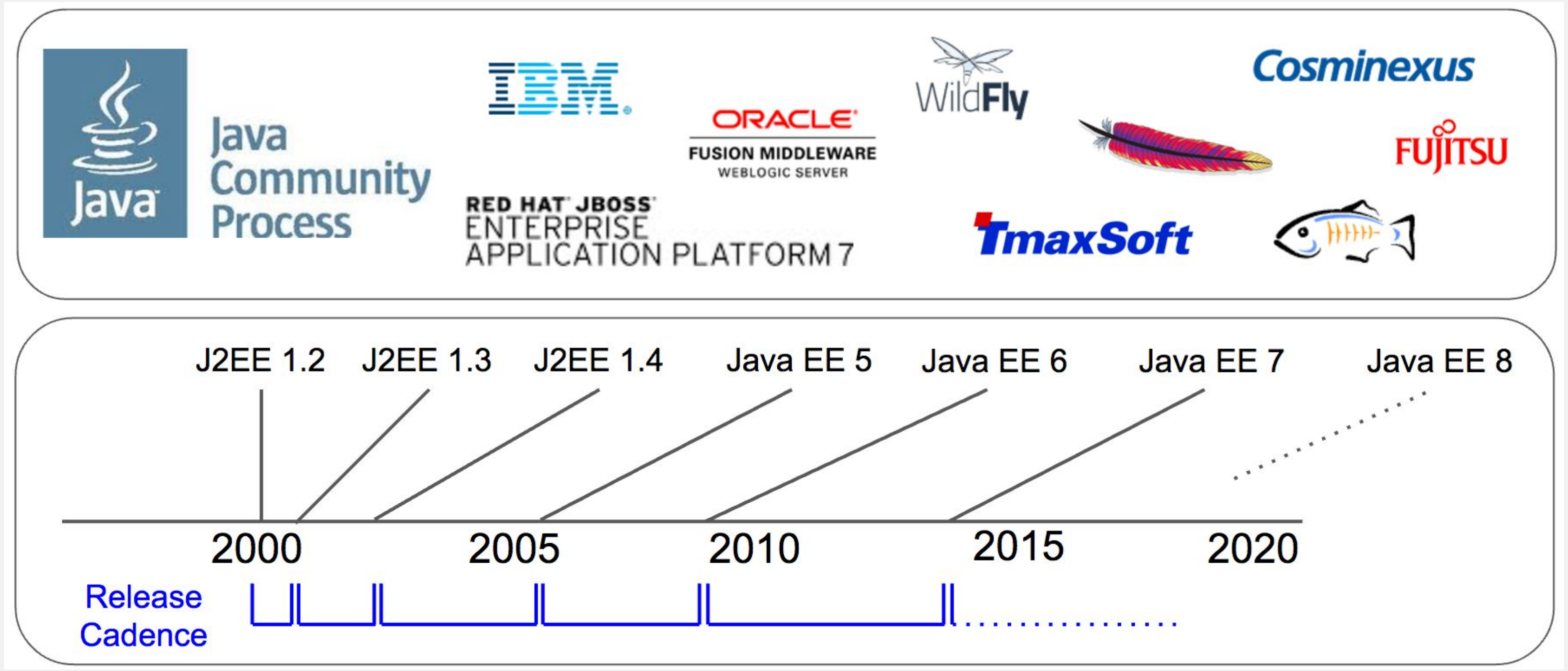
RED HAT SUMMIT

MicroProfile: Optimizing Java EE For a Microservices Architecture

John Clingan
Senior Principal Product Manager

Ken Finnigan
Principal Software Engineer

Enterprise Java Standards History



MicroProfile Background

- Many innovative “microservices” efforts in existing Java EE projects
    - WildFly Swarm
    - WebSphere Liberty
    - Payara
    - TomEE
  - Projects already leveraging both Java EE and non-Java EE technologies
  - Creating new features/capabilities to address microservices architectures

- Wanted to avoid splitting into separate communities

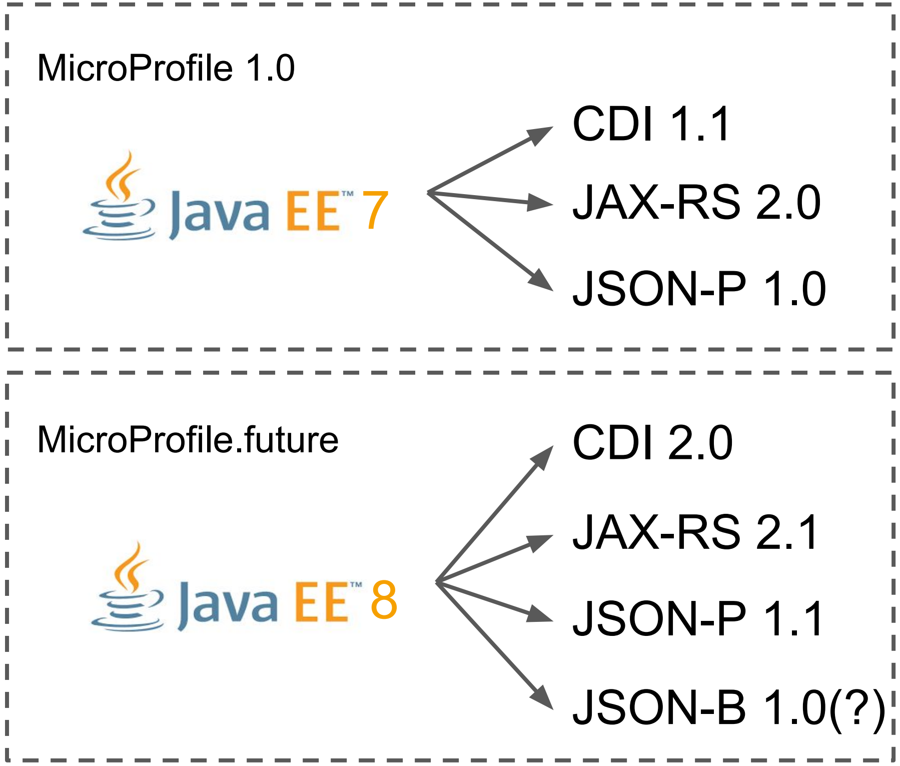
- *So we are collaborating in one community!*

An Eclipse Foundation Project

- Meritocracy; vendor neutrality
- MicroProfile leadership can change over time
- Legal and technical infrastructure
- Trademark Ownership
- Accepts Apache License

Paving a Path to Microservices
First: Leverage Java EE

- Leverages Java EE technologies most relevant to microservices
- Customers can leverage knowledge and expertise
- Facilitate customer, vendor, partner adoption



Paving a Path to Microservices
Second: Organic Innovation

- Begin with well-known microservices patterns
- Develop CDI-centric programming model to support them

Examples

Configuration 1.0

Security: JWT Token Exchange 1.0

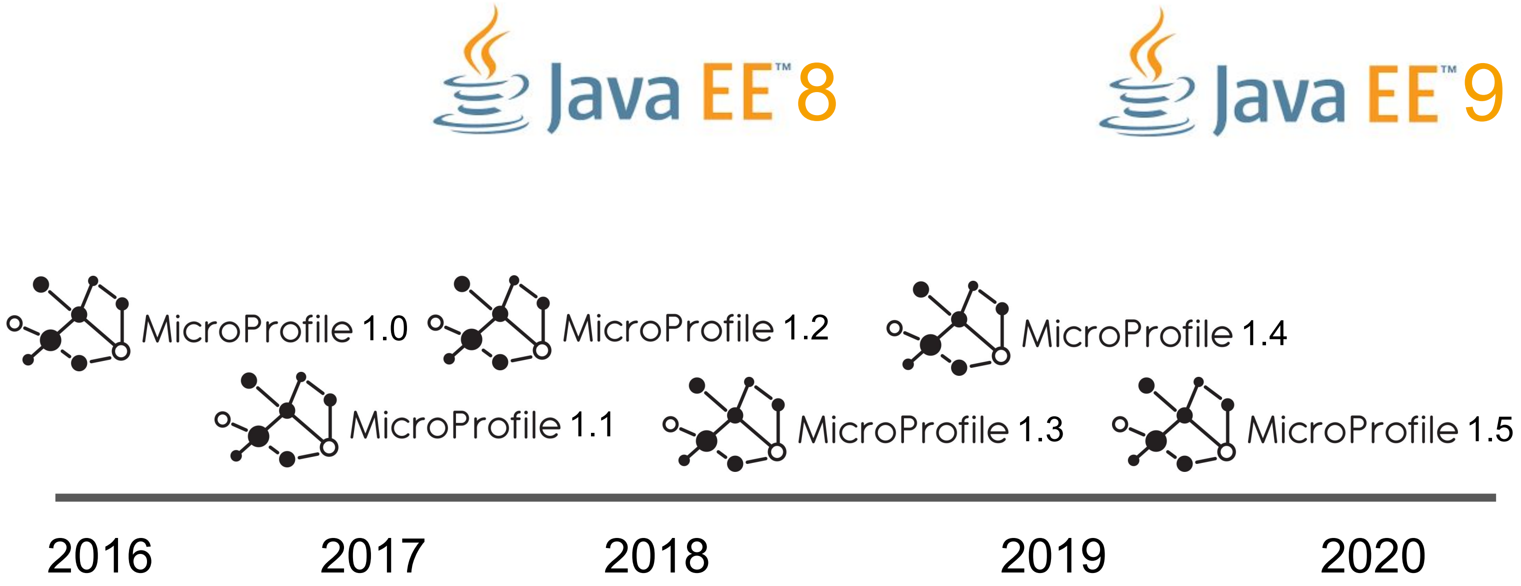
Health Check 1.0

Fault Tolerance 1.0

Paving a Path to Microservices
Third: Collaborate in Open Source

- Build a strong community
- Collaborate on specifications
- Encourage multiple implementations
- Standardize technologies when ready

Quickly Put Features in Developers Hands



* 2-4 releases per year

MicroProfile Roadmap (Under Review)

Releases

MicroProfile 1.1
(Q2, 2017)

MicroProfile 1.2
(Q3, 2017)

MicroProfile 2.0
(Q4, 2017)

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Feature Backlog

Configuration
Baseline Fault Tolerance
JWT Security Token Exchange
Health Check
Fault Tolerance w/event streams
Monitoring
OpenTracing
CDI 2.0
JAX-RS 2.1
JSON-P 1.1
JSON-B 1.0(?)

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Decided

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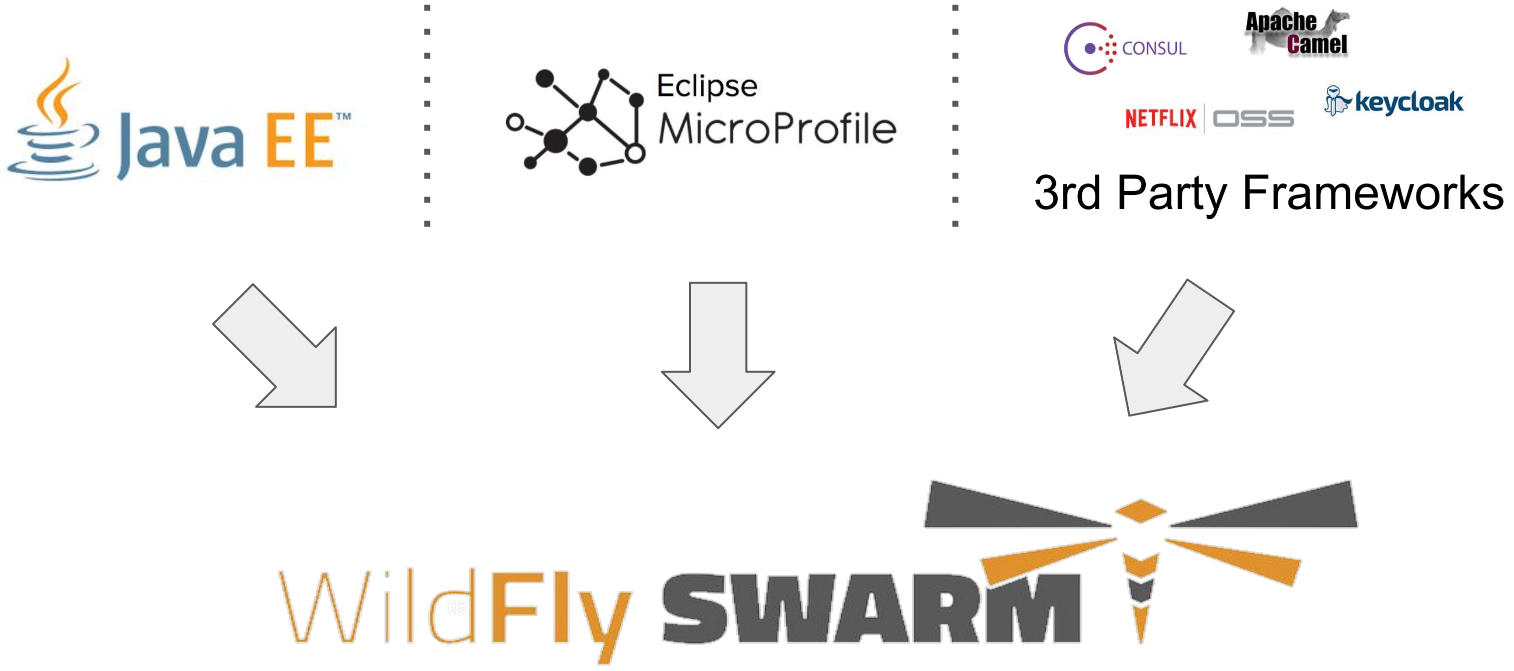
Practical Usage of MicroProfile



Collaboration

- Discussions via Google Group
- Reach consensus, no “single power”
- Ideas, thoughts, views all welcome

Spec Proposal Process

- All proposals are submitted via Pull Request to a GitHub repository
  - https://github.com/eclipse/microprofile-evolution-process
- Recommend initial discussion on Google Group prior to PR
  - General view on proposal and interest

Spec Proposal Process

- Submit PR following template
  - https://github.com/eclipse/microprofile-evolution-process/blob/master/0000-template.md
- Don’t need to provide example APIs
- Define use cases that motivated the proposal
- Outline possible solution ideas, if applicable
  - Don’t need full solution to submit proposal

Spec Proposal Process

- Follow up with Google Group thread announcing PR has been made
- Various discussions will happen within the Pull Request
- Author of Pull Request needs to:
    - Reflect consensus view of feedback into updates of the proposal
    - Provide reasoning as to why a suggestion may not be applicable

Spec Proposal Process

- Depending on voracity of discussion, PR may remain open for a couple of weeks or month(s)
- When reasonable consensus reached
  - PR is merged
  - GitHub repository for proposal created in Eclipse organization
  - Work on specification document, APIs, and testsuite (TCK) commences

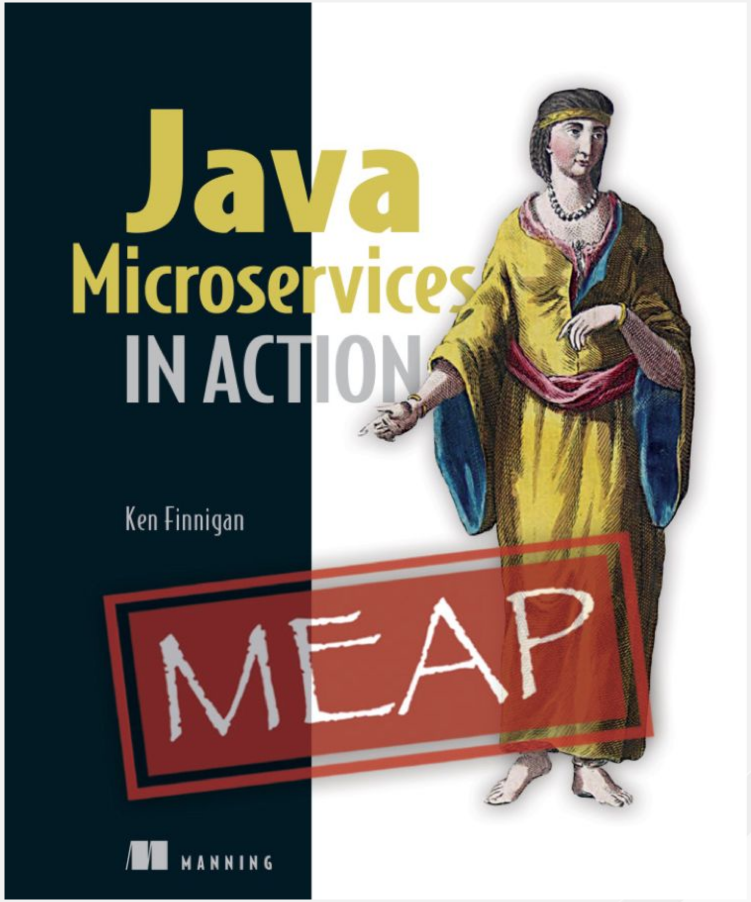
How To Get Involved?

- Google Group for discussions
  - https://groups.google.com/forum/#!forum/microprofile
- Eclipse MicroProfile
  - https://projects.eclipse.org/proposals/eclipse-microprofile
- MicroProfile site
  - http://microprofile.io/

Java Microservices Book

- Recently released into MEAP
- Uses WildFly Swarm
- 39% discount on all Manning books with code: **ctwrhsummit17**

https://www.manning.com/books/java-microservices-in-action



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BACKUP SLIDES

Configuration API

Get all the configuration properties that are visible:

```
@Inject
Config config;
```

Configuration API

Get specific property value (static):

```
@Inject
@ConfigProperty(name = “myProp”, defaultValue = “defValue”)
String myProperty;
```

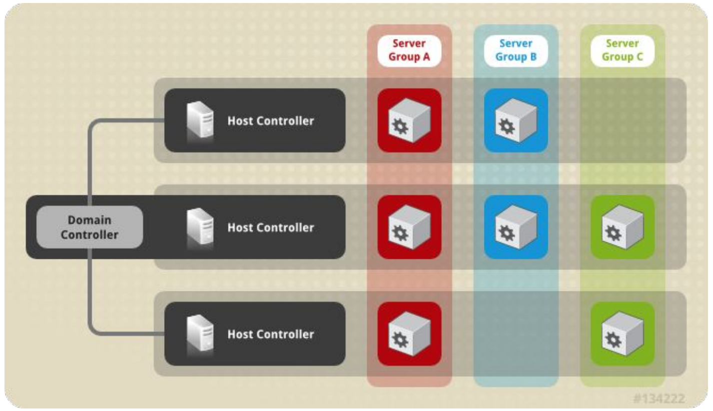
Configuration API

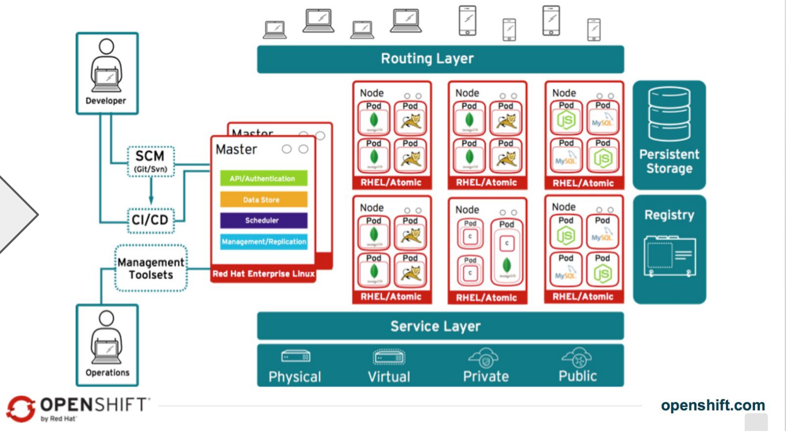
Get specific property value (dynamic):

```
@Inject
@ConfigProperty(name = “myProp”, defaultValue = “defValue”)
Provider<String> myProperty;

String getValue() {
    myProperty.get();
}
```

Changing Definition of “Platform”





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