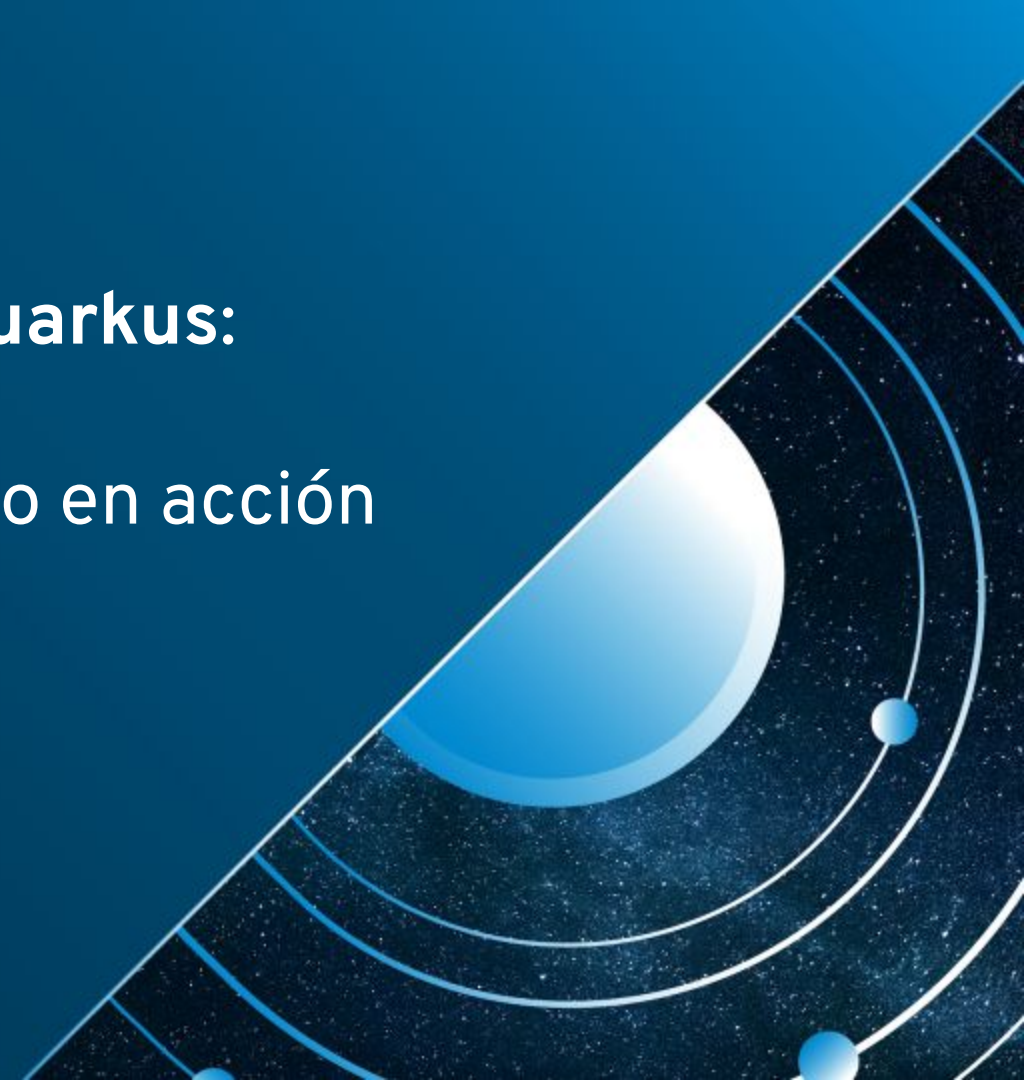
Descubriendo **Quarkus**:

Java sub-atómico en acción

Áurea Muñoz, Red Hat



Agenda

- Intro to Quarkus
- Quarkus
- Getting started demo
- Quarkus for Spring developers
- Q&A

¿Quién soy?

Aurea Muñoz
Senior Software engineer
Red Hat - Snowdrop team

¿Cómo fue diseñado Java?

On-premise

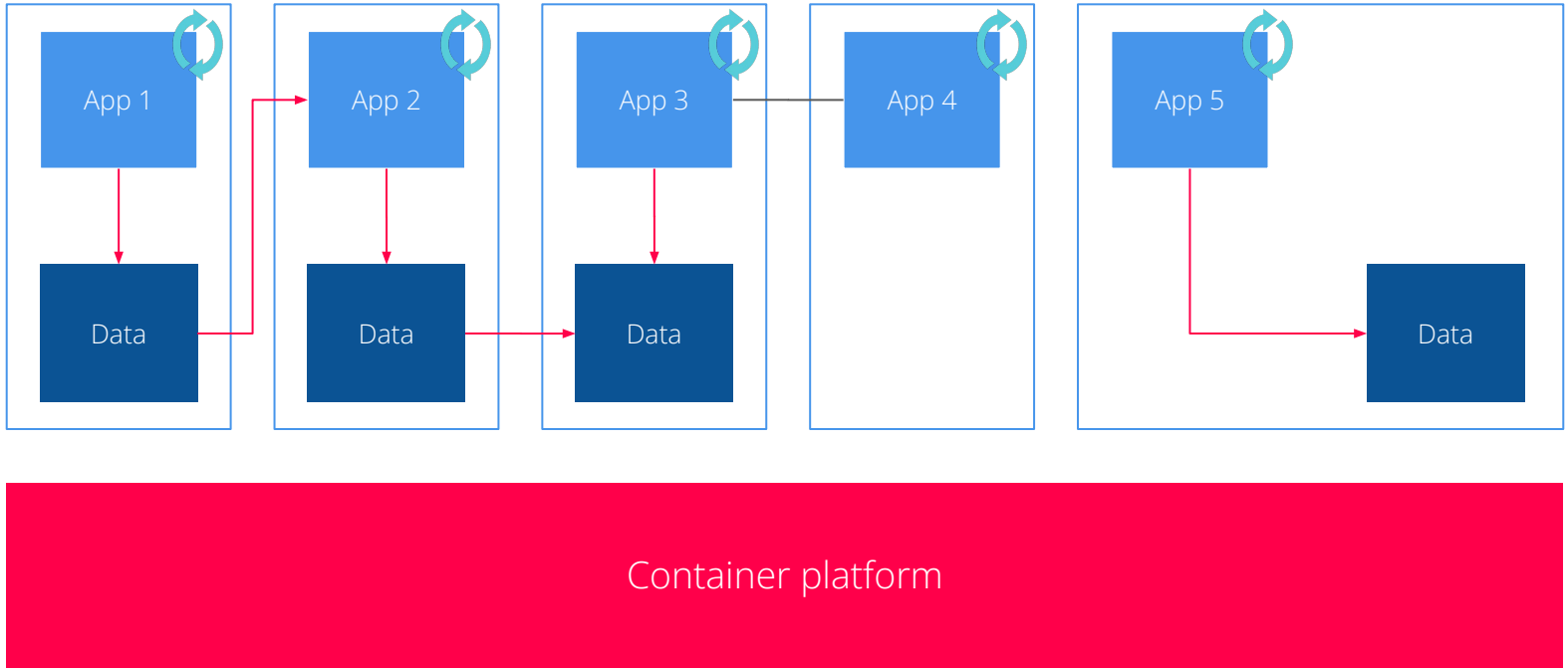
Dedicated machines

Long-lived processes

La nueva era de las aplicaciones

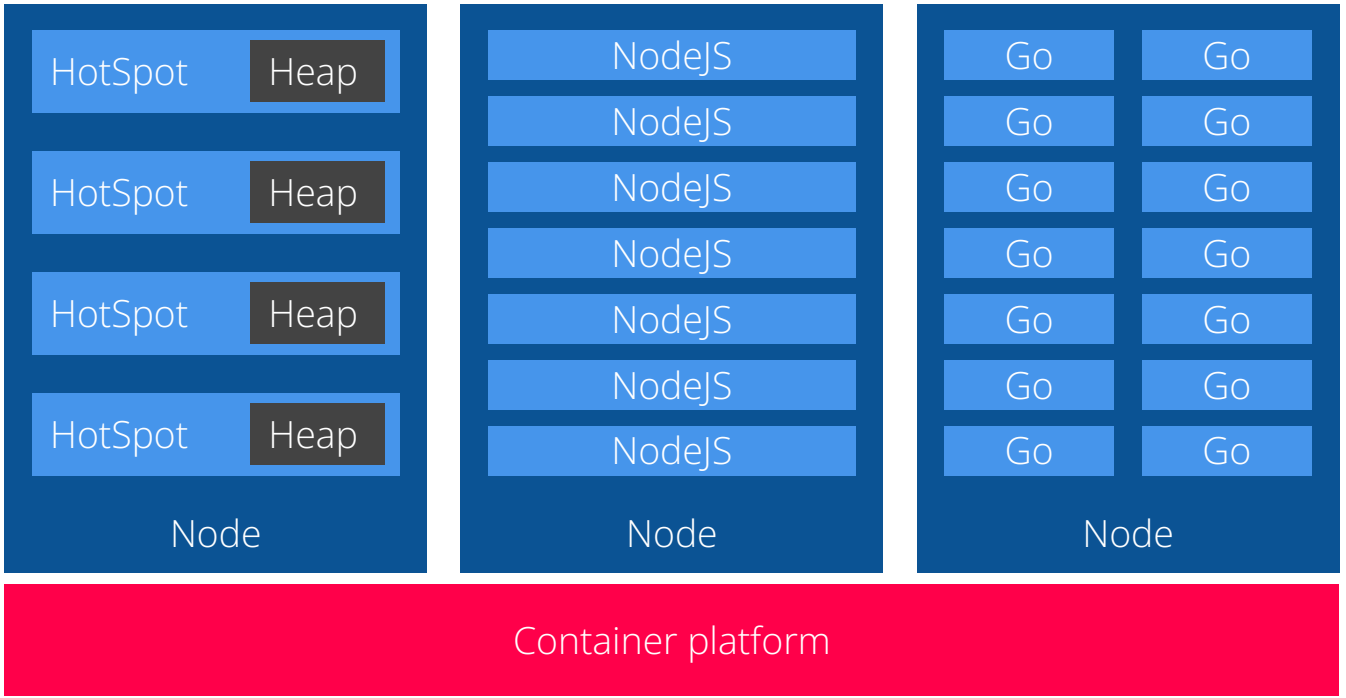
Cloud native & Container platforms

Agilidad, escalabilidad, mayor reactividad



When containers meet java

Densidad


HotSpot
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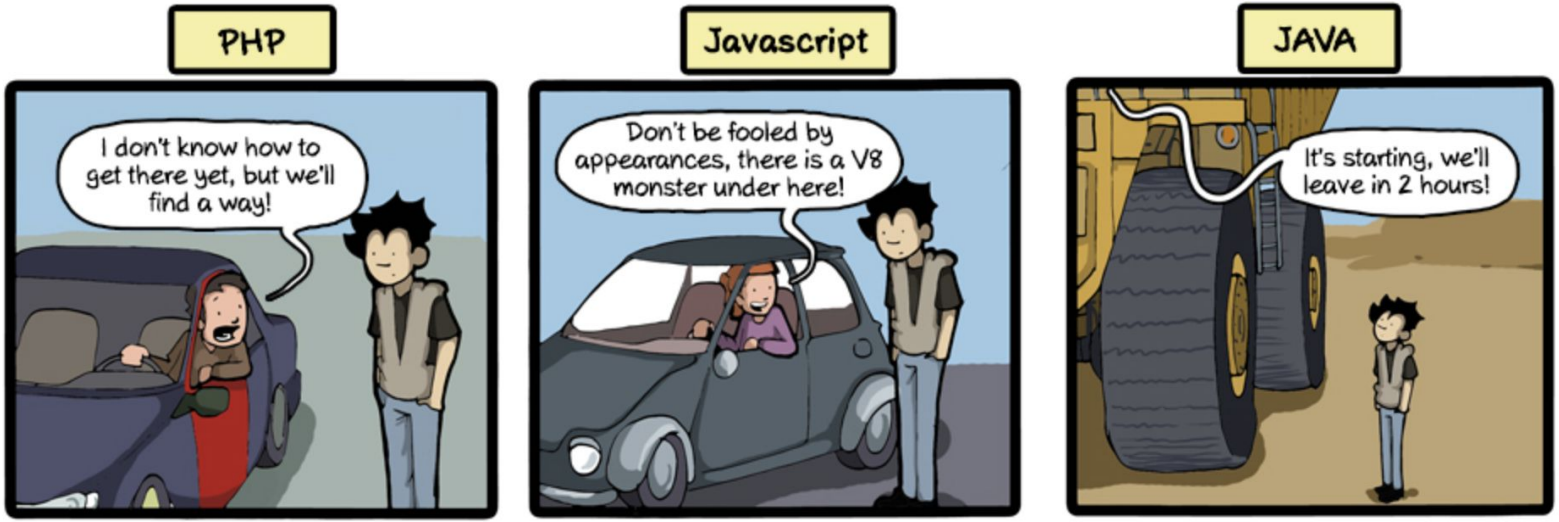
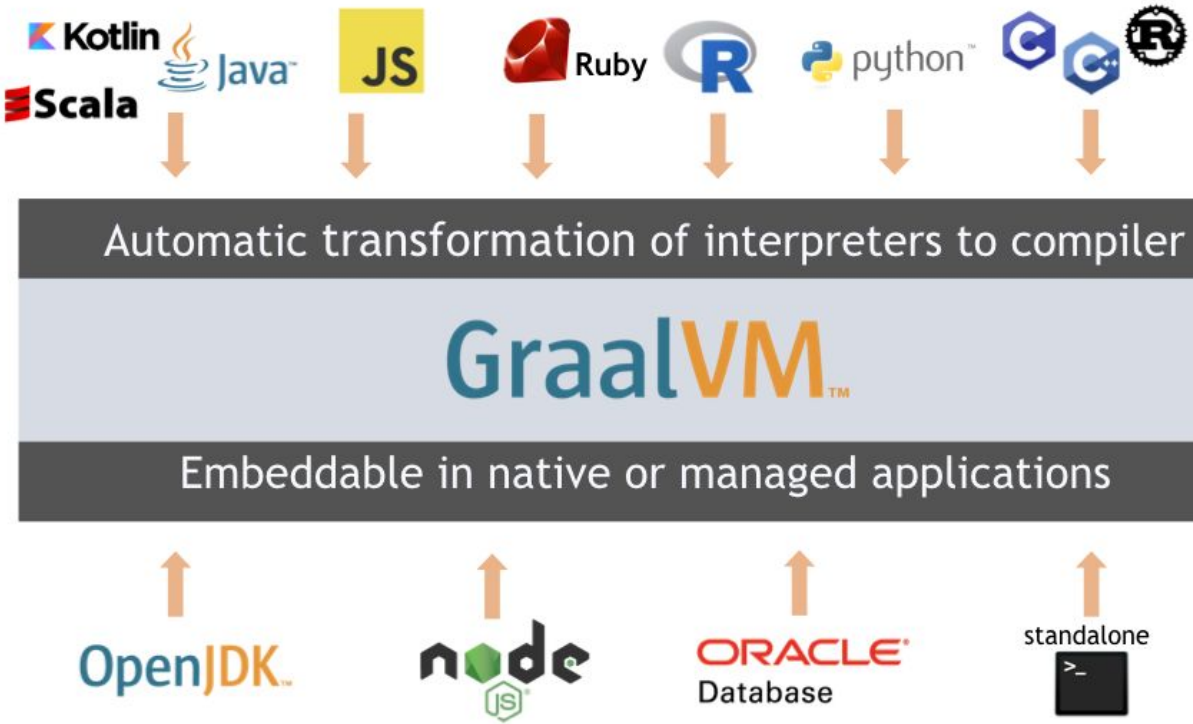
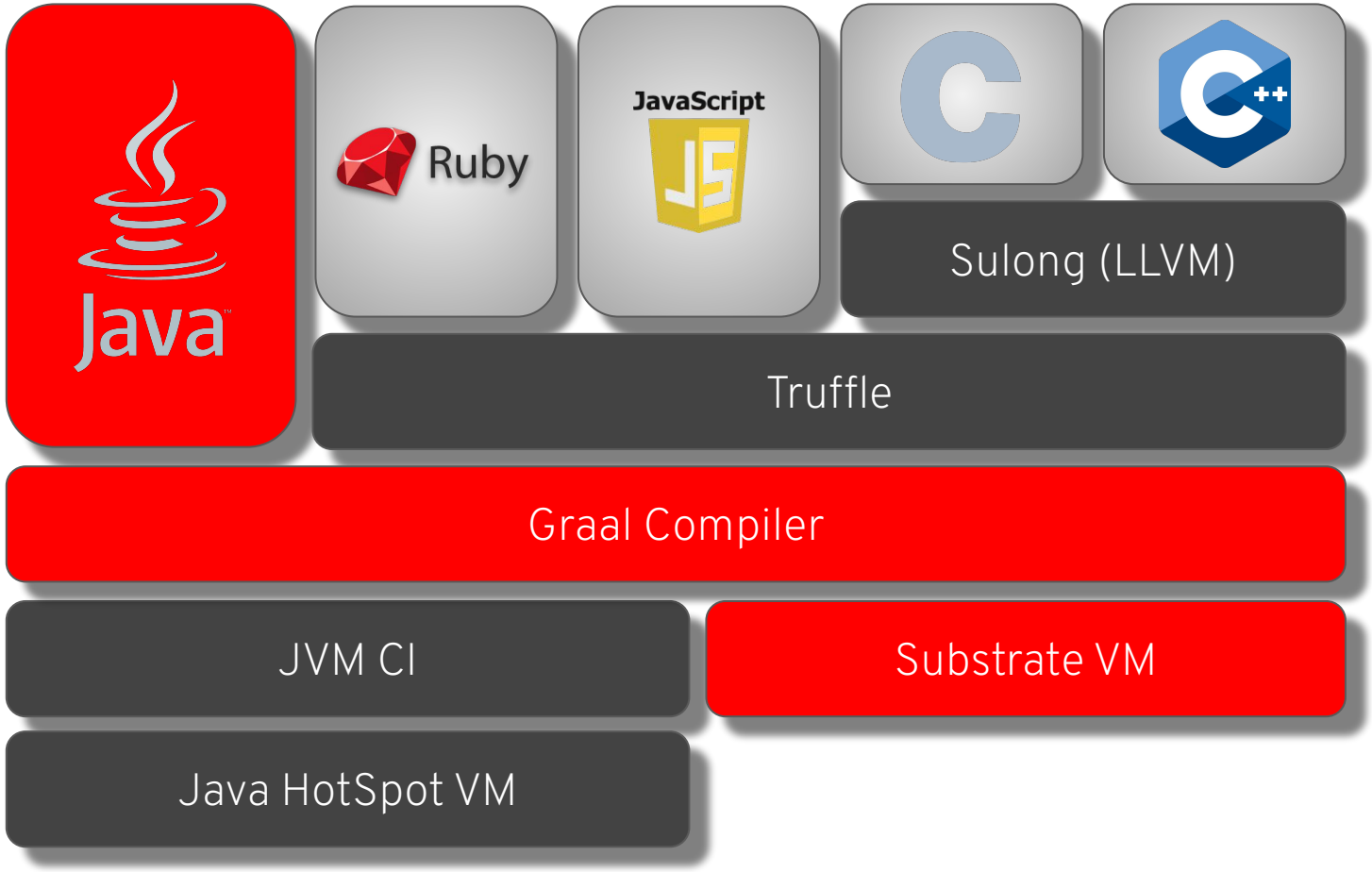
Node
Container platform

Start-up time




Kotlin
Java
Scala
JS
Ruby
R
python
Automatic transformation of interpreters to compiler
GraalVM
Embeddable in native or managed applications
OpenJDK
node
ORACLE
Database
standalone


Java
Ruby
JavaScript
C
C++
Sulong (LLVM)
Truffle
Graal Compiler
JVM CI
Substrate VM
Java HotSpot VM

El problema de Graal

No soporta

- **Dynamic classloading**
- InvokeDynamic & Method handles
- Finalizer
- Security manager
- JVMTI, JMX, native VM Interfaces

Con limitaciones

- **Reflection (manual list)**
- **Dynamic proxy (manual list)**
- JNI (manual list)
- **Static initializers (eager)**
- **Lambda, Threads (OK, pfff!)**
- References (similar)

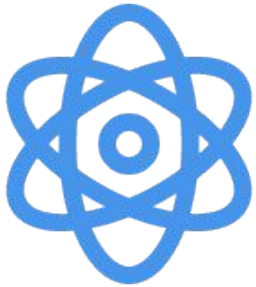
¿Qué significa Quarkus?

QUARK: elementary particle

US: hardest thing in computer science

An Open Source stack to write Java apps

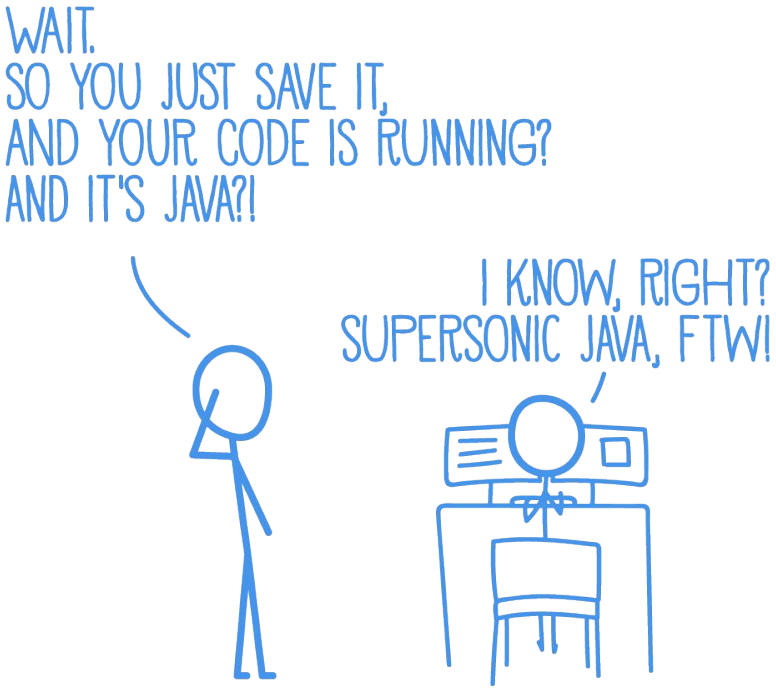
Cloud Native,



Microservices,

Serverless

Beneficio 1: Felicidad del programador

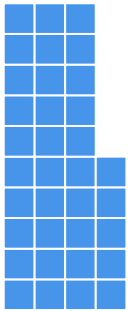


Beneficio 2: Supersonic Subatomic Java

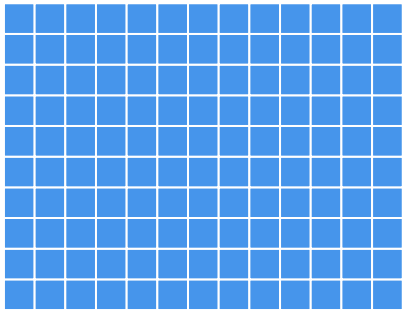
Time to first response

Beneficio 2: Supersonic Subatomic Java

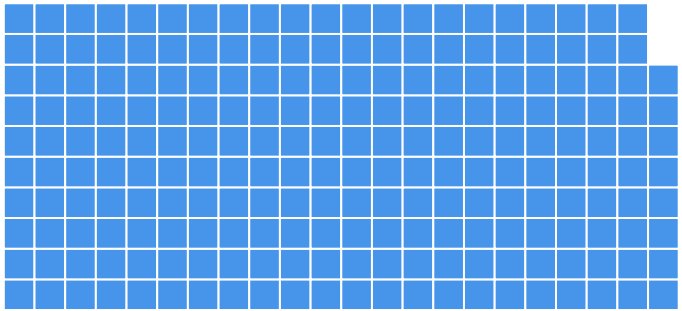
REST + CRUD



Quarkus + GraalVM
35 MB



Quarkus + OpenJDK
130 MB



Traditional Cloud-Native Stack
218 MB

Beneficio 3: Unifica Imperativo + Reactivo

```
@Inject
Servicio say;

@GET
@Produces(MediaType.TEXT_PLAIN)
public String hello() {
    return say.hello();
}
```

```
@Inject @Stream("kafka")
Publisher<String> reactiveSay;

@GET
@Produces(MediaType.SERVER_SENT_EVENTS)
public Publisher<String> stream() {
    return reactiveSay;
}
```

Beneficio 4:
Los mejores Frameworks y Standards

Eclipse Vert.x

Eclipse MicroProfile

Spring Compat

Hibernate

RESTEasy

Apache Camel

Kubernetes

OpenShift

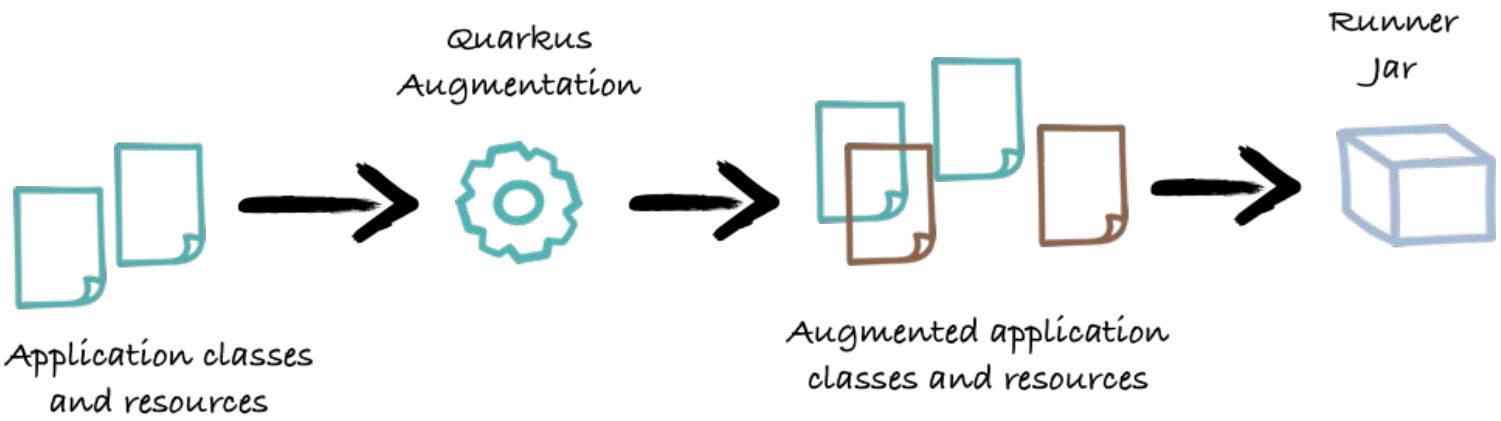
Jaeger

Prometheus

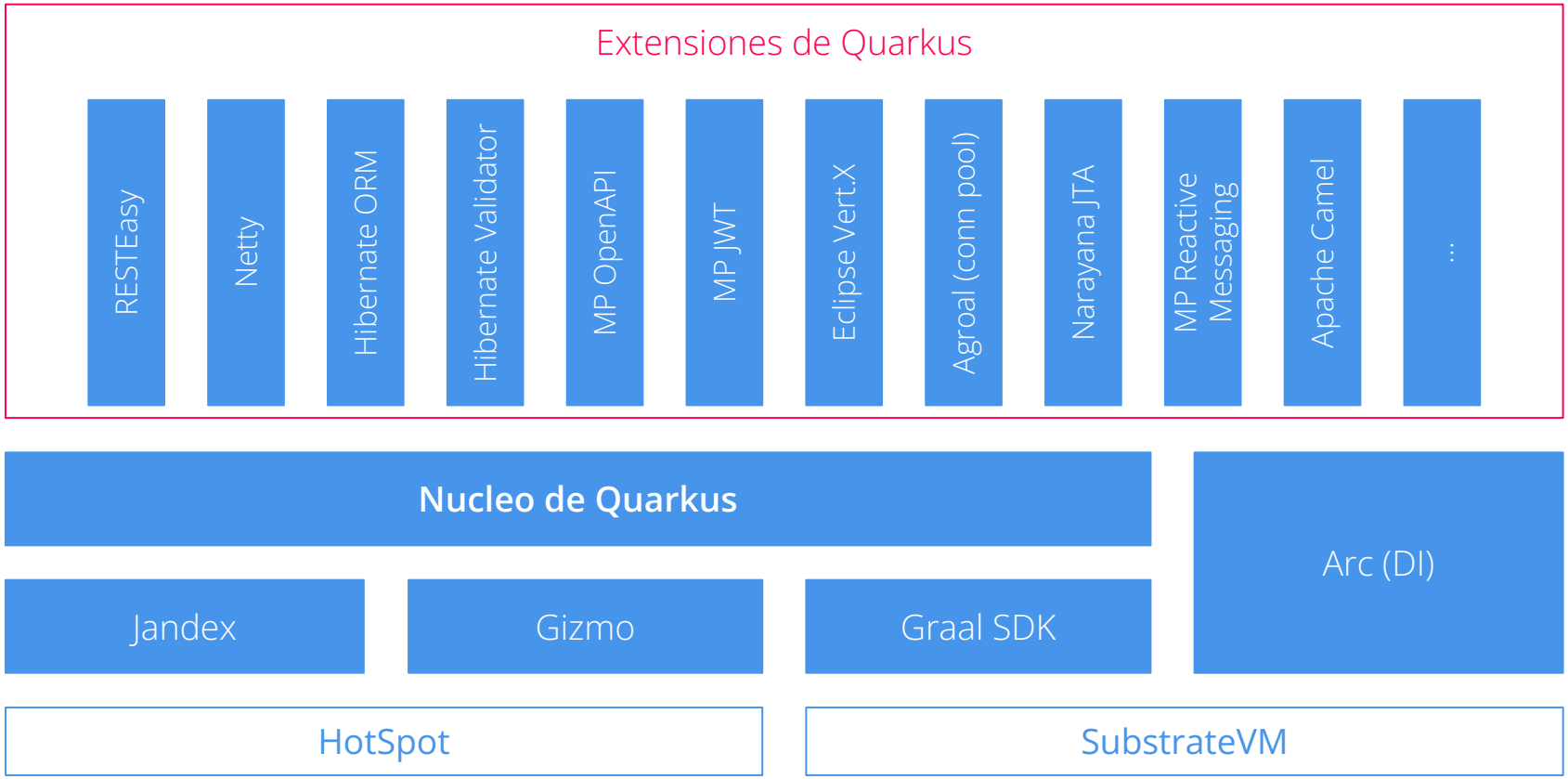
Apache Kafka

Netty

Quarkus Augmentation



Quarkus: nucleo + extensiones



Proceso de build


KEEP
CALM
IT'S
DEMO
TIME!!!

Simple REST endpoint, returning "hello" to requests on "/hello"

```
mvn io.quarkus.platform:quarkus-maven-plugin:2.16.2.Final:create \
    -DprojectGroupId=org.acme \
    -DprojectArtifactId=getting-started \
    -Dextensions='resteasy-reactive'
cd getting-started
```

https://quarkus.io/guides/getting-started#bootstrapping-the-project

- Getting started with Quarkus
- Dependency injection
- Testing Quarkus apps
- Building native Quarkus application

Beneficio 4:
Los mejores Frameworks y Standards

Eclipse Vert.x

Eclipse MicroProfile

Spring Compat

Hibernate

RESTEasy

Apache Camel

Kubernetes

OpenShift

Jaeger

Prometheus

Apache Kafka

Netty

Quarkus para Spring developers

¿Por qué Spring en Quarkus?

- Capitalizar el conocimiento Spring
- Acelerar el aprendizaje y onboarding.
- Evitar la migración in 1-shot.

¿Cuándo usar las extensiones Spring de Quarkus?

- Cuando queráis experimentar.
- Cuando queráis migrar progresivamente una aplicación Spring.

¿Cuándo **NO** usar las extensiones Spring de Quarkus?

- Cuando construyáis una aplicación Quarkus desde cero

QUARKUS CONSIGUE UN MEJOR JAVA EN ENTORNOS DE CONTENEDORES Y SERVERLESS

QUARKUS

quarkus-dev@googlegroups.com

https://quarkusio.zulipchat.com

@quarkusio

YouTube Quarkus Insights

Demos:

https://github.com/aureamunoz/getting-started-on-quarkus-demo.git
https://quarkus.io/guides/hibernate-orm-panache
https://quarkus.io/guides/rest-data-panache
https://github.com/aureamunoz/spring-on-quarkus-demo

Docs:

https://quarkus.io/
https://github.com/quarkusio/quarkus-quickstarts.git

Beyond the Getting Started:

https://quarkus.io/quarkus-workshops/super-heroes/

Gracias!

@auritamh