

Buzzwords from Java One- 2015

Migrating to Cloud

Dev Ops

MicroServices

Modularization/Java-9

OSGI

Internet Of Things

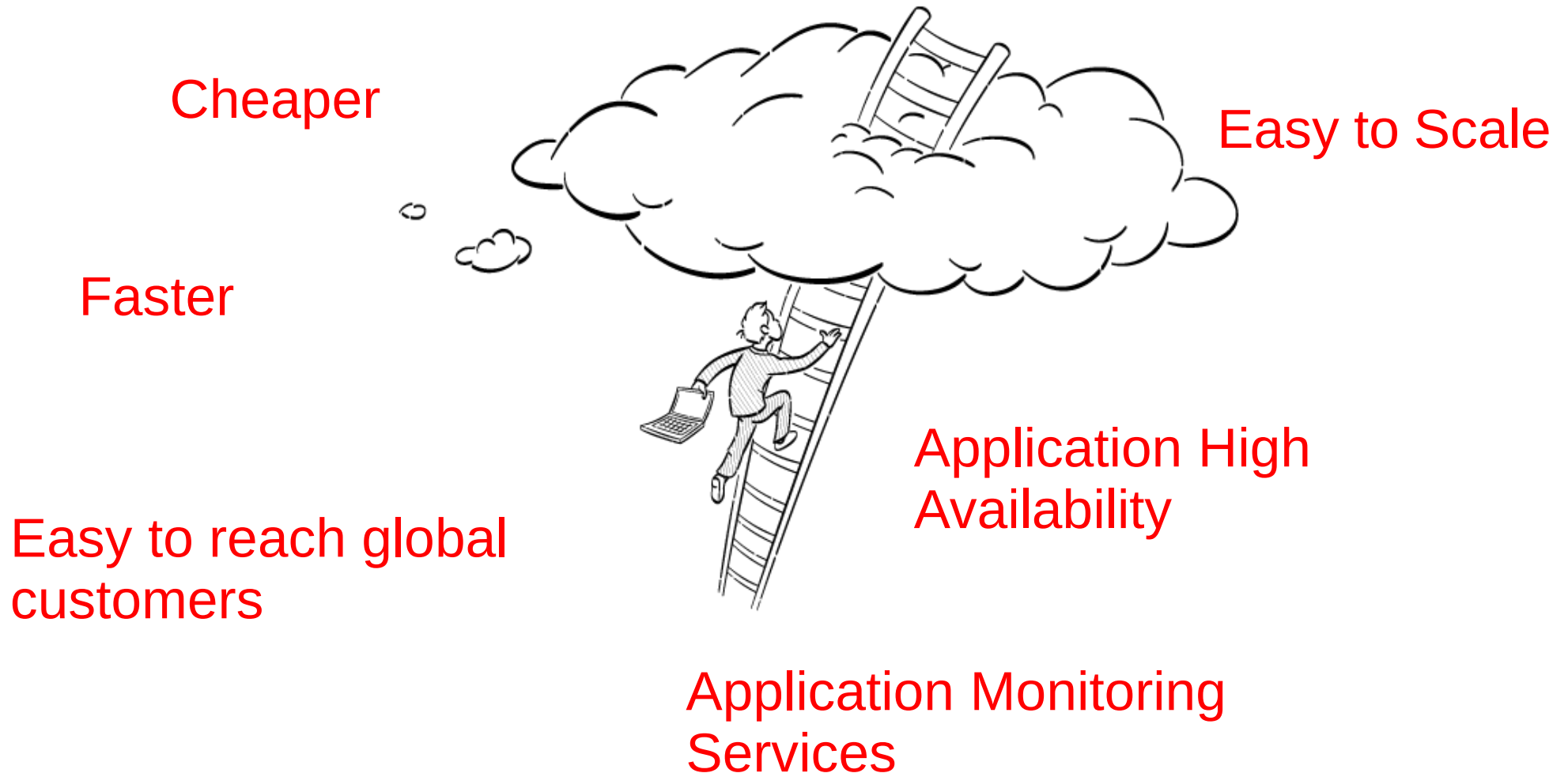
Containerization

Spring Boot



Migrating to Cloud Native Architectures

Why Move to Cloud ?



Migrating to Cloud Native Architectures

Are there any risks ?

Vendor
Dependency

Adopting
Maturing
Technology

Security



Lack of Direct
Control on
Infrastructure

Migrating to Cloud Native Architectures

Pain Points of traditional Architectures

Monolithic



Maintaining state
in the memory

Shared
FileSystems

Fat Complex
Objects

Complex/Centralized
Service oriented
Middleware

Migrating to Cloud Native Architectures

Cloud Native Architectures / Twelve Factor Apps

CodeBase

Port Binding

Dependencies

Concurrency

Config

Disposability

Backing Services

Dev/Prod Parity

Build, Release, Run

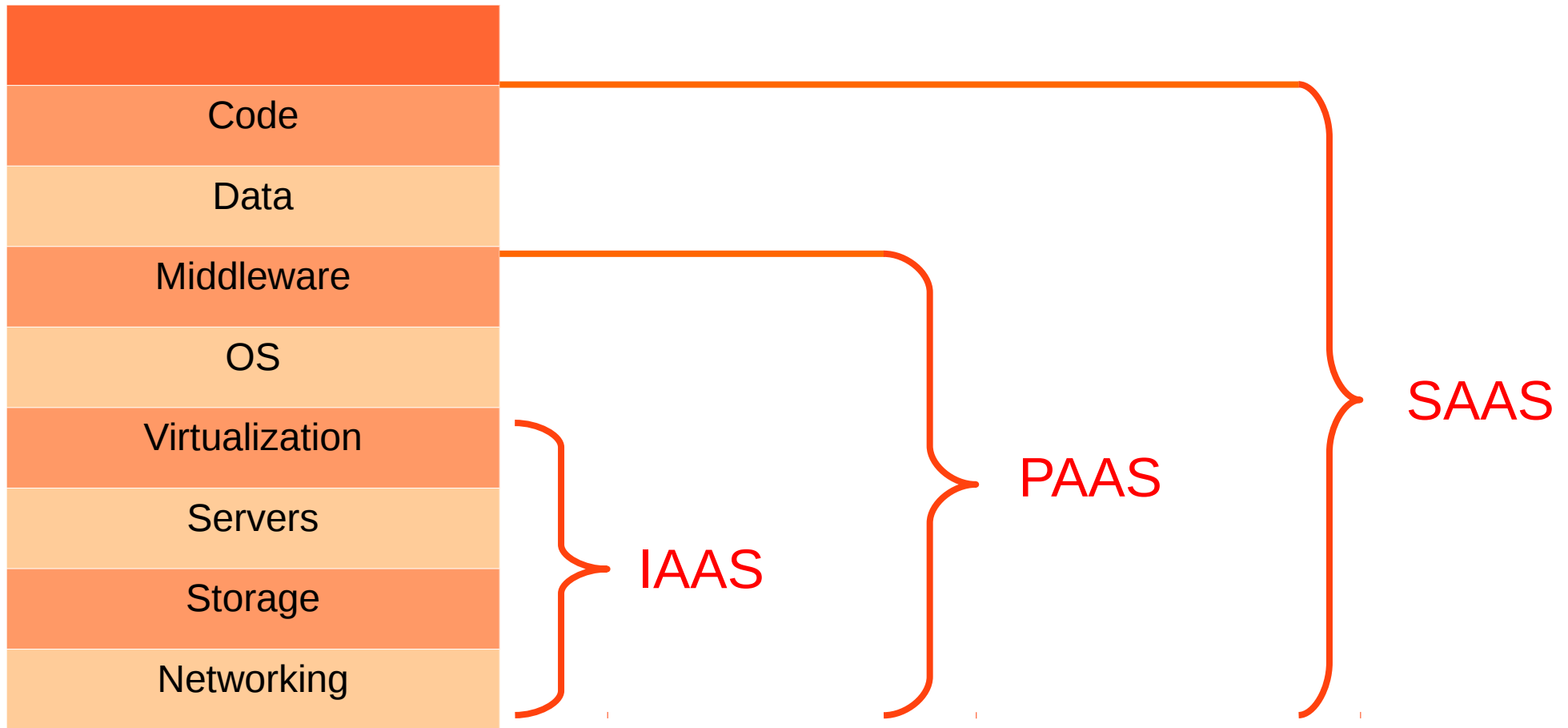
Logs

Processes

Admin processes

Migrating to Cloud Native Architectures

Cloud Services Offered by different Vendors



Migrating to Cloud Native Architectures

Vendors



Pivotal **Cloud Foundry**®



Google Cloud Platform



Microsoft Azure



IBM **Bluemix**™



Migrating to Cloud Native Architectures

HelloWorld Cloud App Push to Pivotal CF



Modularization

Pain Points of a Monolithic App's Class path

Jar Hell !!!!

Are there
Any
Conflicts ??



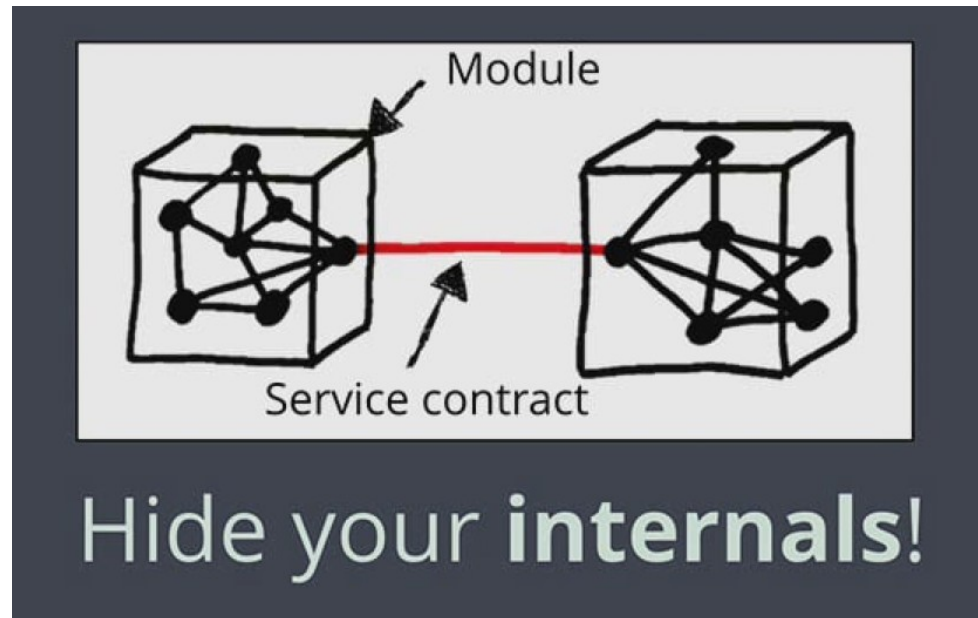
Is any Class
Missing ??

Can I make a
change with out
impacting other
classes ??

Modularization

Introduction of Modules in Java 9- **Project Jigsaw**

Prevent
Tight
Coupling



Promote
Cohesion

Modularization

Introduction of Modules in Java 9- **Project Jigsaw**

com.ugcorp.modA

```
com.ugcorp.modA.packA
  Class A_a
  Class A_b
com.ugcorp.modA.packB
  Class A_c
  Class A_d
Module-info.java
```

```
Module com.ugcorp.modA {
    requires com.ugcorp.modB
    exports com.ugcorp.modA.packA
}
```

com.ugcorp.modB

```
Class B_a
Class B_b
Module-info.java
```

Over Come Jar Hell !!

Is Anything Missing ? – NO

Are there any conflicts ? – NO

Is it easy to change ? – Yes

com.ugcorp.modC

```
Class C_a
Class C_b
```

Modularization

Project Jigsaw and OSGI

Very Similar

Is Jigsaw going to
replace OSGI ??

OSGI is more mature as
its alliance started in 1998 .
Check out **OSGI.org**

Modularization

Example OSGI Product- Websphere Liberty Profile



Modularization

Internet Of things (IOT)



Containerization

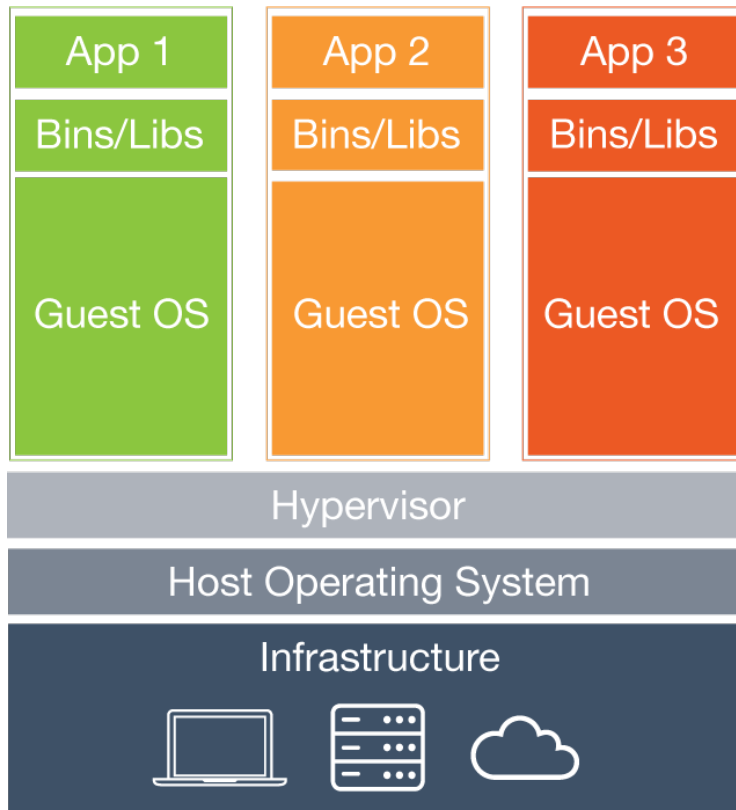
What are Containers ??



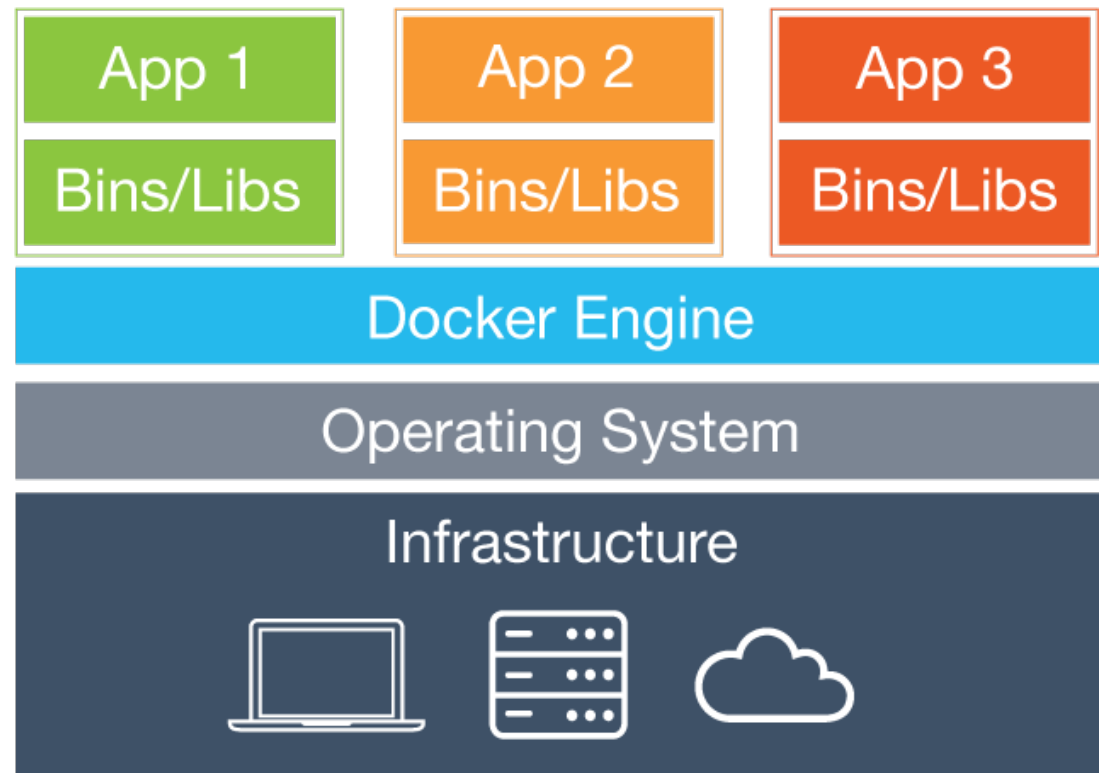
Containerization

Is it similar to VMWare ?? – NO!!

Virtual Machines



Containers

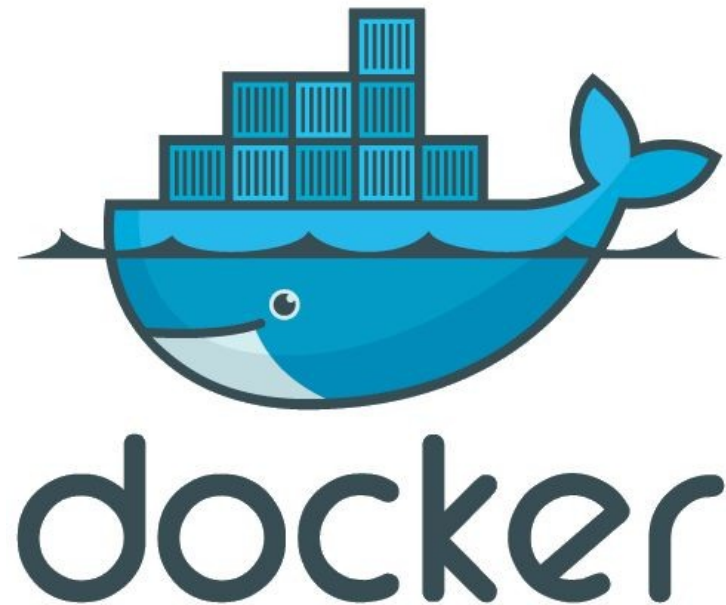


Containerization

Docker – Open Source Project for Containers

Docker allows you to package an application with all of its dependencies into a standardized unit for software development

<https://www.docker.com/>



Spring Boot for Java EE developers

- NO XML configuration
- Embedded Servlet Container
- Quick Starter with basic assumptions

Supports :

- 1) Servlet Filters
- 2) JPA
- 3) JMS
- 4) WebSockets
- 5) Bean Validations
- 6) Caching



Some Pictures from java One 2015



Some Pictures from java One 2015



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