From Java EE to Jakarta EE

A user experience

A few words about me

@jefrajames

Worldline
EXPERT
community

Speaker me = SpeakerOf.setLastName("**James**")
.setFirstName("**Jean-François**")
.setBackgroundInYears(**32**)
.setMindset("**DevOps**")
.addSkill("**Unix**", LocalDate.of(**1988,** MONTH.January, 1))
.addSkill("**Software Architect**", LocalDate.of(**1990,** MONTH.January, 1))
.addSkill("**Java**", LocalDate.of(**1997,** MONTH.January, 1))
.build();

User perspective?

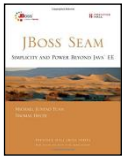
Agenda

- The past
- The transition
- The future

The Past

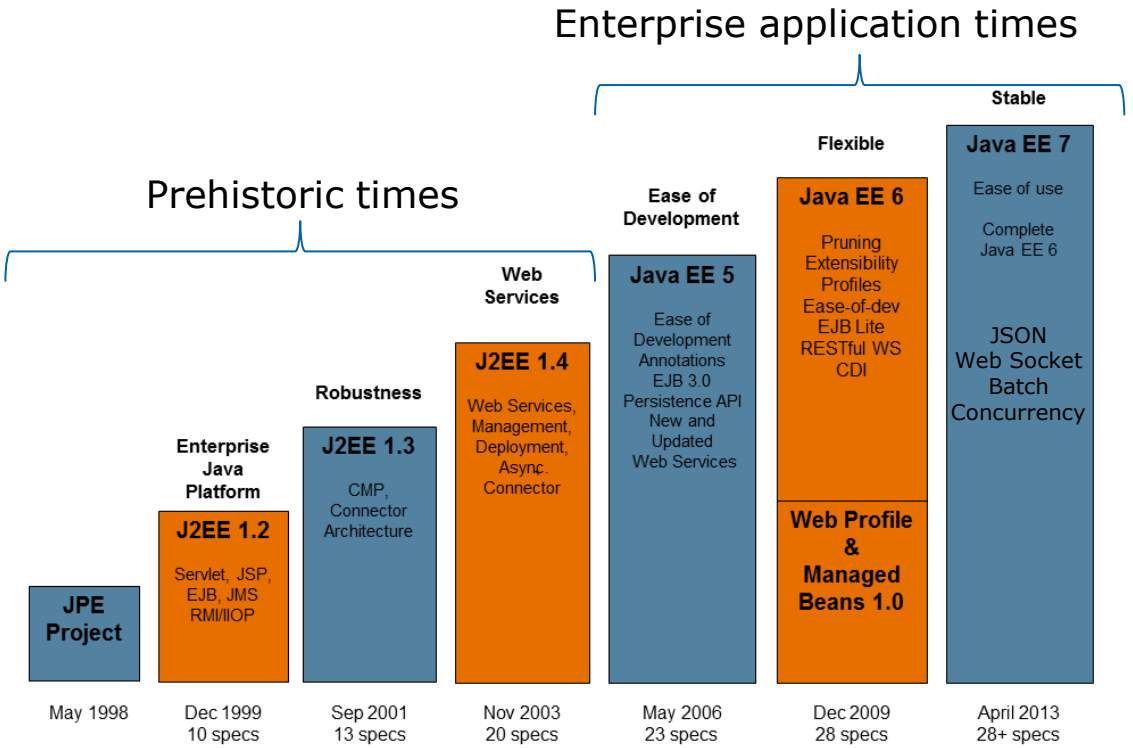
Where do we come from?

From J2EE to Java EE



2007

2004



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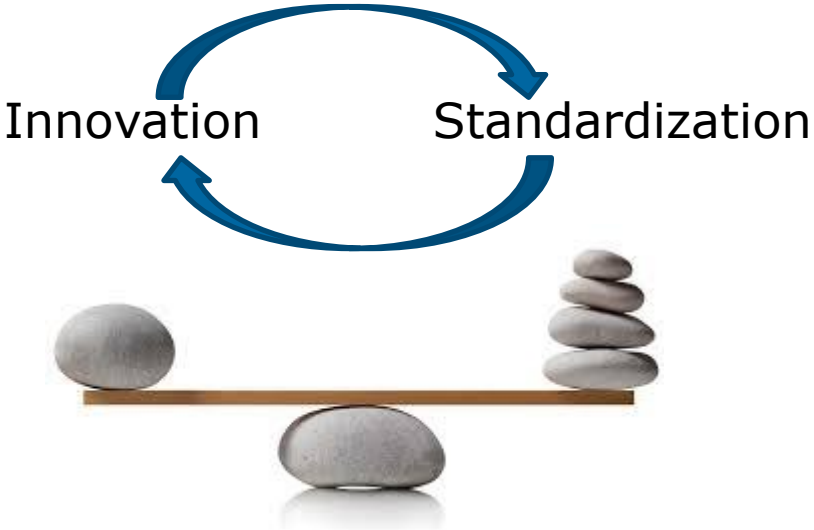
Innovation vs standardization



"Java EE is the place to standardize innovation in the Enterprise Java space"

Enterprise applications

Moderate
Predictable
scalability

Synchronous & imperative programming model
Strict constency

Slow release
cadence

App server

On Premise

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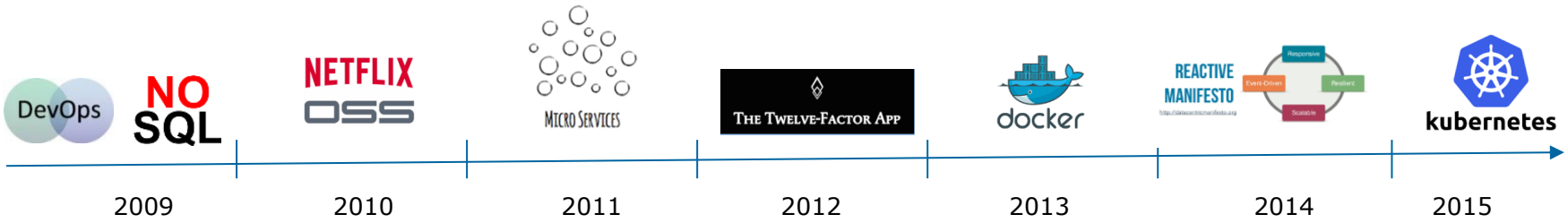
The transition

From enterprise to cloud-native applications

Shifting to cloud-native applications



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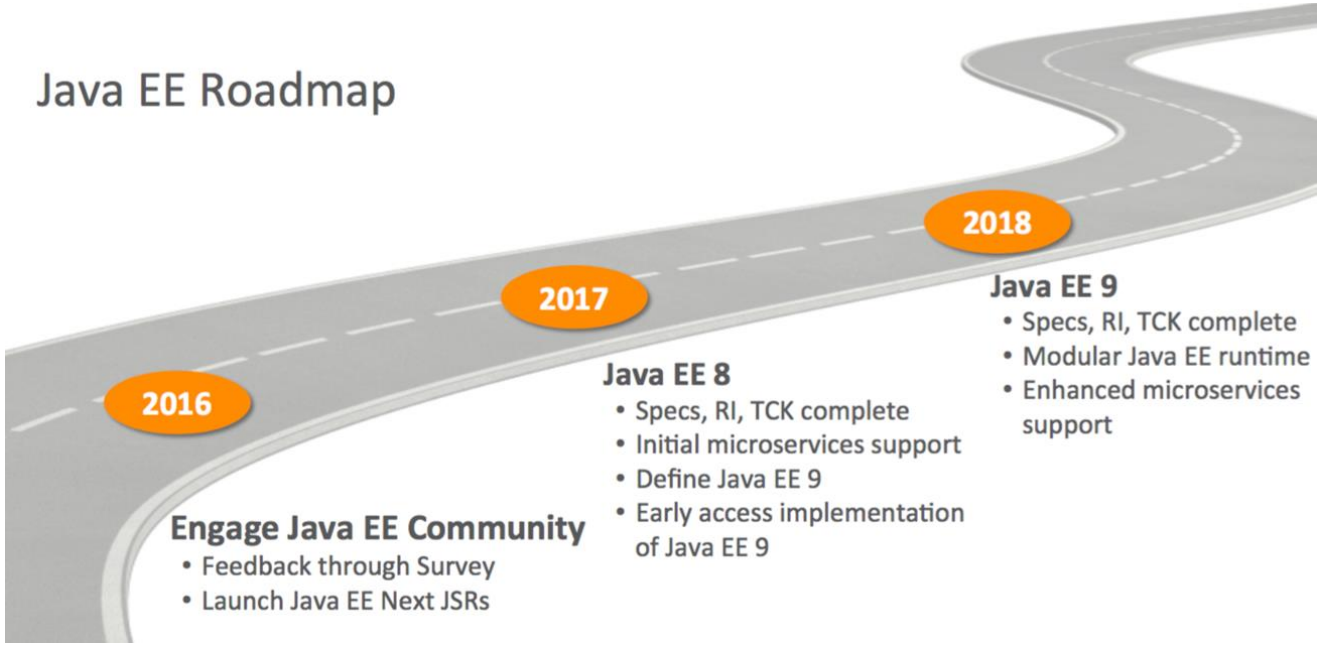
Digitalization in action

- Digital platform vs traditional application
- Time-to-market vs release plan
- DevOps vs silos
- API Economy vs standalone application
- Diversity of devices
- Cloud vs on-premise-only infrastructure
- Infrastructure As Code vs bare-metal
- Polyglot persistency vs SQL-only
- Microservices vs monolith
- Reactive & functional vs synchronous & imperative programming
- Eventual vs strict consistency

The long road to Java EE 8

- Started in 2014
- Inactive until Java One 2016
- Two initiatives from the community in S1-2016:

JavaOne 2016: on the road again



What's new with Java EE™ 8?

- Released on 21 Sept. 2017
- Repository moved to **GitHub** (java.net decommissioned)
- **Glassfish 5.0** Reference Implementation

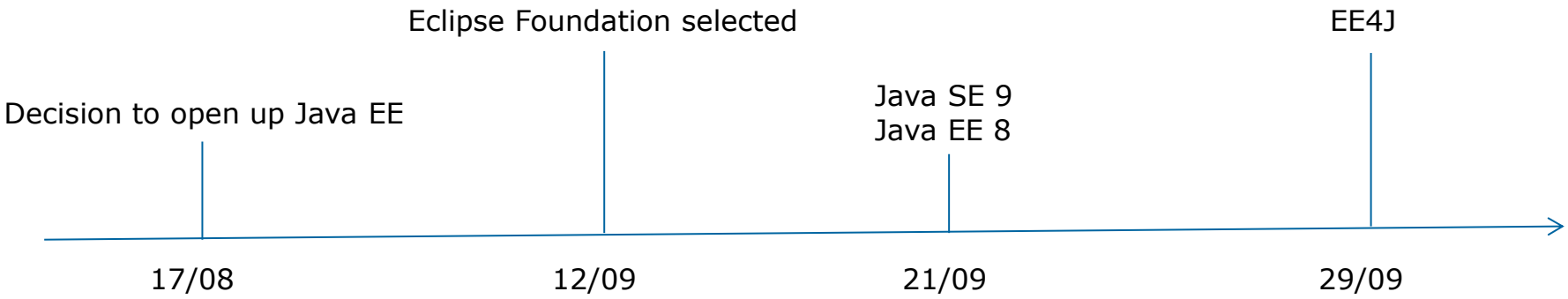
- **Java SE 8** support: DateTime API, CompetableFuture, repeatable annotations
- **Servlet 4.0:** HTTP/2 support (Server Push)
- **CDI 2.0**: asynchronous events, events ordering, better integration in other specs
- **JAX-RS 2.1:** Server Sent Event, reactive extensions
- **JSON Processing 1.1** and **JSON Binding 1.0**
- **Security:** simplification, secret management, modernization, OAuth2, OpenId support

Entering a turbulent zone!

- Future of Java EE to be invented

- Disruptive changes in Java SE:
  - Java Platform Modular System:
    - Modularity at the heart of the JDK
    - And your applications?
  - New release cadence

2017: 43 days of change



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The future

Upcoming challenges

Challenge 1: open specification vs standard

"The mechanism for developing **standard technical specifications** for Java technology"

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Challenge 1: open specification vs standard

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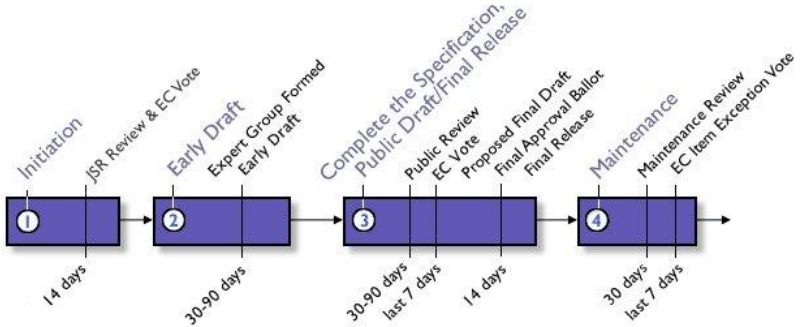
Challenge 2: strong & fast governance

- Each individual JSR managed by an Expert Group

- 3 deliverables:
  - A Specification Document
  - A Test Compatibility Kit
  - A Reference Implementation

- Well-defined lifecycle:



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Challenge 2: strong & fast governance

- Individual projects
- Overall coordination by top-level EE4J project
- Jakarta EE working group:
  - specification process
  - brand management

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Challenge 3: cloud-native applications

- 3 years to release Java EE 8 and it is not cloud-native
- Competition has been more agile: cloud-native frameworks are here!
- Transitioning to Jakarta EE will take time:
  - 39 projects to transfer
  - Glassfish 5.1 scheduled in Q3-2018 (Java EE 8 certified)
  - Glassfish 5.2 scheduled in Q4-2018 (Jakarta EE 8 certified)

- Cloud-native work will start at the earliest by the end of next year

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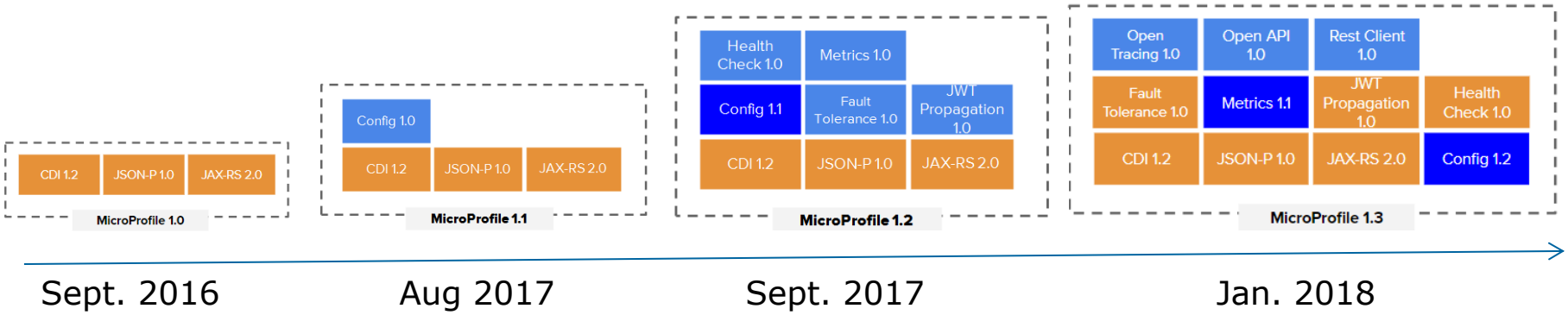
Challenge 3: cloud-native applications



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Challenge 4: modular platform

- “Just-enough-runtime” is the new norm

- Modular specifications :
  - A set of independent but consistent specifications
  - Adopting JPMS:
    1. Automic-Module-Name in MANIFEST jar file
    2. Using the modular Java Service SPI (uses & provides with)

- Modular and flexible application servers:
  - Both standalone and embedded

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Challenge 5: syncing with Java releases

OpenJDK

- Feature releases:
  - Bring innovation
  - 2 releases/year (March, Sept.)
  - Not production-ready: support limited to 6 months, no overlap

- Long Term Support releases:
  - Ensure production stability
  - 1 release/3 years
  - Commercial support required

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Challenge 5: syncing with Java releases

- My 2 cents …
- Jakarta EE should leverage the current Java SE LTS
- 1 Jakarta EE release/year may be a good fit

Other challenges

- Overall consistency between specifications: EJB deprecation …
- Ease of testing
- Flexibility to quickly incorporate new technologies: NoSQL, Kafka, GraphQL …
- Migration path

Conclusion

- Java EE is dead but it has a promising follow-up: Jakarta EE
- A vendor-neutral open specification really makes sense
- Eclipse Foundation seems to be the place-to-be
- Eclipse Microprofile has already paved the way
- Let’s go for another 20 years!

As a (modest) user, you can be part of the story!

- The next two years will be decisive
- Stay tuned:
  - Visit the Jakarta EE Web Site: https://jakarta.ee/
  - Follow @JakartaEE on Twitter
  - Become a @javaee_guardian
- Learn Java EE 8 and Microprofile
- Test, provide feedback

Thanks!

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