

Making sense of Professional Open Source (and other stories)

Dimitris Andreadis

Engineering Director

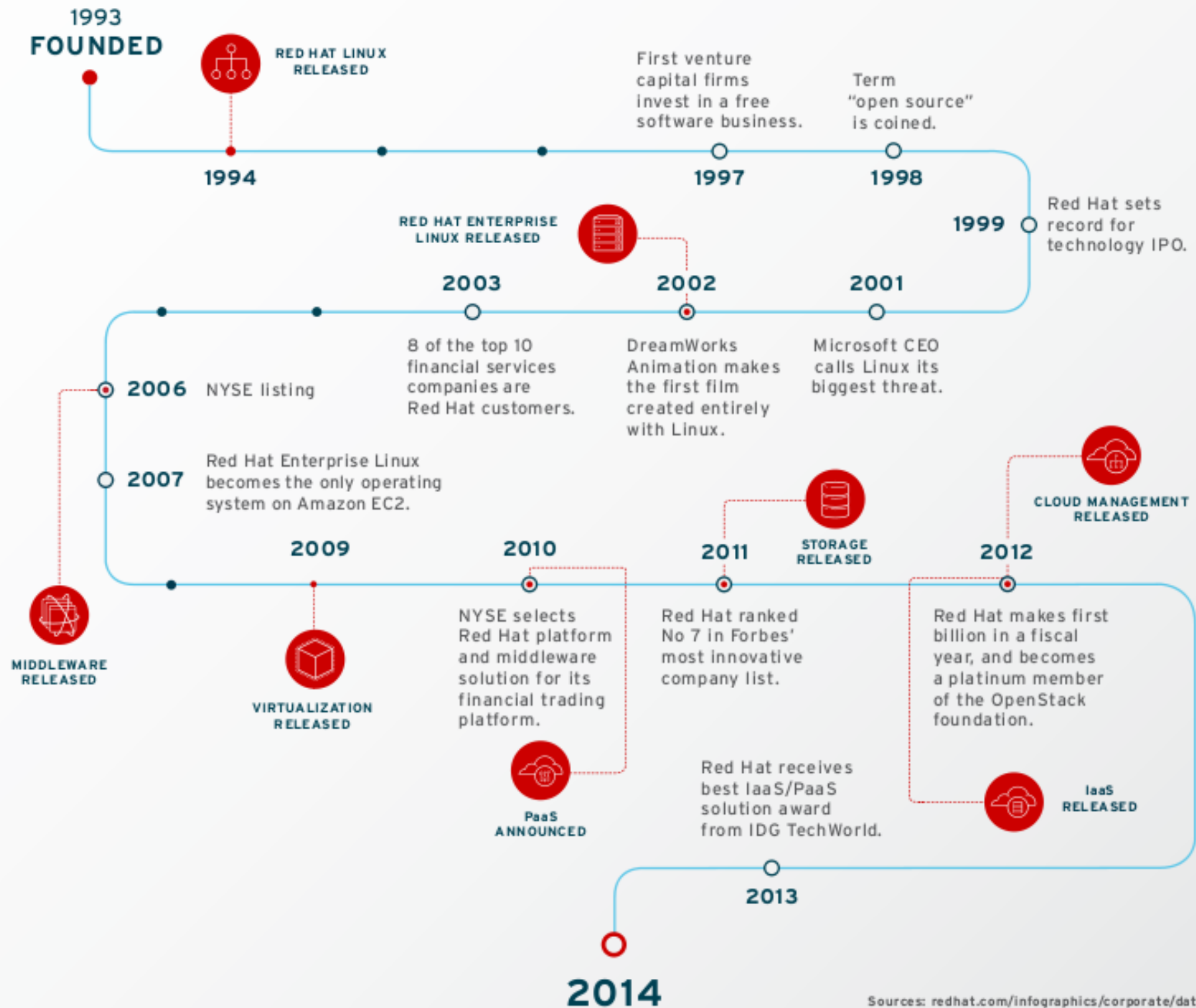
Red Hat JBoss Middleware

Twitter: @dandreadis

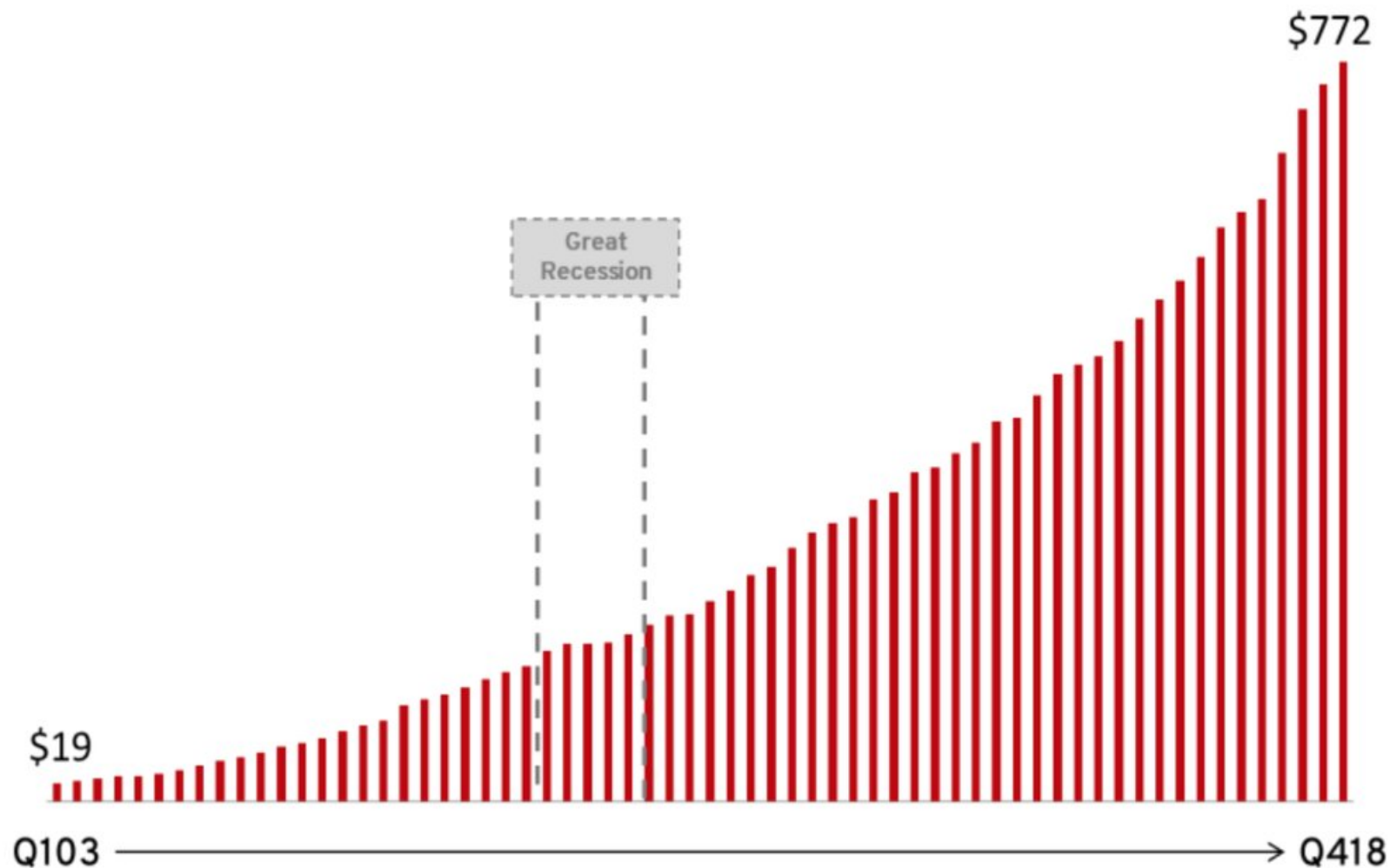
dandreadis.blogspot.com

**FIRST THEY IGNORE YOU.
THEN THEY LAUGH AT YOU.
THEN THEY FIGHT YOU.
THEN YOU WIN.**

MOHANDAS GANDHI



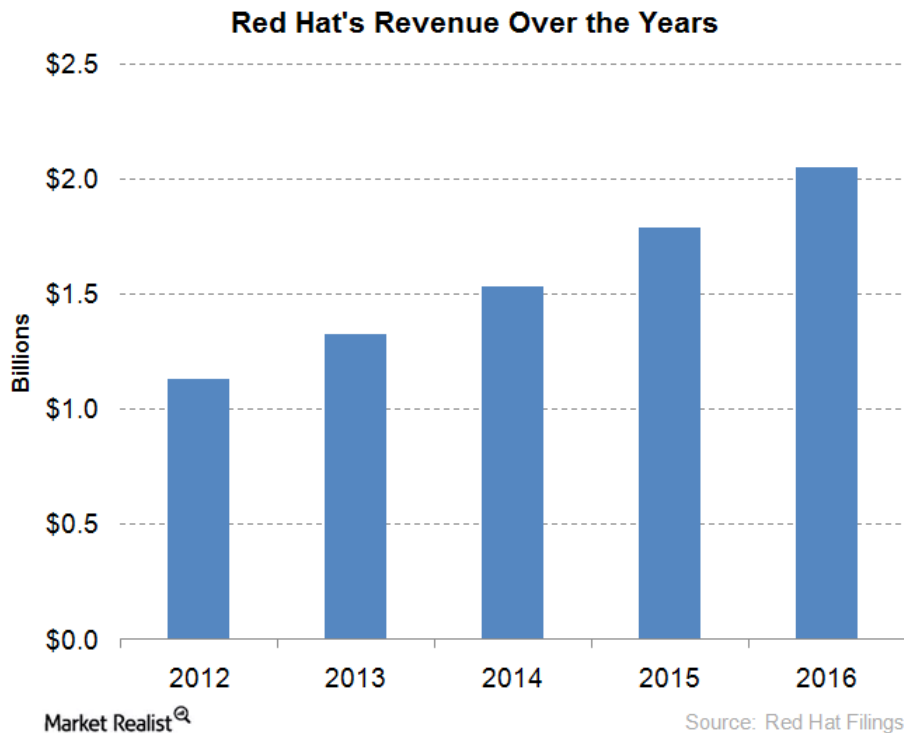
64 Quarters of Revenue Growth



(In millions, fiscal years)

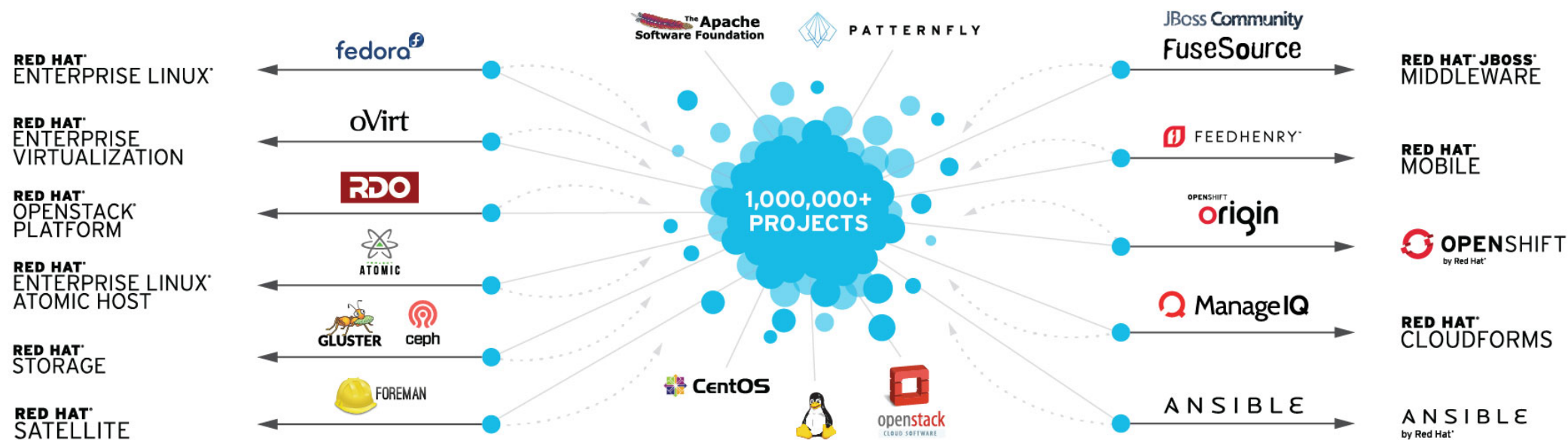
Red Hat sells \$3B of “Free” Software

& owns roughly 70% of commercial Linux market, worldwide



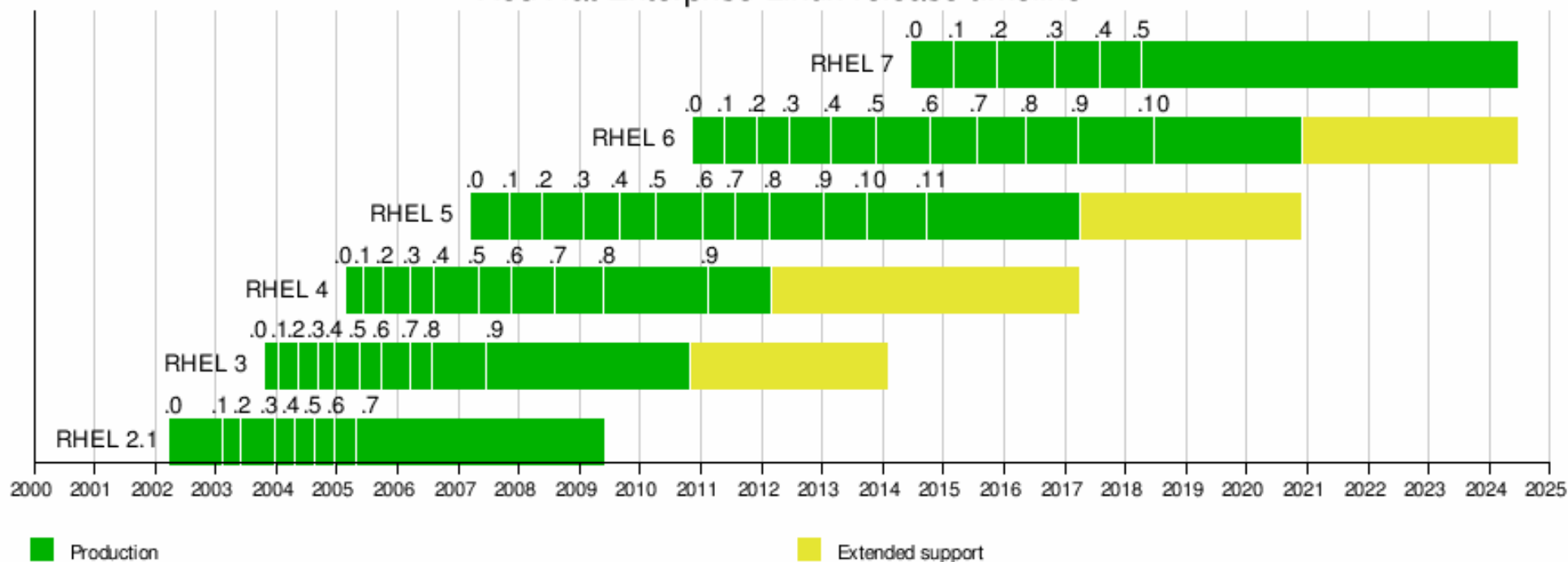
- Free, as in Free Beer
- VS
- Free, as in Freedom to
 - run
 - study
 - modify
 - redistribute

Putting the Open Source chaos in order



Long term support & stability

Red Hat Enterprise Linux release timeline



RED HAT & YOUR BUSINESS: SUBSCRIPTION MODEL



TECHNICAL SUPPORT

- 24 HOURS / 7 DAYS A WEEK
- UNLIMITED INCIDENTS
- MULTI-LINGUAL
- MULTI-VENDOR CASE OWNERSHIP
- MISSION-CRITICAL (OPTIONAL)

ONGOING DELIVERY

- STABILITY WITH A PRODUCT LIFECYCLE OF UP TO 10 YEARS
- PATCHES
- UPDATES
- UPGRADES
- SECURITY RESPONSE TEAM

EXPERTISE

- CUSTOMER PORTAL & FORUMS
- KNOWLEDGEBASE
- ACCESS LABS
- TRAINING CURRICULA (OPTIONAL)

COMMITMENTS

- HARDWARE CERTIFICATION
- SOFTWARE CERTIFICATION
- CLOUD PROVIDER CERTIFICATION
- SOFTWARE ASSURANCE

AWARD-WINNING
SUPPORT

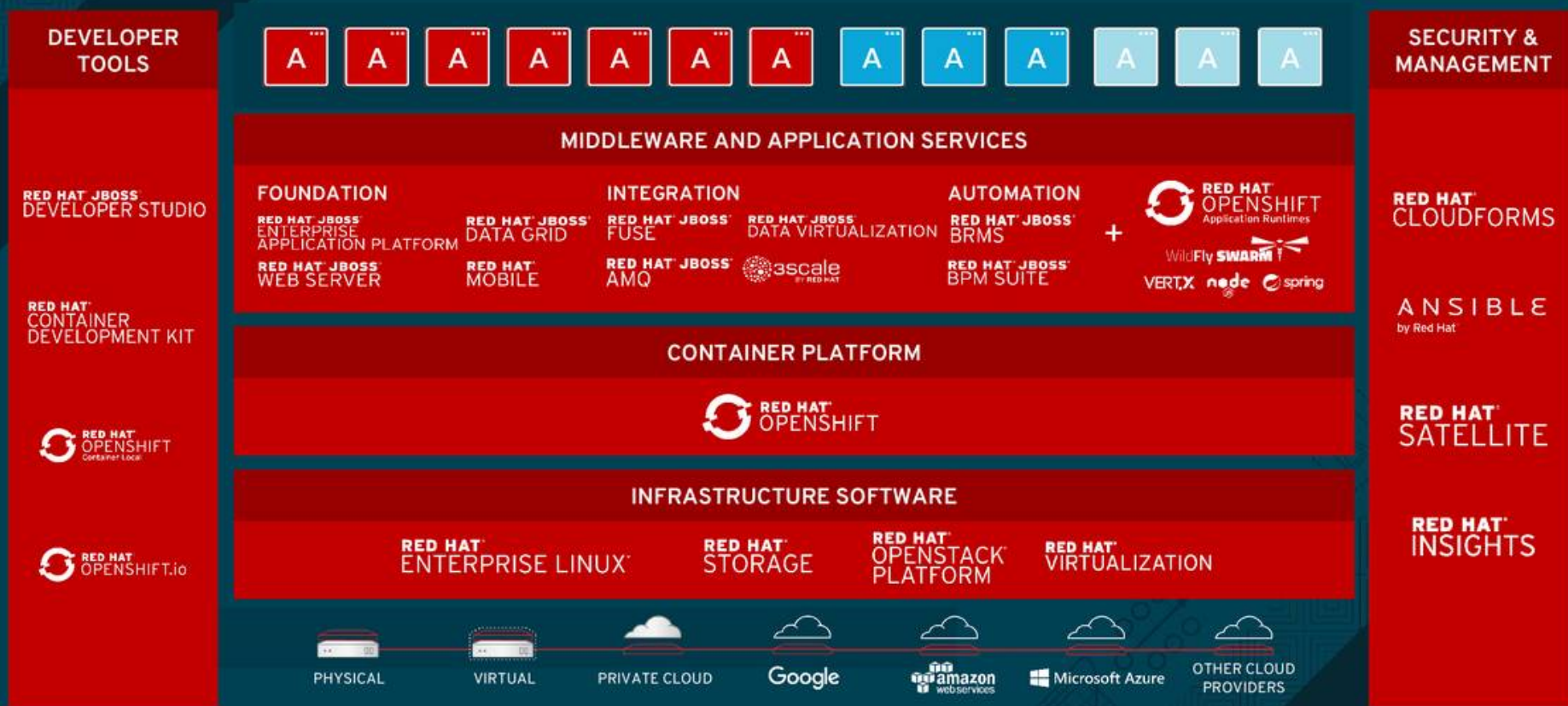


YEARS
AWARDED:
2011 2013
2012 2014



Beyond Linux

COMPLETE TECHNOLOGY STACK FOR HYBRID CLOUD



JBoss Enterprise Application Platform

by [Red Hat, Inc.](#)

Product Overview

JBoss EAP 7 is built to provide simplified deployment and full Java™ EE performance for applications in any environment. Whether on-premise or in virtual, private, public, and hybrid clouds, JBoss EAP features a modular architecture that starts services only as they are required. The extreme low memory footprint and fast startup times mean that JBoss EAP is ideal for environments where efficient resource utilization is a priority, such as Red Hat OpenShift.

APPLICATION CATEGORY

Middleware

- [Product Information](#)
- [Support Policy](#)
- [Product Lifecycle](#)

5 of 5 repositories belong to this product

☐ Hide Beta ☒ Hide Deprecated

Repository Name

Latest Image

jboss-eap-6/eap64-openshift

[JBoss EAP 6.4 for OpenShift](#) by Red Hat, Inc.

JBoss EAP 6.4 for OpenShift

7 days ago

1.9-19

Health **B**

jboss-eap-7/eap71-openshift

[JBoss EAP 7.1 for OpenShift](#) by Red Hat, Inc.

JBoss EAP 7.1 for OpenShift

7 days ago

1.4-16

Health **B**

JBoss.org

What was JBoss?

- An Open Source Java EE* Application Server
- Founded by Marc Fleury in 1999
- Backed by a community of developers
- Yet Another Java AppServer (out of 40+)

*Enterprise Edition

Application Servers

- Provide a runtime for mission-critical applications
- Solve the **Many** (clients) to **Few** (resources) problem
- User code doesn't have to deal with
 - Security
 - Transactions
 - Threading
 - Pooling
 - Caching
 - Connectors
 - Messaging
 - Clustering
 - ...

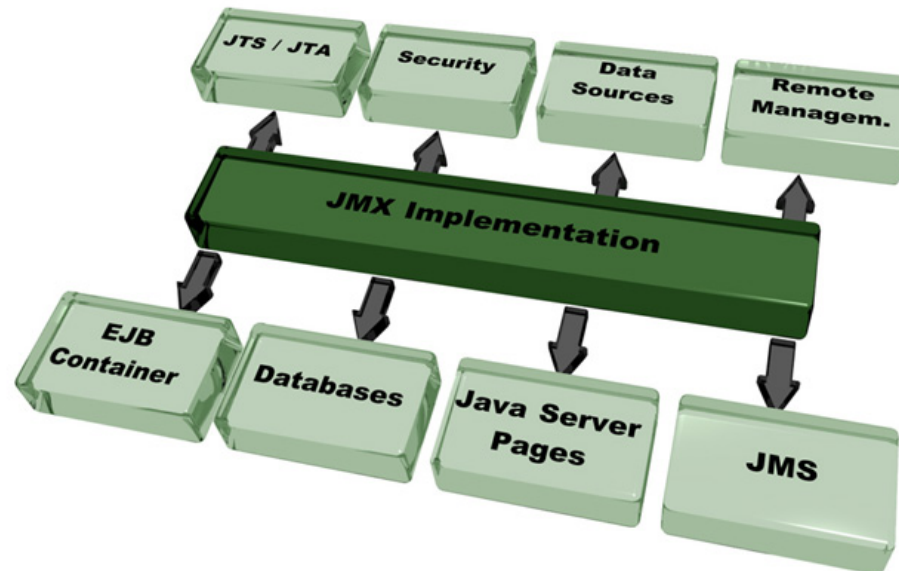


What made JBoss special?

- Open Source
 - Commercial Servers at \$10k - \$100k
- LGPL licensed
 - Freely Use/Distribute/Embed
 - Change JBoss => contribute changes back
- Developer friendly
 - E.g. Hot deployment, no pre-compilation steps, etc.
- Innovative design
 - Lightweight, modular, dynamic

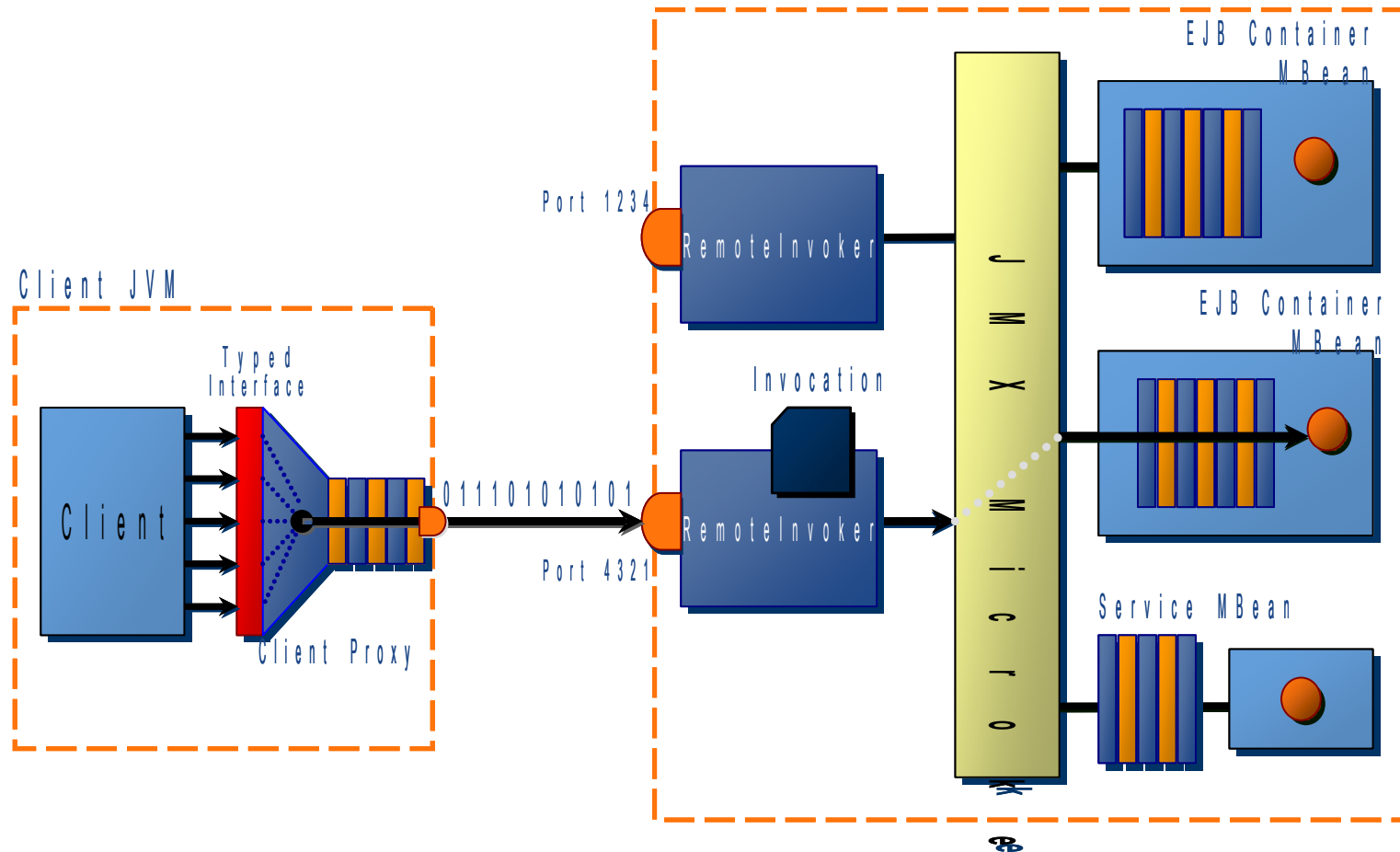
Architectural Innovations

- The JBoss MicroKernel
 - A lightweight component framework that wires together a set of Services.
 - Services are de-coupled, invocations are routed through an internal bus.



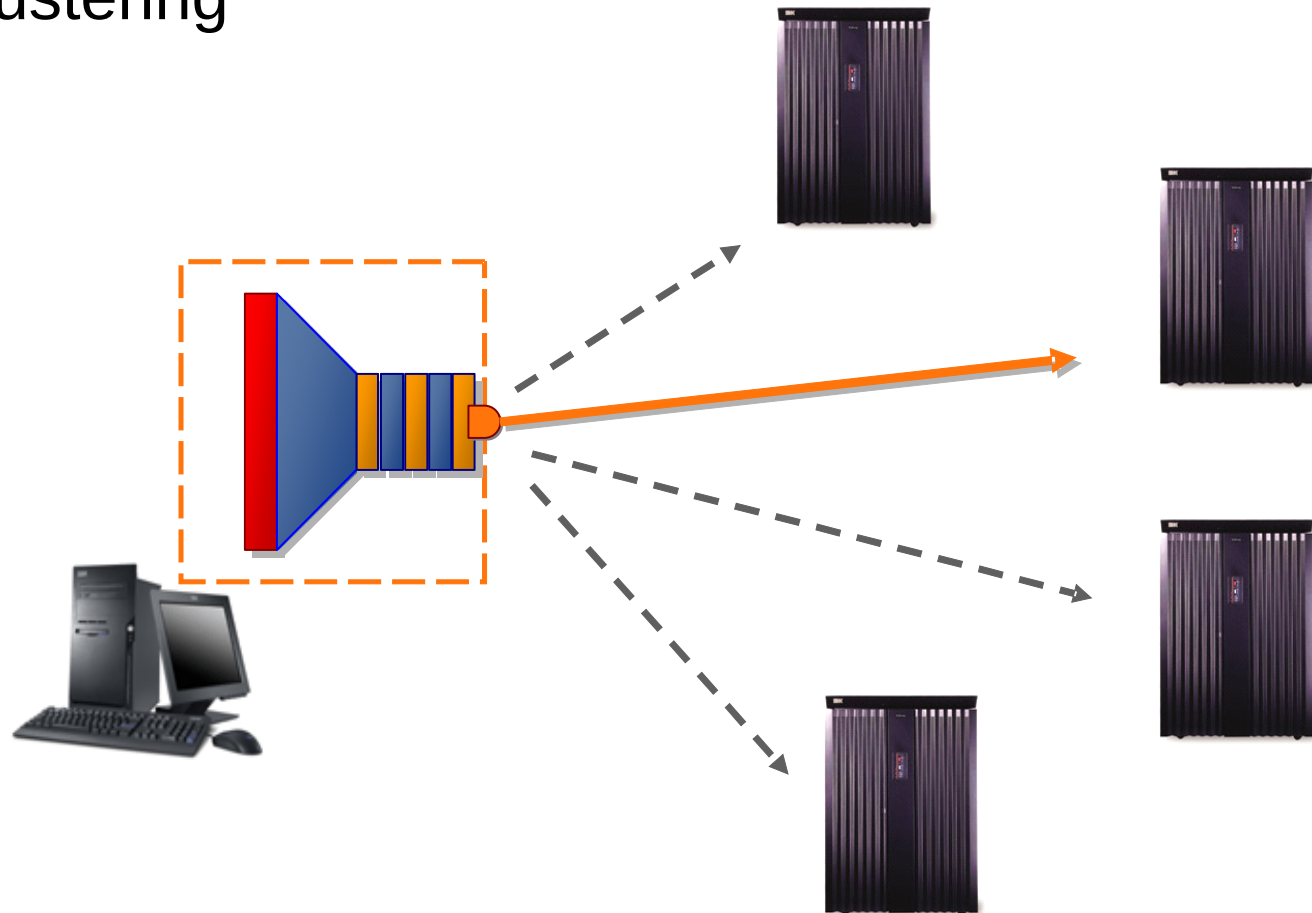
Architectural Innovations

- Aspect Oriented Design (since 2001!)
 - Interceptors applied using Dynamic Proxies and traditional OOD techniques



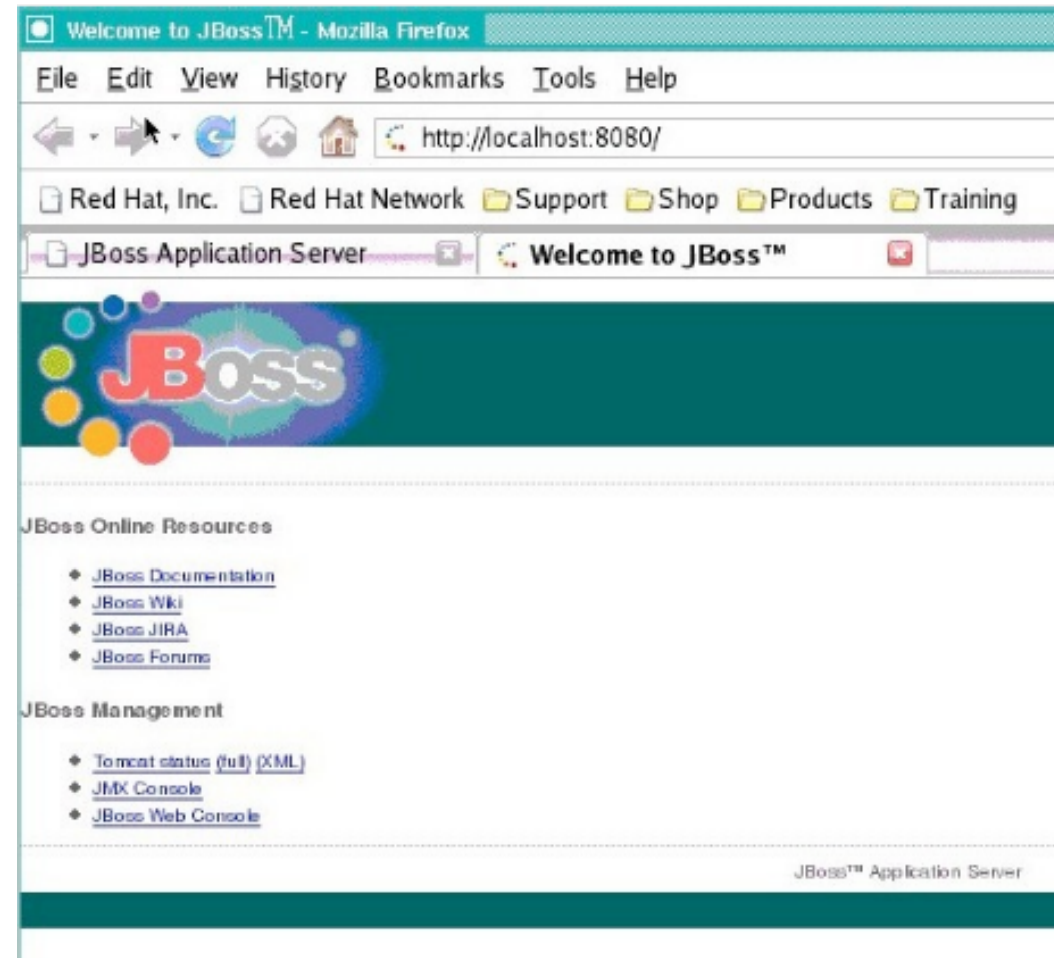
Architectural Innovations

- Instant Clustering



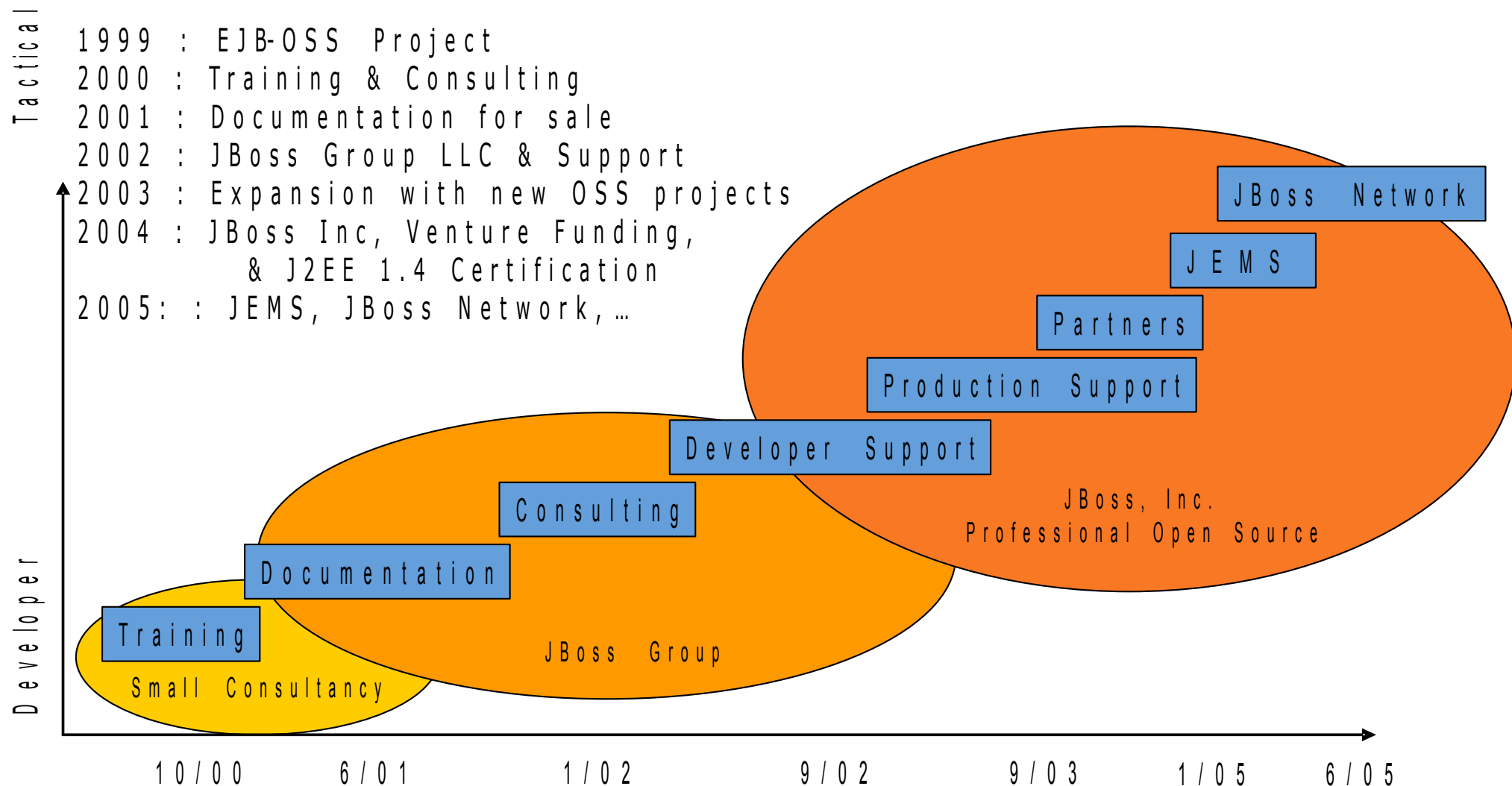
A Brave new Open Source World

- Code first
- Release early, release often
- Test Driven Development
- Continuous Integration
- Coding Standards
- Minimal documentation
- Peer review
- ...
- Meritocracy
- Collaboration

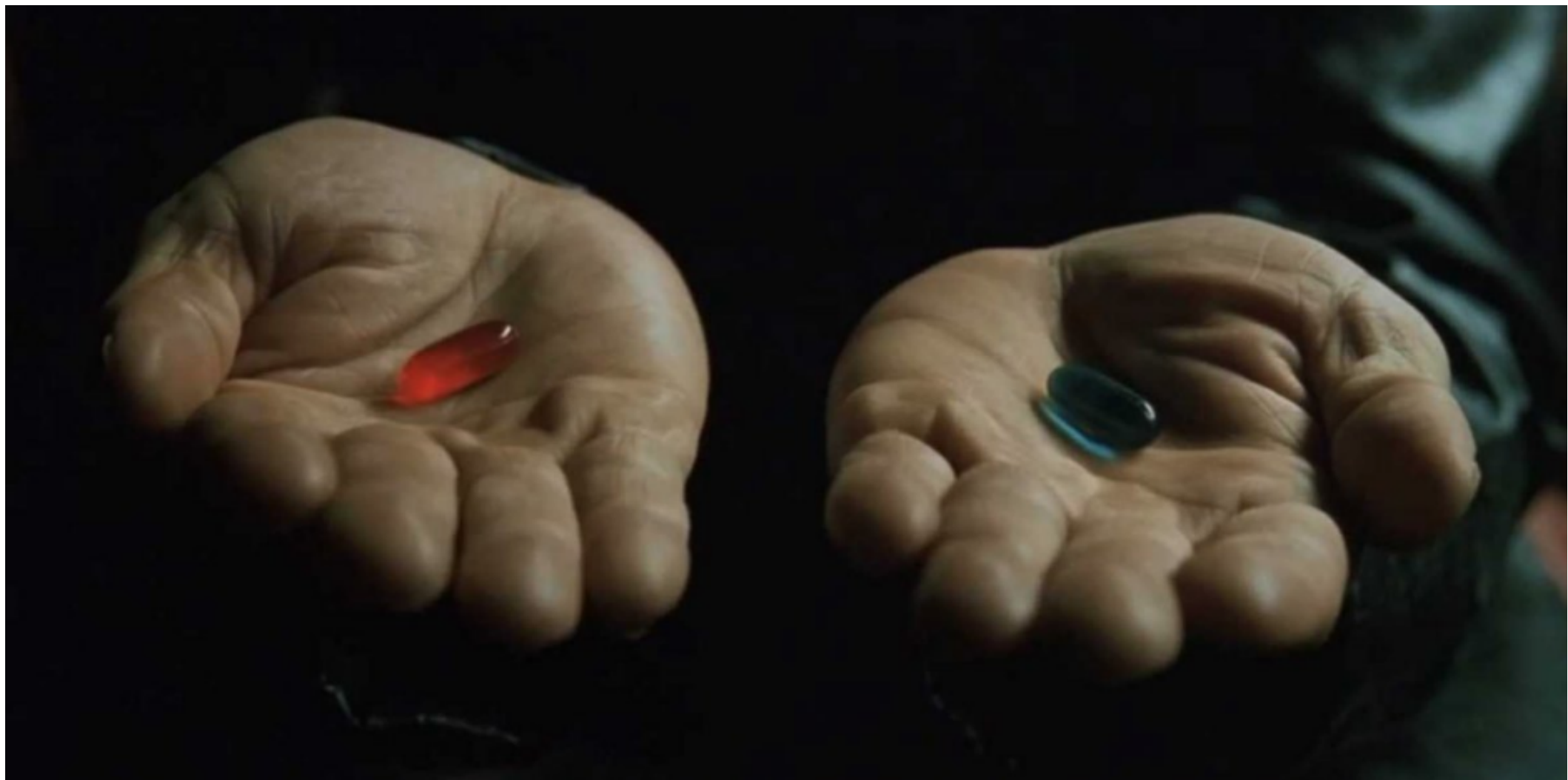


JBoss.com

JBoss.com – The Company



Down the Rabbit Hole



JBoss Professional Open Source

- Brand Protection
- Revenue Streams
 - JBoss Subscription
 - Updates, Patches
 - Support up to 24x7 with 1h response
 - Long term stability
 - Legal Assurance
 - Training, Consulting, Certification
 - ISV / OEM

Who was using JBoss?

(tip of iceberg)

Financial	Travel	Gov	Telecom	Media/ Entertainment	Insurance
AMERITRADE 	Sabre Holdings 				
					
					
					
					
					

French Tax Agency – Project Copernicus

- Complete restructuring of French Tax Agency
- 1 Billion Euros budget over 10 years
- JBoss on top of 250 RHEL servers, 80Tb of Data
- JBoss chosen on technical merits among 2 FOSS and 3 proprietary servers
- TCO savings 75% (13M Euros) for the application server part
- Handles all Tax declarations & payments since 2006



Swedish Polish – IT Budget over 5 years

New environment based on Mixed Source	Cost	Notes
Microsoft	\$ 0	OpenOffice from Novell
Novell	\$ X X00 000	Renew contract for 25 000 employees and OpenOffice support for 25 000 employees
MySQL	\$ X XXX XXX 1/7	60 servers for new projects
Oracle Enterprise Edition support	\$ X X00 000	Support on existing licences over 5 years
JBoss	\$ X XXX XXX 1/5	126 CPU:s for new projects
Bea support	\$ X X00 000	Support on existing licences over 5 years
HW with Linux and AMD/Intel x86	\$ 9 097 978 >1/2	Investments in new servers over 5 years
HW support AMD/Intel x86/Risc	\$ 6 772 939	Server support over 5 years
Total	\$ 34 316 601	
Cost per year	\$ 6 863 320	
Software	\$ 18 445 684	
Hardware	\$ 15 870 917	

Architecture:

Legacy:

- Mainframe
- Two-layer
- Three-layer

New:

- n-Layer Architecture based on the J2EE framework

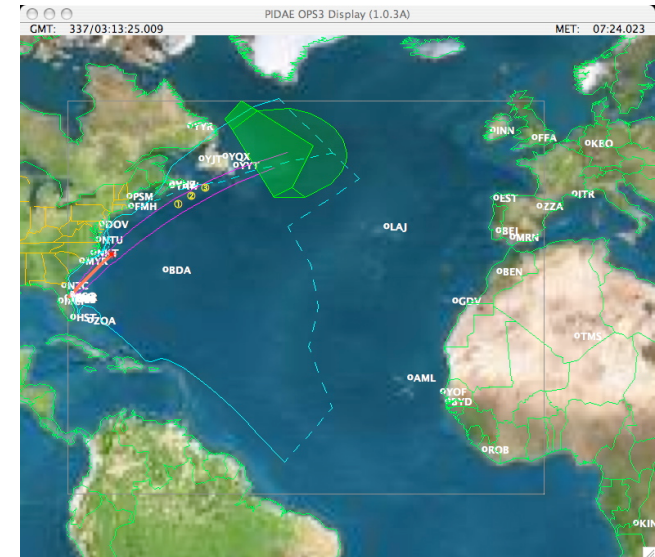
Operation:

- 1 Main site
- 250 Unix servers
- 1 Mainframe (Unisys)
- 500+ Novell servers on 400 sites
- 20 000 Clients
- 500 Applications (instances)

- Business as Usual \$ 62.363.919
- Mixed Source \$ 34.316.601
- Savings:
46% in software
48% in hardware

NASA - Spacecraft Trajectory Operations

- Replaces legacy systems with JBoss Middleware for all of the Trajectory Analysis, Pre-mission Design, Operations, and Post-Flight Assessments for the Human Space Flight Program
 - Space Shuttle Program (SSP)
 - International Space Station (ISS)
 - Constellation Program (CxP) and other vehicles



Red Hat acquisition of JBoss (2006)

- Red Hat offered \$350M for JBoss Inc.
- JBoss formed the Middleware division of Red Hat
- An Open Source stack for the Enterprise, at a fraction of the cost



PROPRIETARY

BEA AQUALOGIC, IBM ESB,
BEA DATASERVICES, IBM EII

BEA/IBM PORTAL,
BEA BPM, IJOG JRULES

BEA WEBLOGIC,
IBM WEBSHERE

AIX, HP-UX, SOLARIS

EMC POWERPATH

VMWARE
VIRTUALIZATION

VERITAS
STORAGE SUITE

OPEN SOURCE

JBoss ENTERPRISE
SOA PLATFORM,
METAMATRIX

JBoss ENTERPRISE PORTAL
PLATFORM, JBoss jBPM,
RULES FRAMEWORKS

JBoss ENTERPRISE
APPLICATION PLATFORM

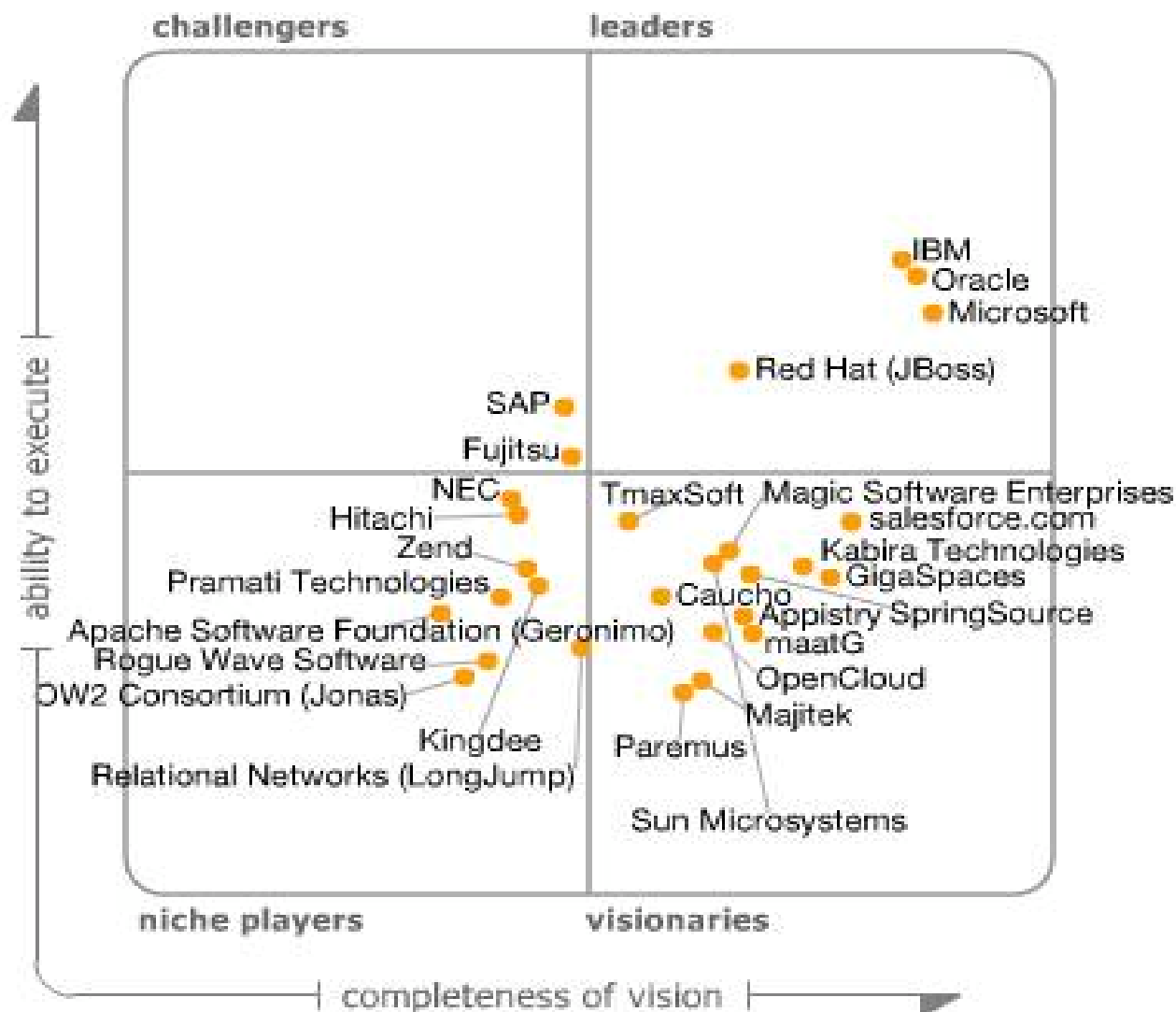
RED HAT
ENTERPRISE LINUX

MPIO

RED HAT INTEGRATED
VIRTUALIZATION

LVM, GLOBAL
FILE SYSTEM

Gartner's Magic Quadrant for Enterprise Application Servers



As of September 2009

Releases, releases, releases

RED HAT[®] JBOSS[®]
ENTERPRISE
APPLICATION
PLATFORM

7



WildFly

Version 10
upstream Project
for JBoss EAP 7



JBoss AS

renamed to Wildfly

JBoss Enterprise Application Platform - EAP

- Red Hat's 2nd biggest product after Red Hat Enterprise Linux
- Integrating 150+ components, about 50 owned by the team
- A dozen other Red Hat products built on or depend on JBoss EAP
- Multiple delivery methods (.zip, rpm, installer, container images)
- Plus Quickstarts, Maven repos, Sources, Docs, etc.
- Multiple supported release streams, 5.x, 6.x, 7.x
- Supported on 4 JDKs, 8 OSes, 4 Chipsets, 19 DBs
- Testing for Performance, Interoperability, Compliance, Security, etc.
- Most of team is remote, across all timezones

What's Next?



JAKARTA EE

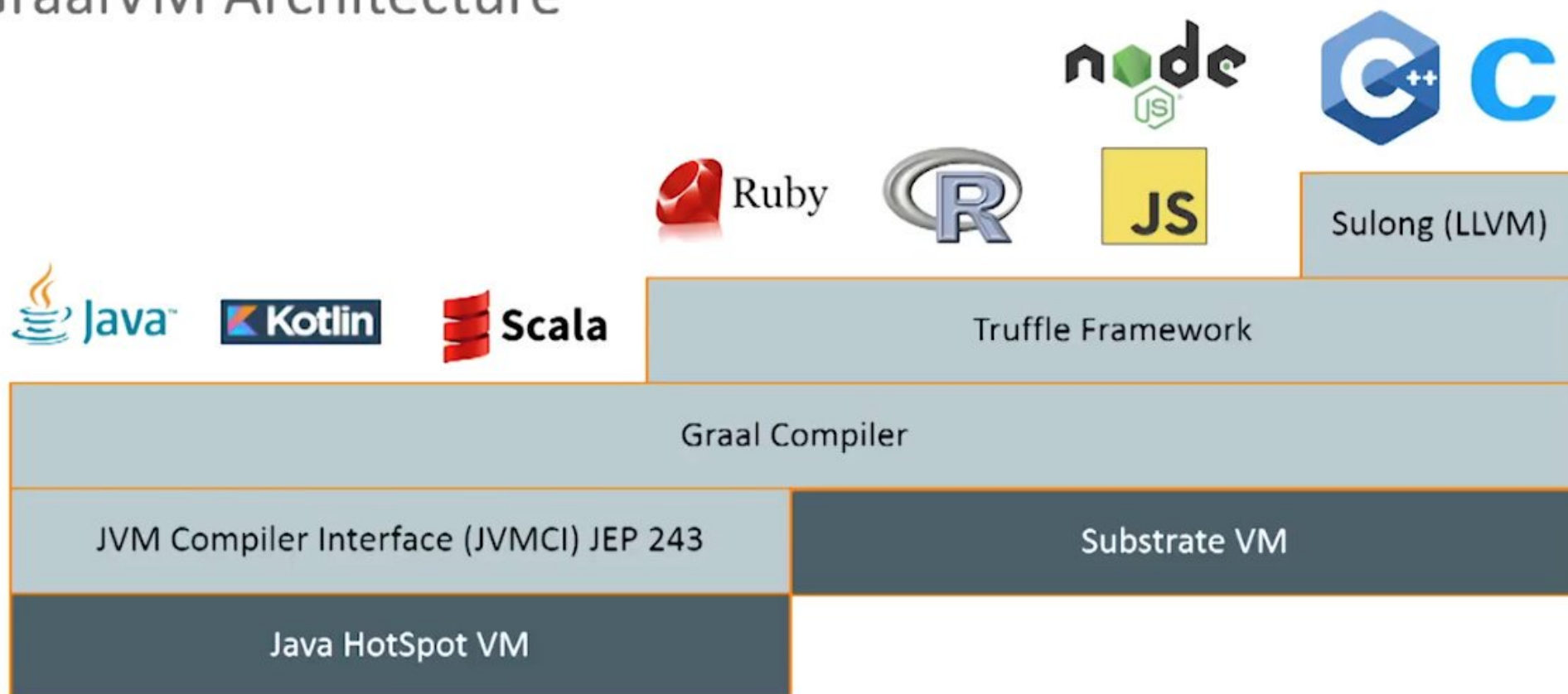
THE FUTURE OF JAVA EE

Istio



kubernetes

GraalVM Architecture



**redhat.**

IBM and Red Hat combine to create leading hybrid & multcloud provider

[PRESS RELEASE](#)[BLOG POST FROM JIM WHITEHURST](#)[BLOG POST FROM PAUL CORMIER](#)

Questions?

THE OPEN

ORGANIZATION

IGNITING PASSION AND PERFORMANCE

JIM WHITEHURST
CEO, RED HAT

WITH A FOREWORD BY GARY HAMEL

HARVARD BUSINESS REVIEW PRESS

