

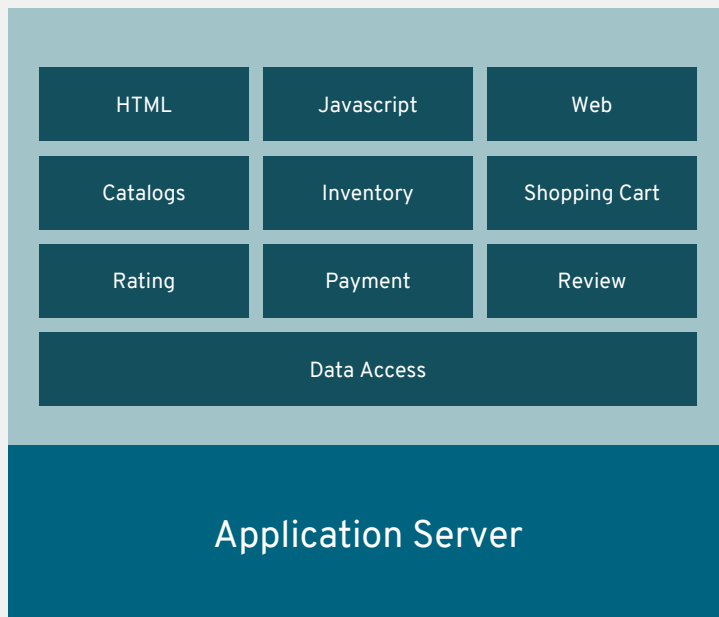


The Path to Cloud Native Applications with Red Hat

5th May 2018

Nacim Boukhedimi
Solution Architect

MONOLITHIC ARCHITECTURE





CLOUD-NATIVE APPS
BUILDING APPLICATIONS
FOR THE CLOUD

WHY CLOUD-NATIVE APPS?



FASTER SERVICE DELIVERY

46x more deployments



INCREASE SERVICE QUALITY

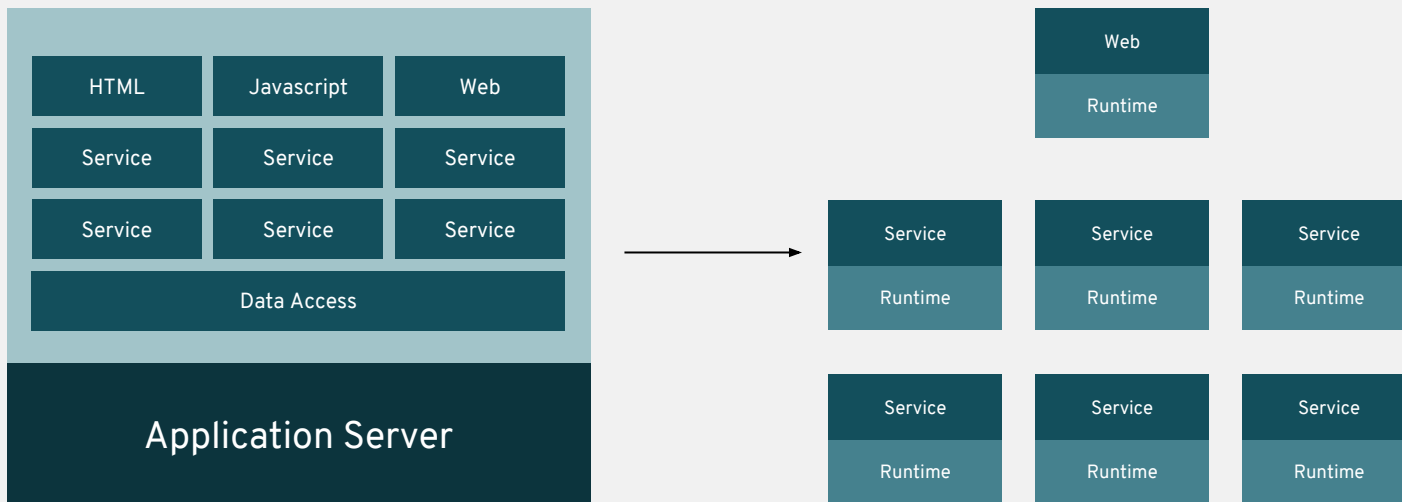
5x less failure
96x faster recovery

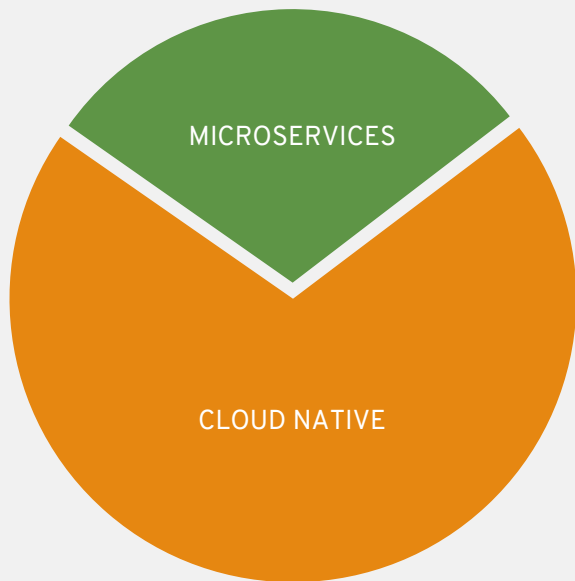


REDUCE RISK OF DELIVERY

<https://puppet.com/resources/whitepaper/state-of-devops-report>

MICROSERVICES ARCHITECTURE



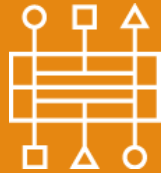


CLOUD-NATIVE IS
MUCH MORE THAN
YOUR APPLICATION
ARCHITECTURE

CLOUD-NATIVE APPLICATIONS



Service-based
Architecture



API



Containers



DevOps

THE PATH TO CLOUD-NATIVE APPS

A DIGITAL DARWINISM

EMBRACE
DEVOPS

SELF-SERVICE
ON-DEMAND
INFRA

AUTOMATION

CONTINUOUS
DELIVERY

ADVANCED
DEPLOYMENT
TECHNIQUES

MICROSERVICES

AND ONLY
THEN!

THE PATH TO CLOUD-NATIVE APPS

A DIGITAL DARWINISM

EMBRACE
DEVOPS

SELF-SERVICE
ON-DEMAND
INFRA

AUTOMATION

CONTINUOUS
DELIVERY

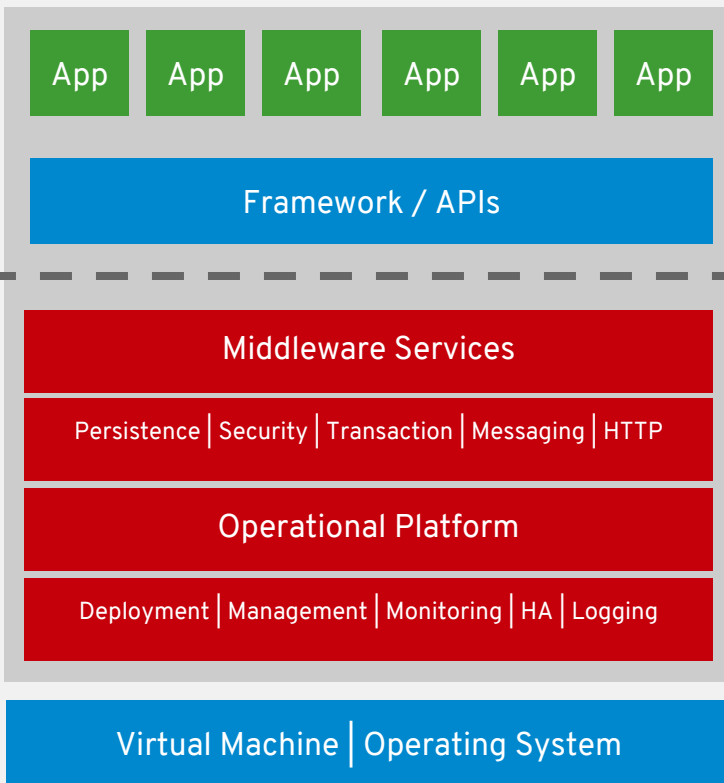
ADVANCED
DEPLOYMENT
TECHNIQUES

MICROSERVICES
.....
FAST
MONOLITH

A low-angle, upward-looking photograph of several modern skyscrapers. The image is heavily stylized with a semi-transparent red overlay that covers most of the frame. The buildings' facades, with their grid-like window patterns, are visible through the red. The sky is a deep, solid red. The overall composition is dynamic and architectural.

OpenShift Application Runtimes

THE APPSERVER 2000-2014



SOFTWARE DEVELOPMENT IS CHANGING



Waterfall



Agile



DevOps

Process



Datacenter



Hosted



Hybrid

Infrastructure



Monolith



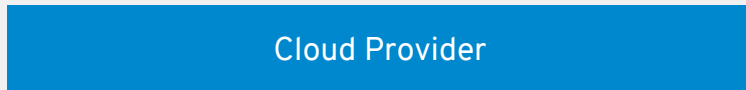
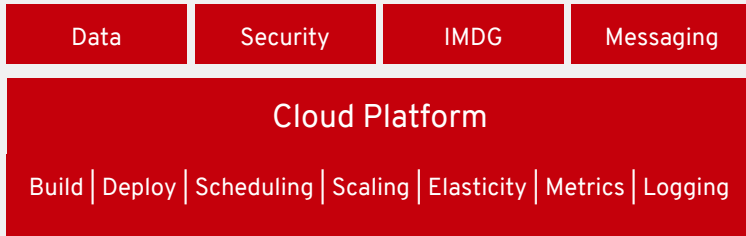
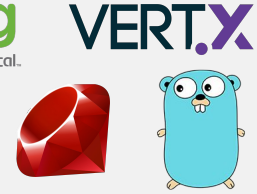
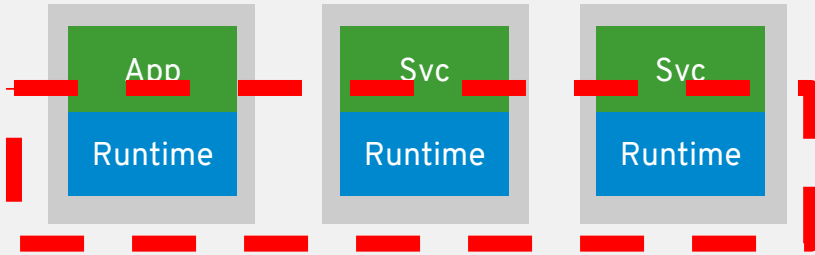
N-Tier



Microservices

Architecture

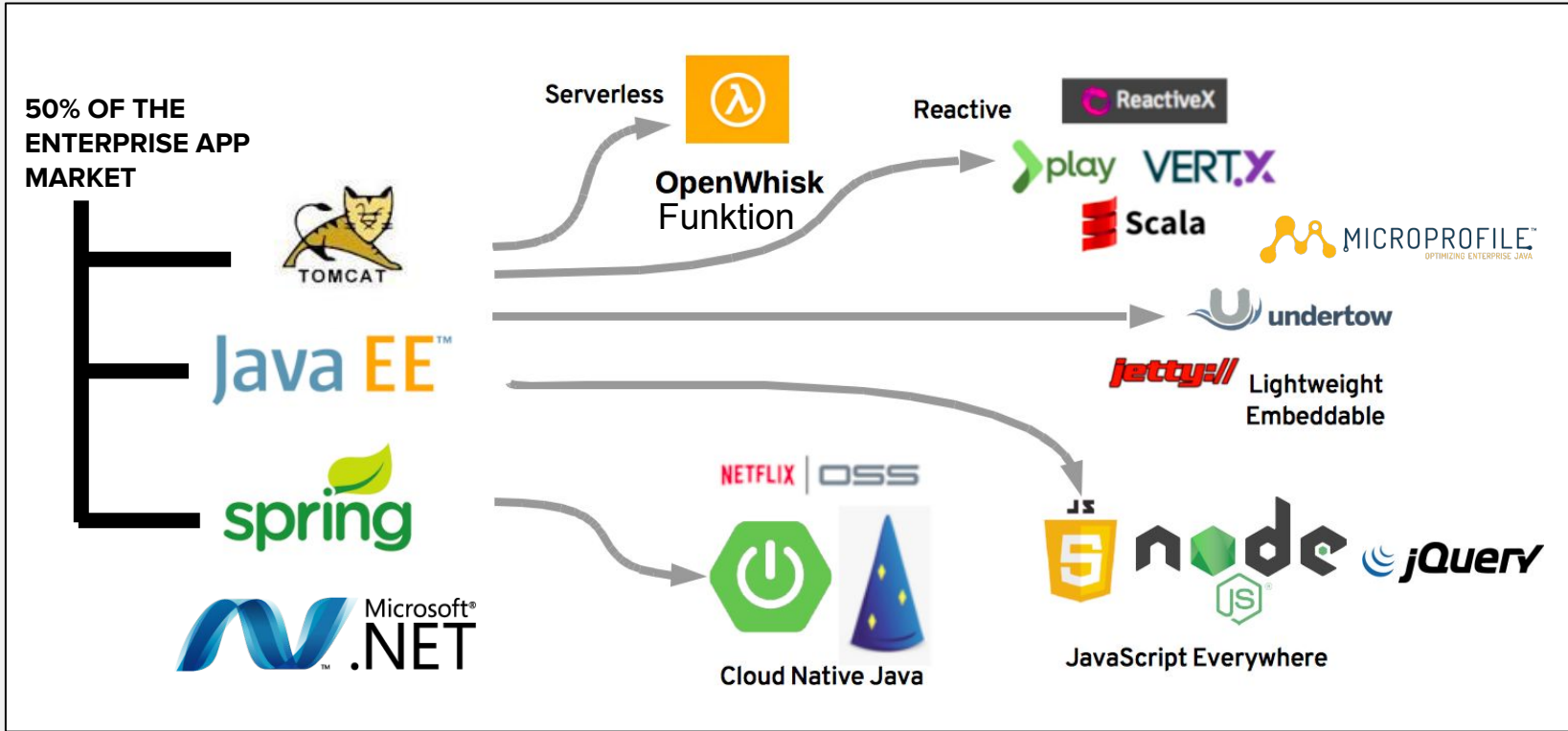
THE APPSERVER 2014-...

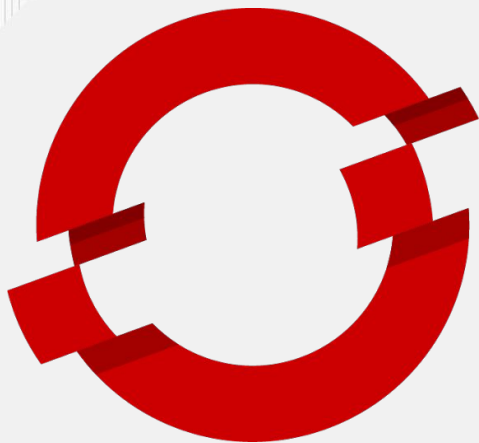


Microsoft Azure



DEVELOPERS HAVE MORE CHOICE THAN EVER



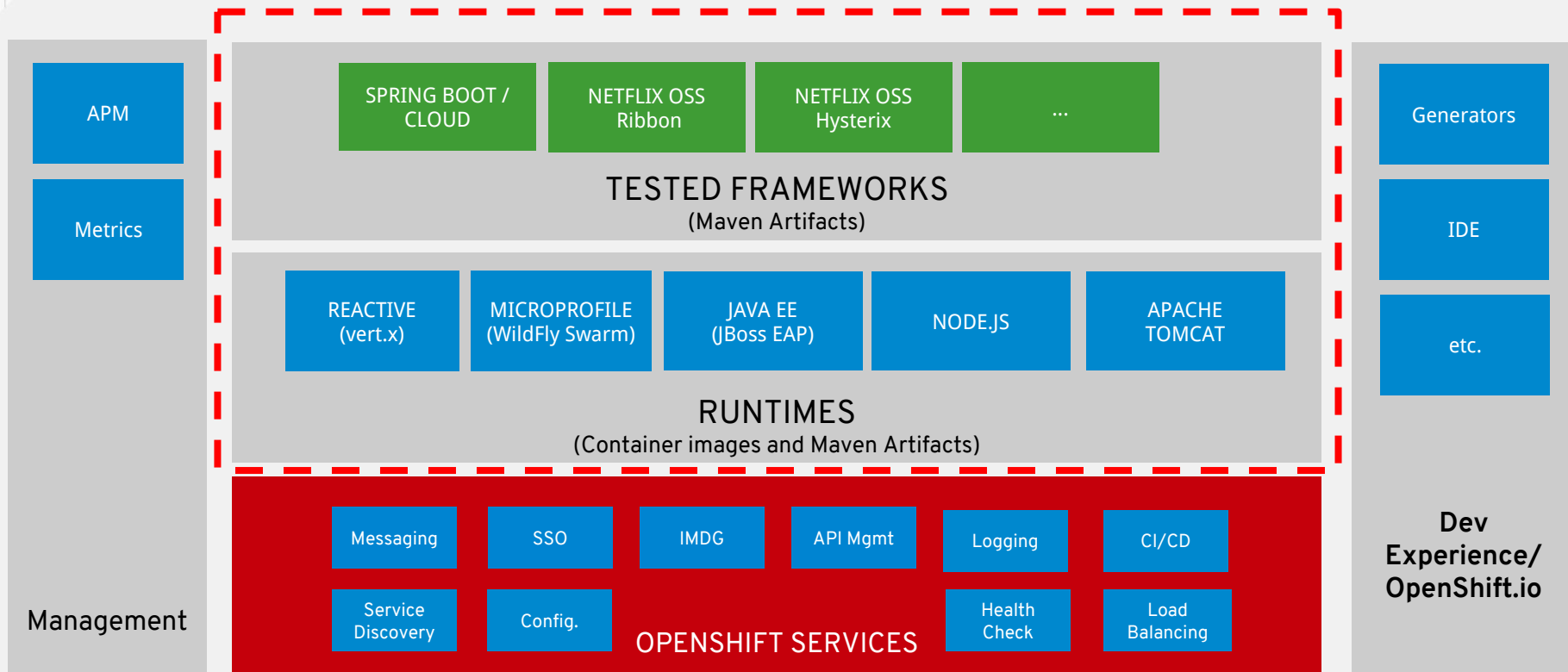


RED HAT® OPENSIFT

Application Runtimes

Modern, cloud-native application runtimes and an opinionated developer experience for organizations that are moving beyond 3-tier architectures and embracing cloud-native application development.

OpenShift Application Runtimes



OpenShift Application Runtimes

SPRING BOOT /
CLOUD

NETFLIX OSS
Ribbon

NETFLIX OSS
Hystrix

...

TESTED FRAMEWORKS
(Maven Artifacts)

REACTIVE
(vert.x)

MICROPROFILE
(WildFly Swarm)

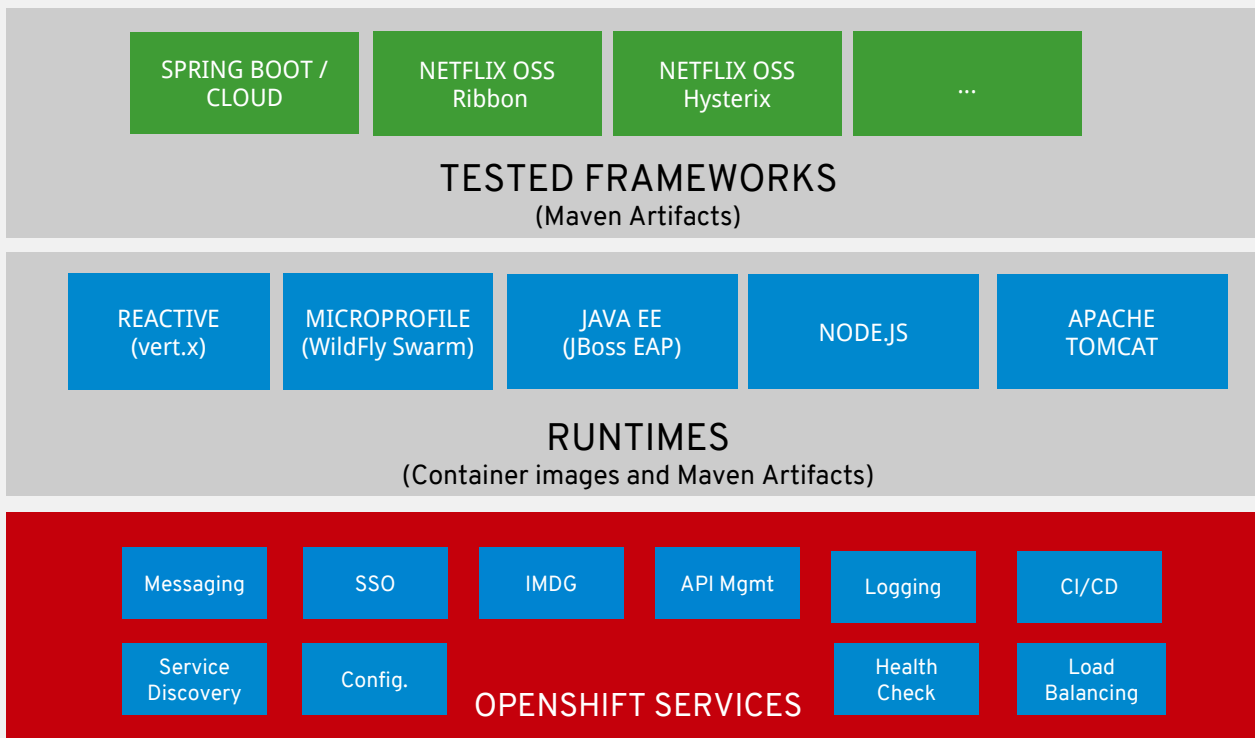
JAVA EE
(JBoss EAP)

NODE.JS

APACHE
TOMCAT

RUNTIMES
(Container images and Maven Artifacts)

OpenShift Application Runtimes



WILDFLY SWARM



Wildfly Swarm

- Microservices offering for Java EE developers
 - Wildfly Swarm components come from wildfly.
- Repackaging exercise
 - Package only what you need
 - Packaging the app server with your app
- Implementation of microprofile
 - Combines Java EE and microservices technologies
- Built from WildFly
 - Trusted and Reliable

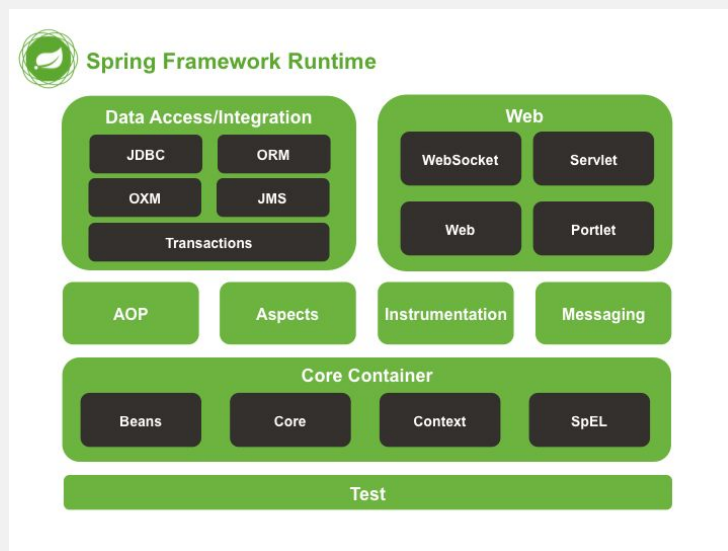


SPRING



What is Spring ?

- First release of Rod Johnson's work - June 2003
- Collection of Frameworks, Patterns & Templates
 - IoC (Beans, Context, Core), ORM, Persistence/Tx, AOP, Web (MVC), Messaging, testing
- Mainly used as replacement of EJB (1.0, 2.0)



What is Spring Boot?

- Path for developers already developing to the Spring Framework
 - Microservices for Developers using Spring Framework
- An opinionated approach to developing Spring-based microservices
- Getting started experience
- Already Red Hat Certified with:
 - OpenShift Java S2I Image
 - JBoss Web Server Embedded Tomcat Container



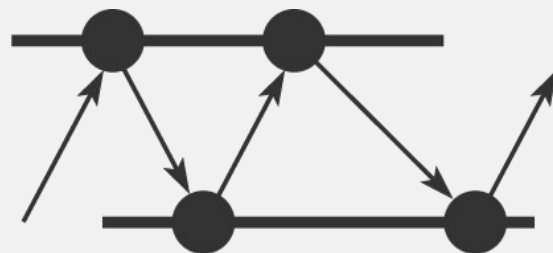
ECLIPSE VERT.X



Eclipse Vert.x



- Reactive Microservices toolkit to build distributed and reactive systems
- Polyglot - **Java**, **JavaScript**, jRuby, Python, Groovy, Scala
- Asynchronous Non-Blocking development model
- Simplified concurrency (event loop)
- Ideal high-volume, low-latency applications



Home - <http://www.vertx.io>

THANKS

