Getting Started with Fuse ESB / Apache ServiceMix

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FuseSource

integration everywhere

Agenda

- What is Fuse? Who is FuseSource?

- Overview of Apache ServiceMix / Fuse ESB

- Demo Scenario Overview

- Code Walkthrough

- Question and Answer

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What is Fuse?
Who is FuseSource?

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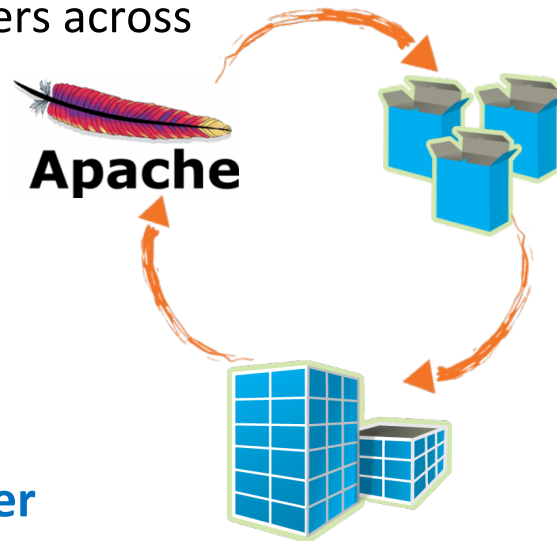# FuseSource — Leading Open Source Integration and Messaging Vendor

- Company built on success
  - Founded in 2005
  - Double digit year-over-year growth
  - Offices in 9 time zones
- Enterprise products that integrate everything
  - Community-backed, open source products
  - Proven track record in mission-critical apps
  - Leader status in Forrester ESB Wave

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Bringing Open Source Integration and Messaging to Enterprise IT

Apache Software Foundation

- ActiveMQ (reliable messaging)
- Camel (Enterprise Integration Patterns)
- ServiceMix / Karaf (containers)
- Over 25 active committers across 11 Apache projects

Enterprise OSS Products

- Integrated solutions
- Tested and certified
- Documented

Subscriptions

Collaborative relationship with your software provider

- Enterprise tooling
- Services level agreement
- Global support organization

Training and Consulting

- Expert training on-site or via the Web
- Packaged services for all phases of the lifecycle

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Overview of Apache ServiceMix / Fuse ESB

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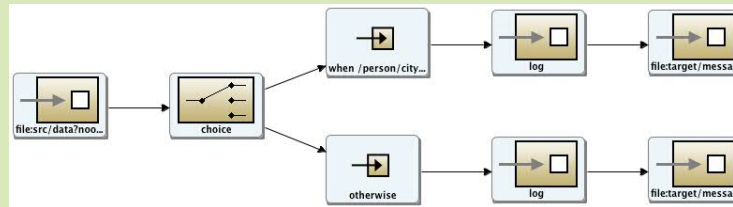integration everywhere

ServiceMix – Leading Open Source ESB

- Best used as runtime container for your services and integration flows

- Strong Standards and Innovation track record
  - Early adopter of JBI and OSGi Enterprise
  - Value-add innovation with ServiceMix Kernel becoming Apache Karaf
  - Provides a dynamic, OSGi-based runtime

- Pre-integrated with:
  - JBI
  - Camel – service and integration flow framework
  - CXF – SOAP, XML and REST services
  - ActiveMQ – reliable messaging
  - Transaction Manager
  - And much more…

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Overview of Apache ServiceMix

Apache ServiceMix – Integration Container
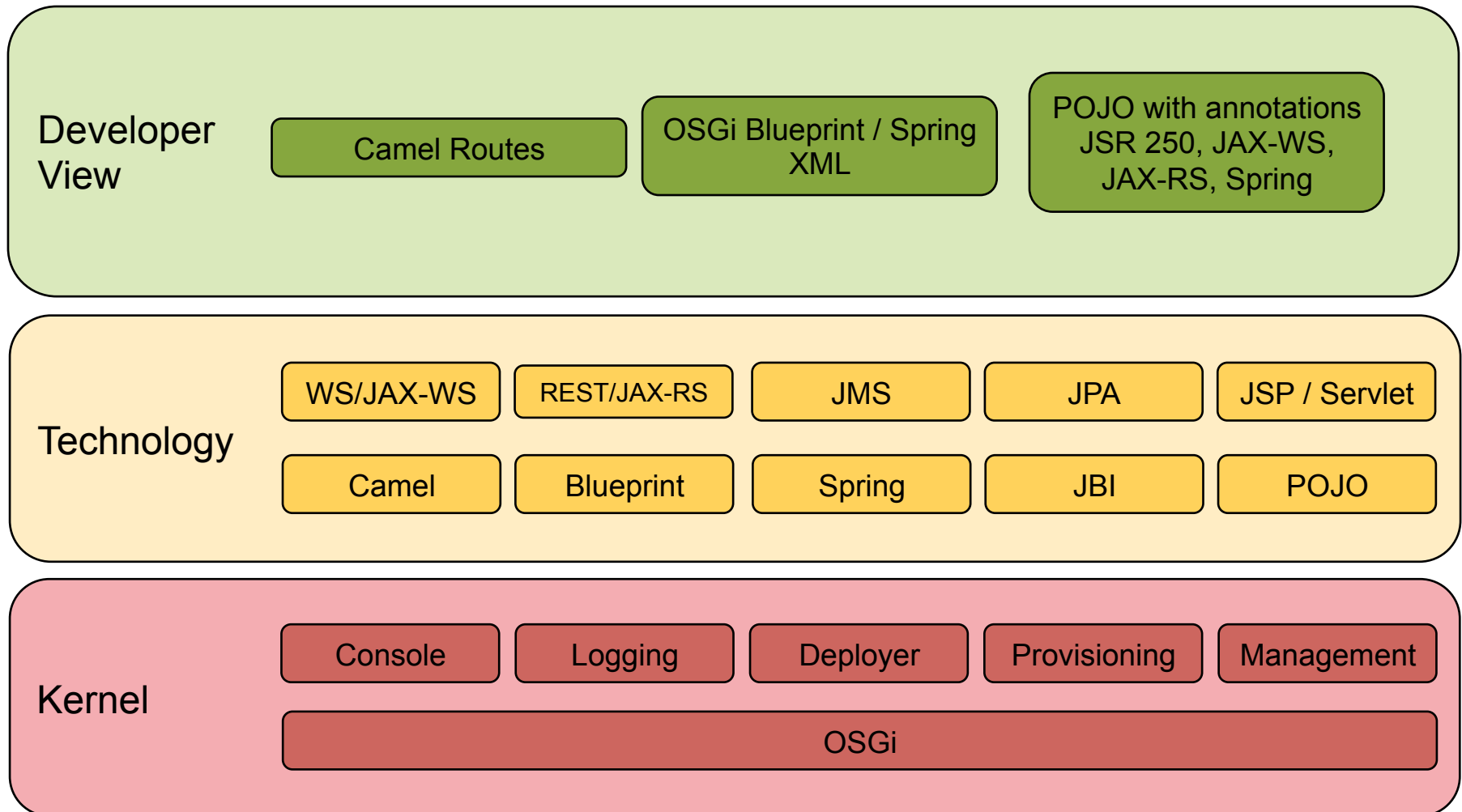
Apache Camel – Integration Routes

Apache ActiveMQ – Messaging

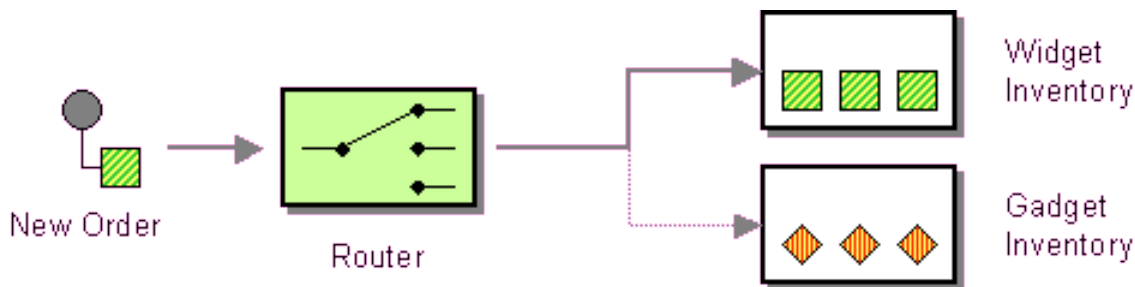**Apache Karaf – OSGi Management**

Apache Felix – OSGi

Apache Aries – OSGi Enterprise

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ServiceMix Architecture

Developer View

Camel Routes	OSGi Blueprint / Spring XML	POJO with annotations JSR 250, JAX-WS, JAX-RS, Spring

Technology

WS/JAX-WS	REST/JAX-RS	JMS	JPA	JSP / Servlet
Camel	Blueprint	Spring	JBI	POJO

Kernel

Console	Logging	Deployer	Provisioning	Management

OSGi

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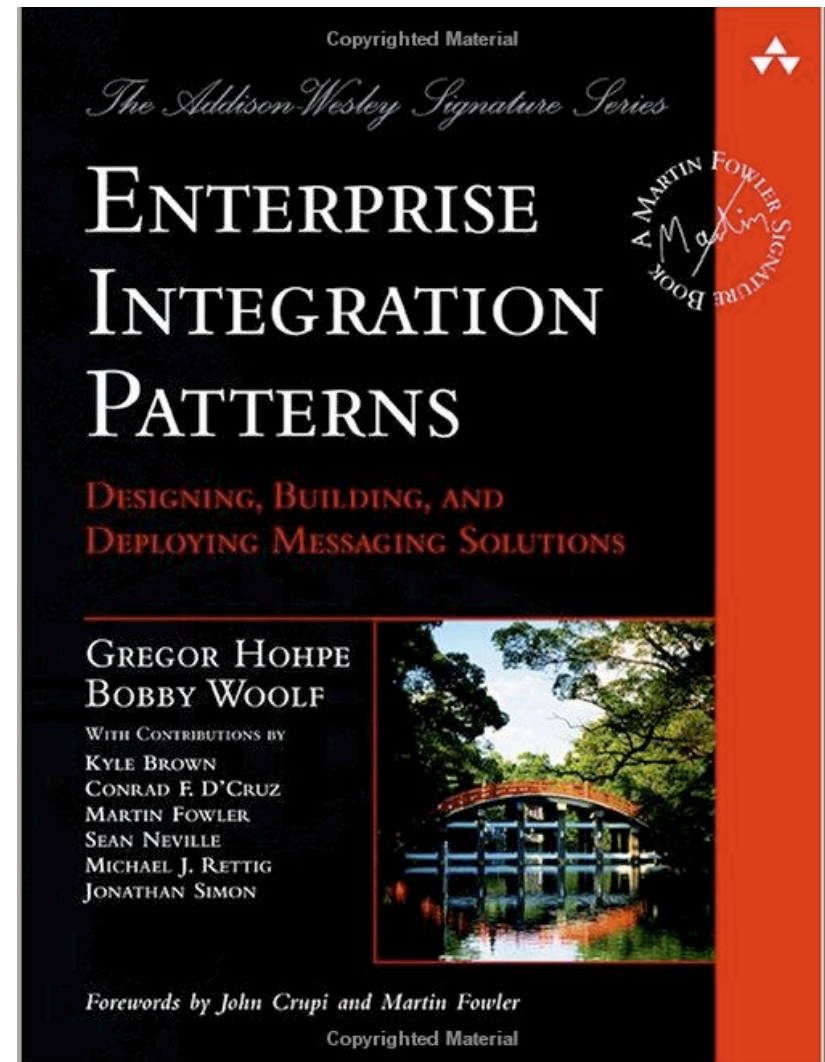# Camel – Integration Framework

- Camel provides an embedded DSL (in Java & XML) for implementing enterprise integration patterns
  - DSL uses URIs to define endpoints that combine into integration flows


```
from("activemq:topic:Quotes")
    .filter().xpath("/quote/product = 'widget'")
        .to("mqseries:WidgetQuotes")
    .filter().xpath("/quote/product = 'gadget'")
        .to("mqseries:GadgetQuotes");
```

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Enterprise Integration Patterns

- Book by Gregor Hohpe and Booby Woolf

- Patterns and Recipes for common integration problems

- Message Centric

- Used as the basis for all the major integration products

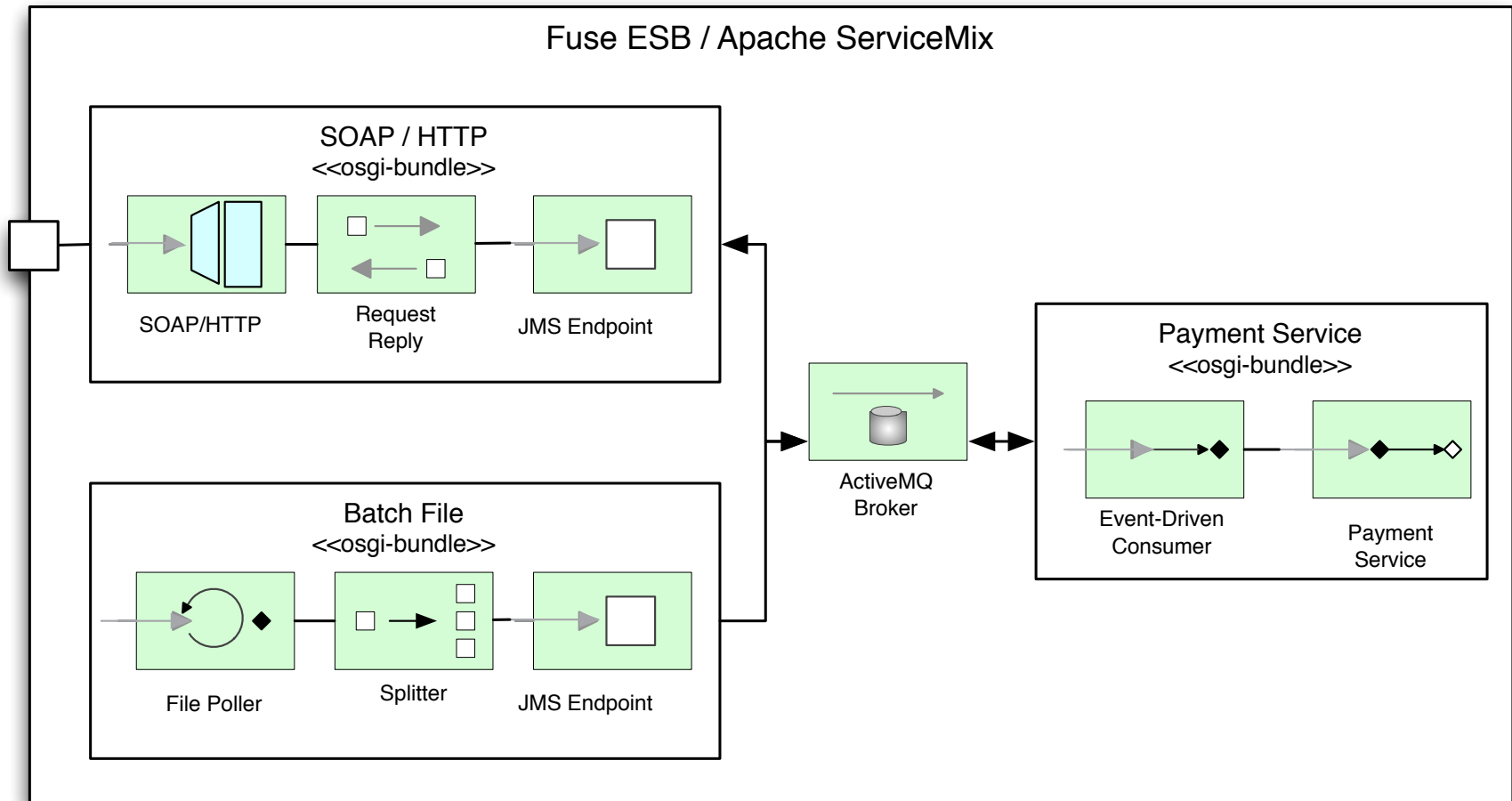- Should be the the first thing to reference when starting an integration project

- http://www.eaipatterns.com/

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Overview of Demo Scenario

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Payment Service – route payment transfer to bank service

- Receive message from one of two front endpoints
  - SOAP/HTTP endpoint
  - Batch File

- What to implement a single payment service that can handle both (and future) front-ends

- System needs to always be running, so all components should be runtime replaceable

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Demo Scenario Overview

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- ServiceMix as ESB and OSGi Container

- Camel as integration framework

- Each major subsystem deployed as separate OSGi bundle

- XML messaging (canonical) between subsystems

- Leverage ActiveMQ to decouple subsystems

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Demo Time

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