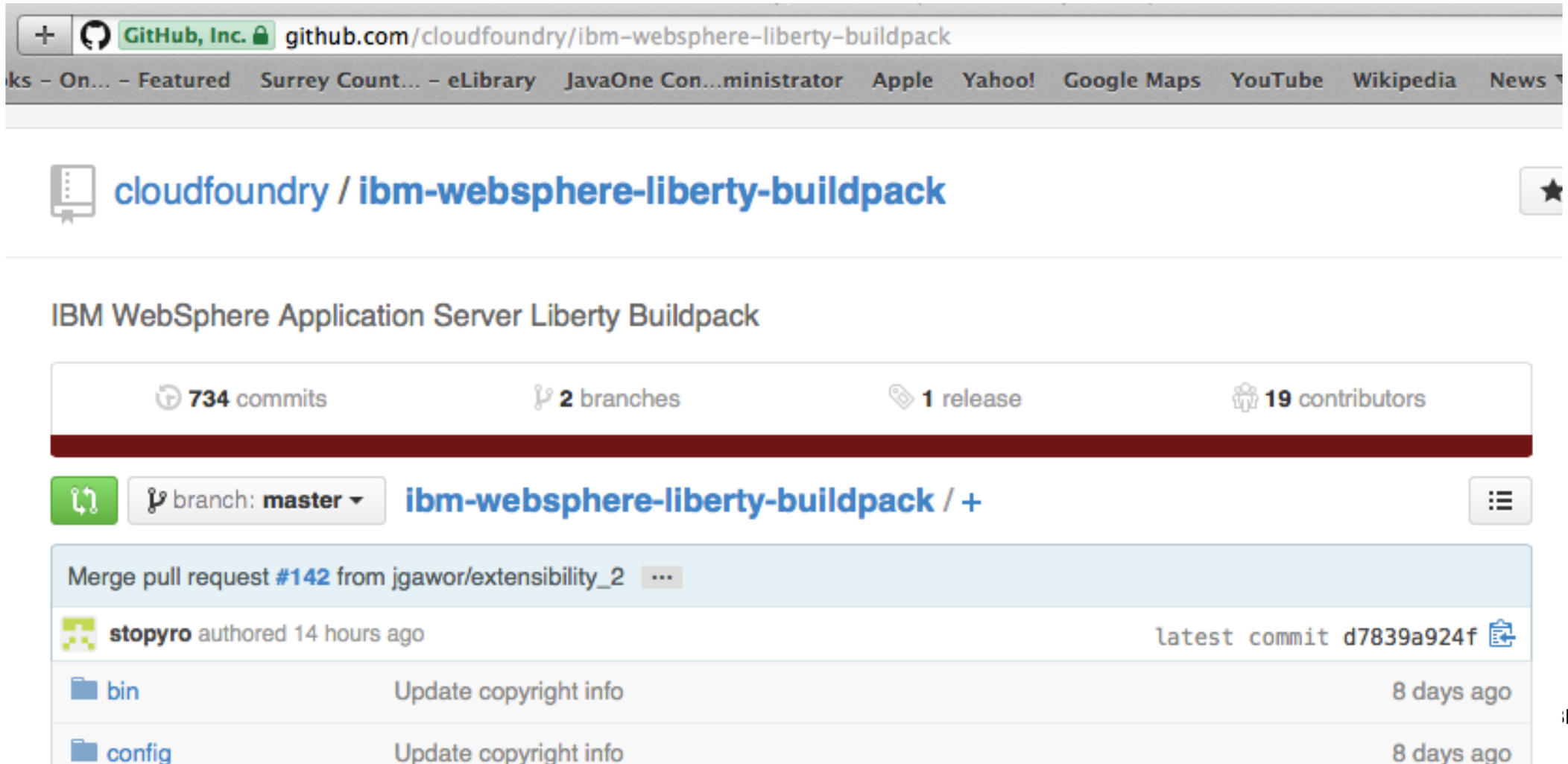
IBM

Bring someone else's

© 2014 IBM Corporation

No really, bring your own

- Start with someone else's.
- Cut, paste, fork.



IBM Corporation

IBM

buildpack: http://my.cool.pack.git

© 2014 IBM Corporation

IBM

Life of a buildpack

© 2014 IBM Corporation

IBM

Life of a buildpack

- Detect

© 2014 IBM Corporation

Life of a buildpack

- Detect
  - Do I understand this application?

© 2014 IBM Corporation

Life of a buildpack

- Detect
  - Do I understand this application?
- Compile

© 2014 IBM Corporation

Life of a buildpack

- Detect
  - Do I understand this application?
- Compile
  - I do understand this application! Let's package it up into a self-contained unit ("droplet")

© 2014 IBM Corporation

Life of a buildpack

- Detect
  - Do I understand this application?
- Compile
  - I do understand this application! Let's package it up into a self-contained unit ("droplet")
- Release

© 2014 IBM Corporation

Life of a buildpack

- Detect
  - Do I understand this application?
- Compile
  - I do understand this application! Let's package it up into a self-contained unit ("droplet")
- Release
  - Ok, let's go!

© 2014 IBM Corporation

IBM

Services

© 2014 IBM Corporation

Services

- You didn’t want to provide an app server …

© 2014 IBM Corporation

Services

- You didn't want to provide an app server …
- … so you don't want to provide the database …

© 2014 IBM Corporation

Services

- You didn't want to provide an app server …
- … so you don't want to provide the database …
- … or the email provider …

© 2014 IBM Corporation

Services

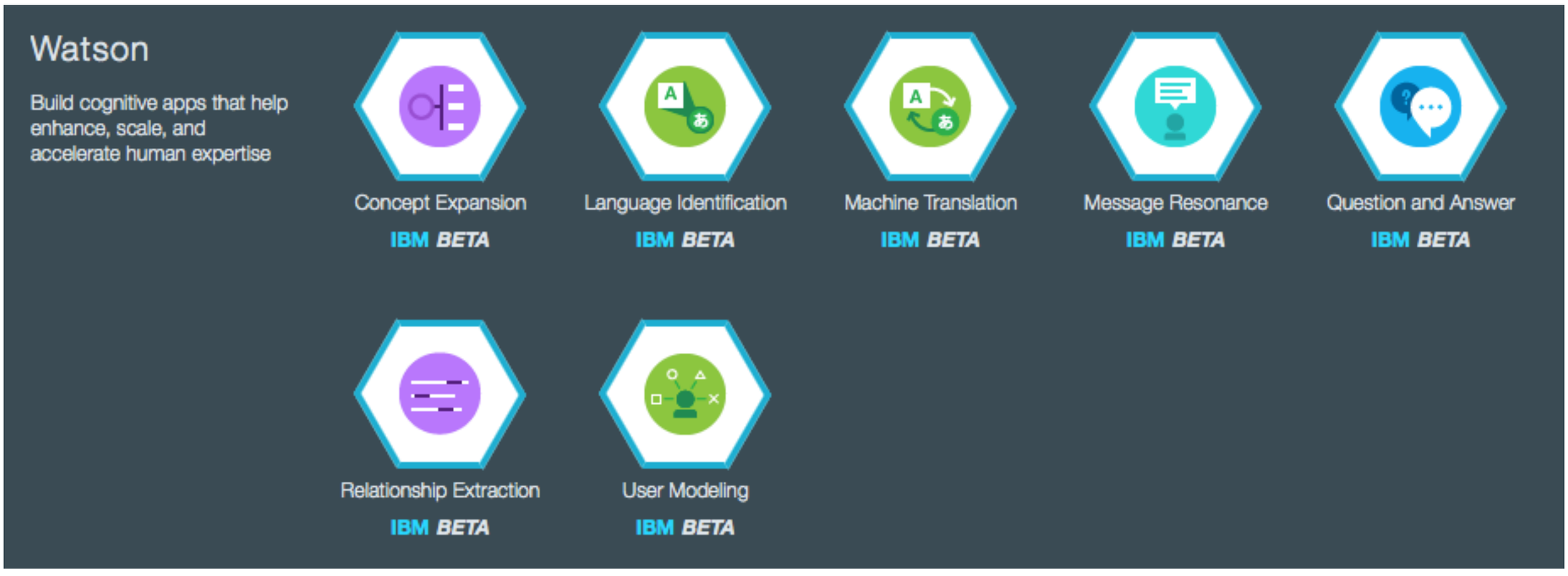
- You didn’t want to provide an app server …
- … so you don’t want to provide the database …
- … or the email provider …
- … or the monitoring

© 2014 IBM Corporation

Some are generic

© 2014 IBM Corporation

Some are not …



© 2014 IBM Corporation

IBM

… and there are a lot

IBM

Binding services

```
services:
  - instance_ABC
  - instance XYZ
```

© 2014 IBM Corporation

IBM

Using a bound service

© 2014 IBM Corporation

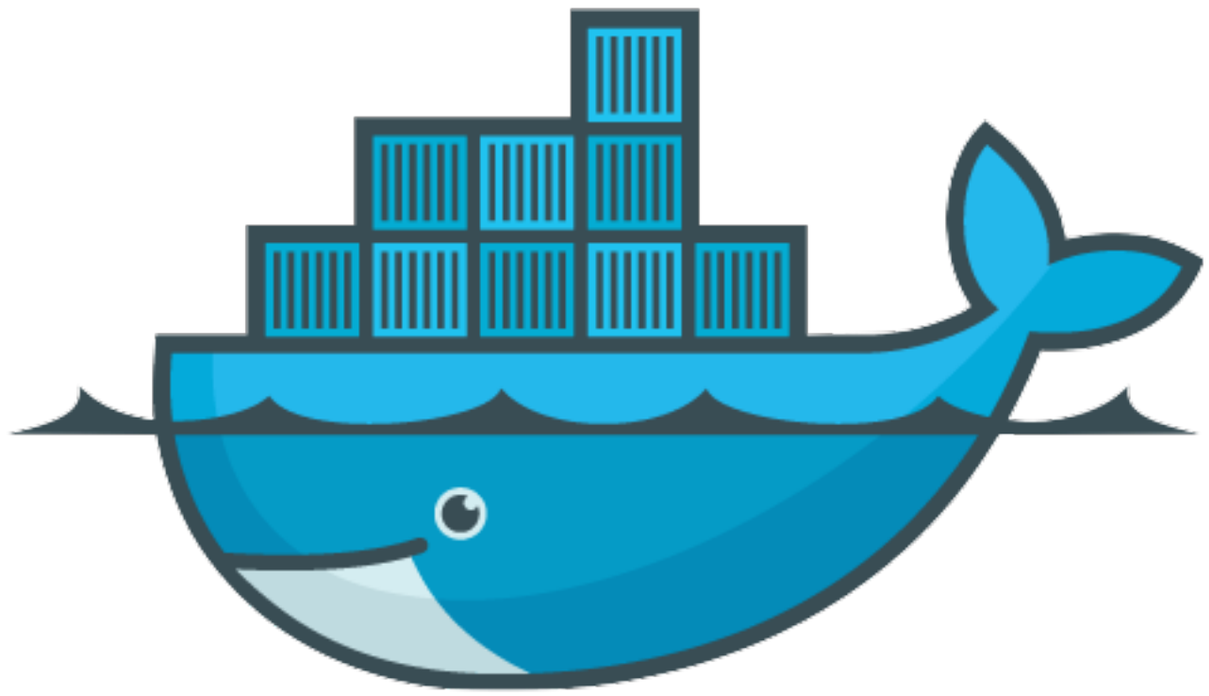
Using a bound service

```
System.getProperty(VCAP_SERVICES);

{
    sqldb": [
      {
          "name": "SQLDB-myDB",
          "label": "sqldb"
          "plan": "sqldb_small"
          "credentials": {
                  "hostname": "75.126.155.139",
                  "host": "75.126.155.139",
                  "port": 50000,
                  "username": "u123456",
                  "password": "CasDQ5v72u",
                  "db": "I_012345",
                  "jdbcurl": "jdbc:db2://75.126.155.139:50000/I_012345",
                  "uri": "db2://u123:CasD@75.126.155.139:50000/I_012345"
          }
      }
    ]
}
```

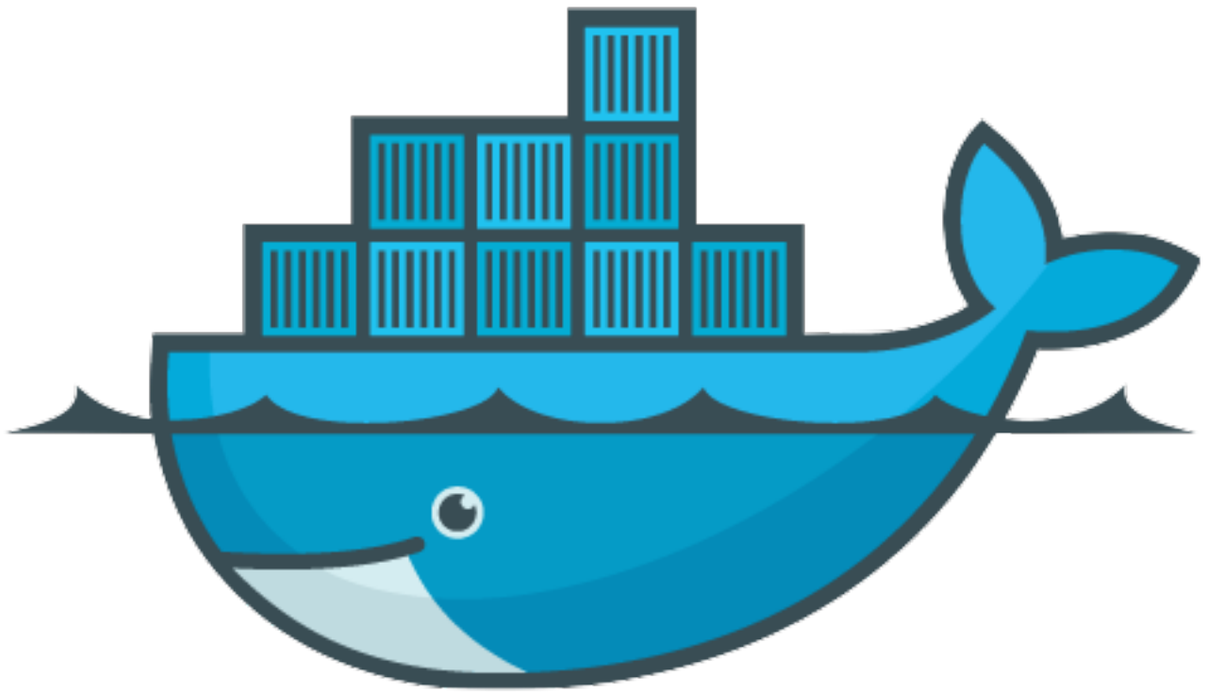
© 2014 IBM Corporation

Docker



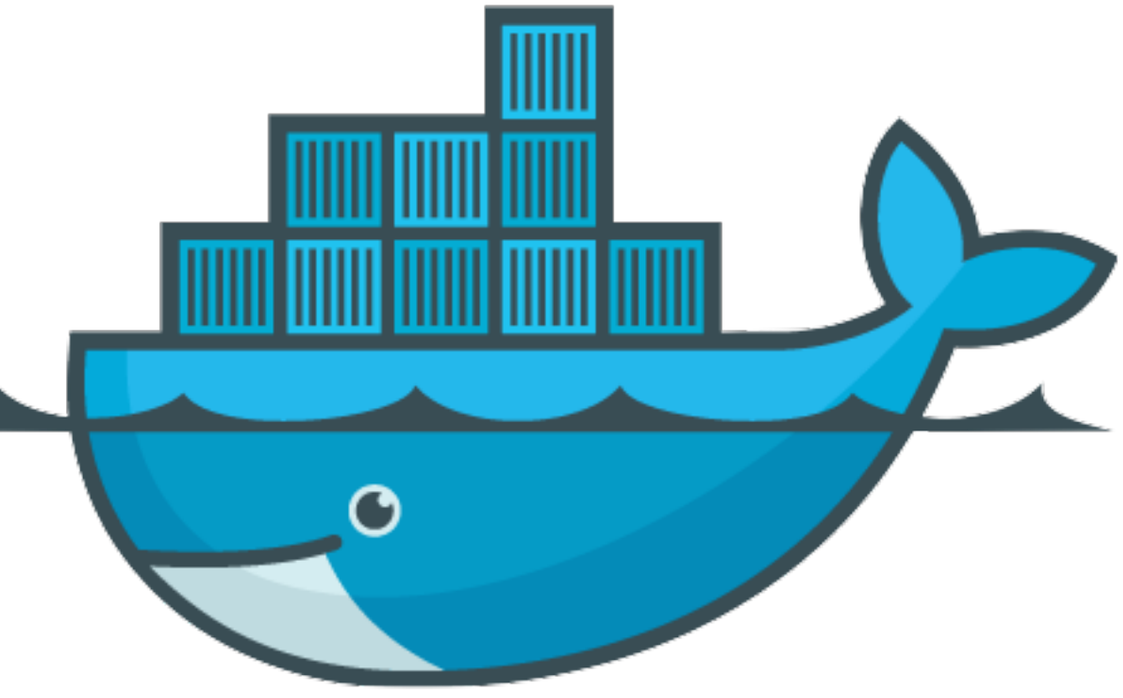
© 2014 IBM Corporation

Decker



© 2014 IBM Corporation

Decker



+

© 2014 IBM Corporation

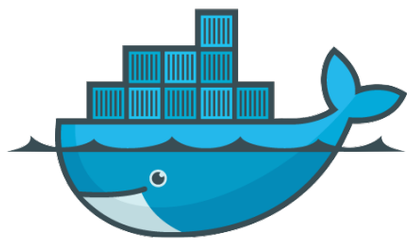
Decker

```
> cf push
```

© 2014 IBM Corporation

Decker

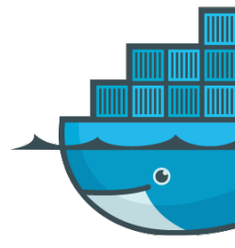
```
> cf push
```



© 2014 IBM Corporation

Decker

```
> cf push
```



© 2014 IBM Corporation

In the future

© 2014 IBM Corporation

In the future

- More convergence

© 2014 IBM Corporation

In the future

- More convergence
- Cloud Foundry will have first class support for pushing docker images

© 2014 IBM Corporation

In the future

- More convergence
- Cloud Foundry will have first class support for pushing docker images
- Cloud Foundry will use Docker's lib container internally

© 2014 IBM Corporation

Thank you.
Any questions?

@holly_cummins

© 2014 IBM Corporation