Integration between services and mediation

Oxford University
Software Engineering
Programme
December 2019

Through 2020, integration work will account for 50% of the time and cost of building a digital platform.

Use a Hybrid Integration Approach for Digital Transformation

Smarter With Gartner

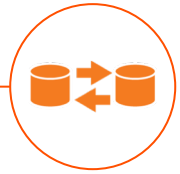
Seven Cases of Integration (from Gartner)

API Management

Application Integratio

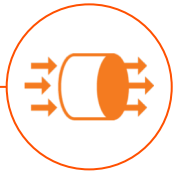
B2B Integration

Data Integration



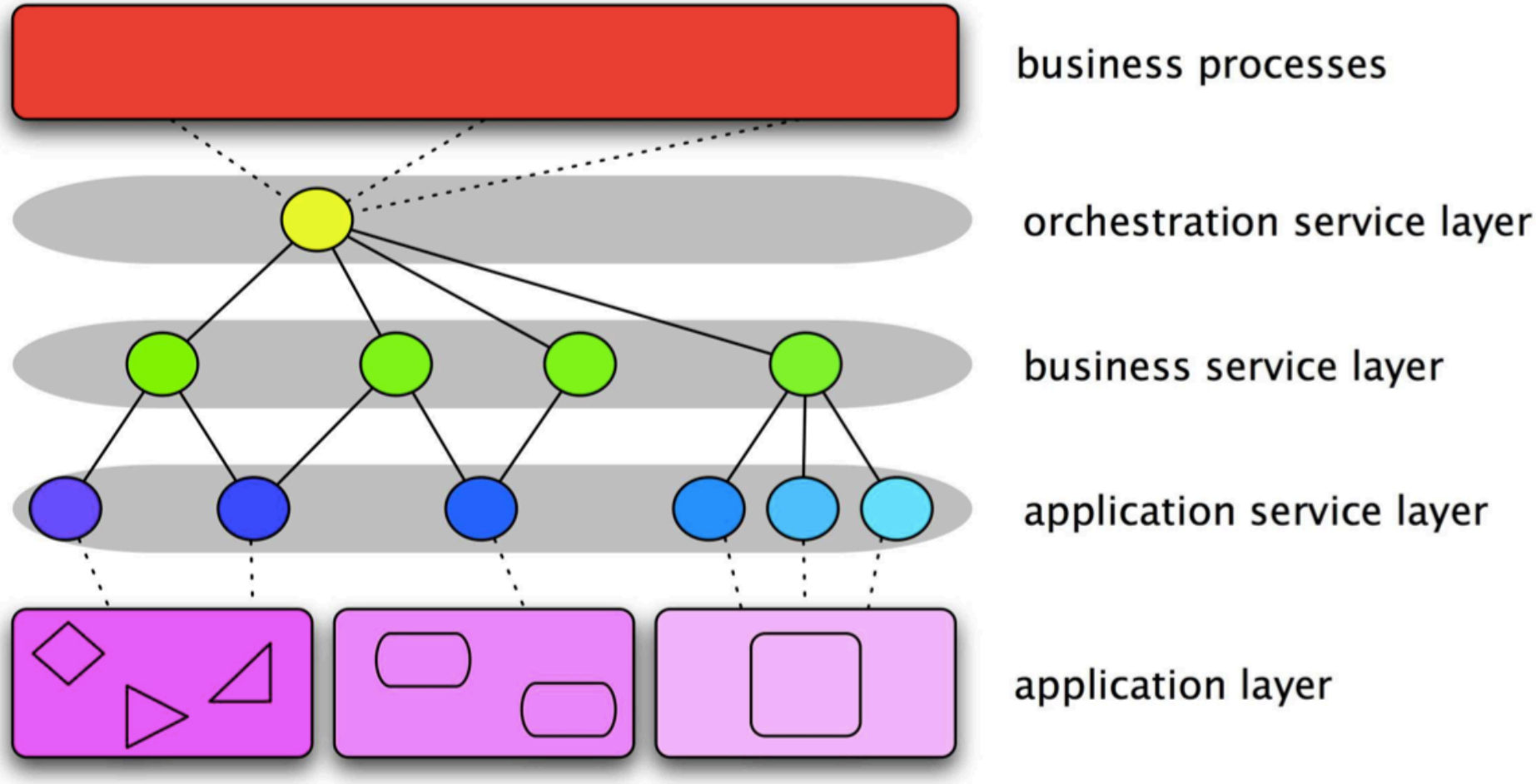
Digital Integration Hub

Event Streaming



IOT Integration

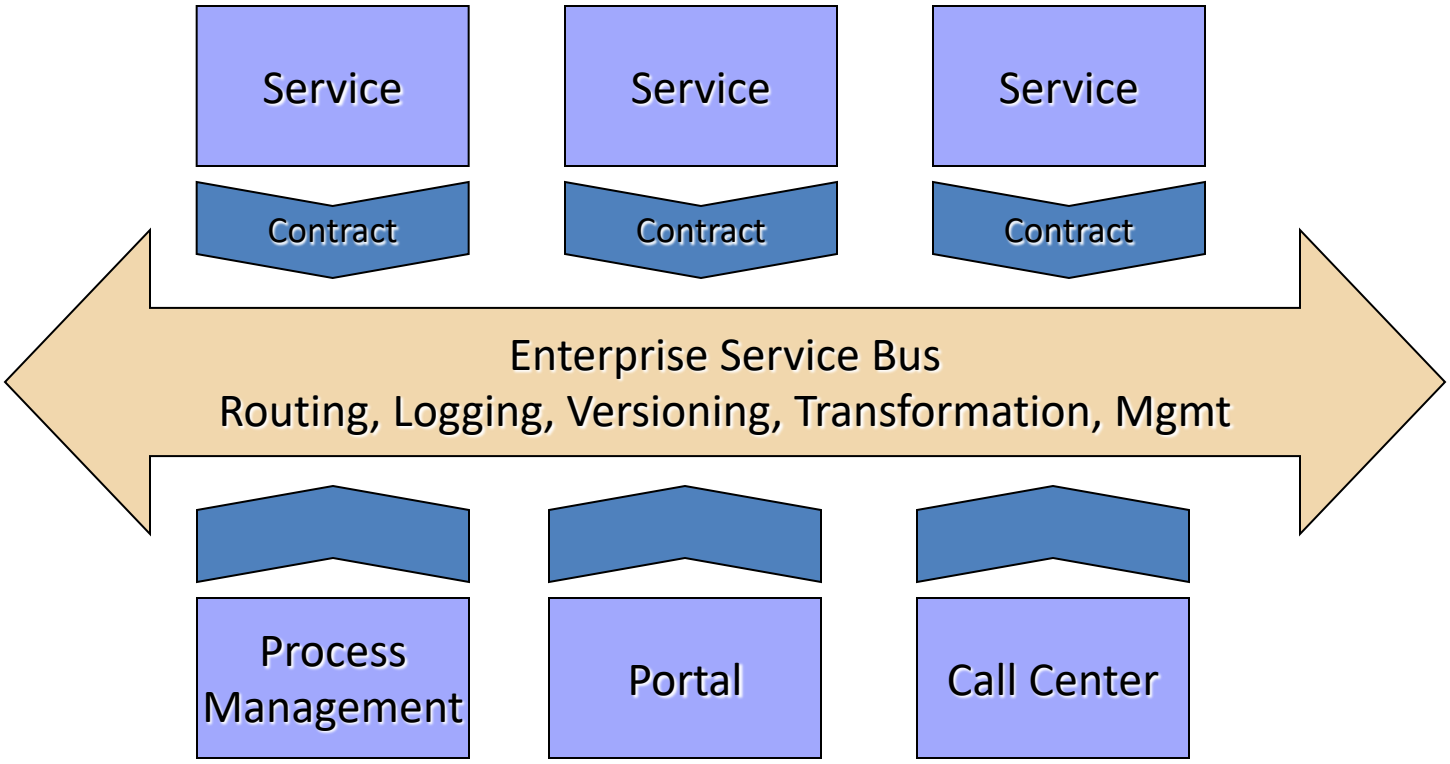
Recap on SOA model

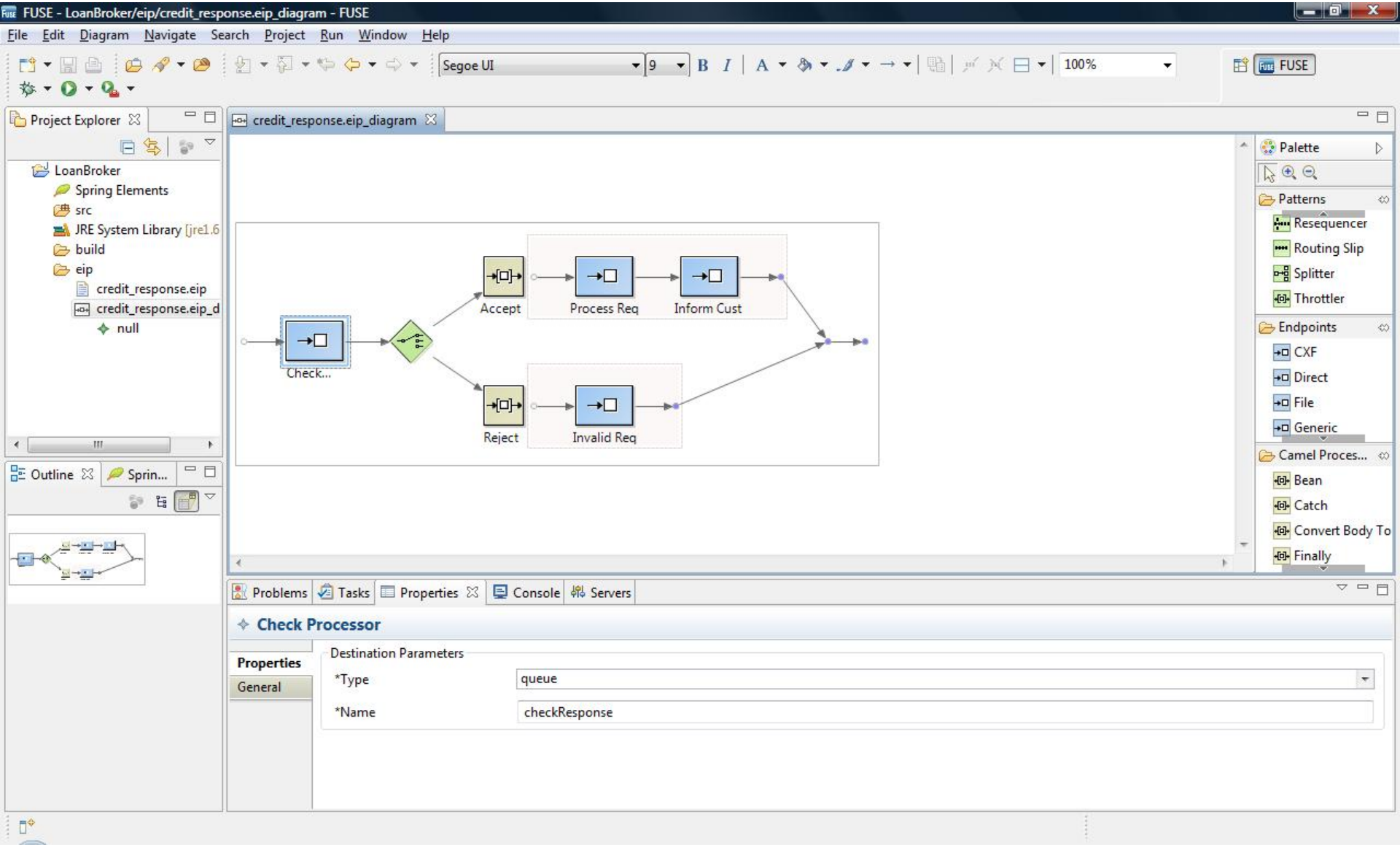


Enterprise Service Bus (ESB)

- A software architecture
  - A logical intermediary through which every message flows
  - Offers a policy based approach to decide what to do to each message or interaction
- The benefits of the gateway model
  - Without a physical hub and spoke
- Many vendors offer ESB products
  - Often a layer over an existing messaging framework

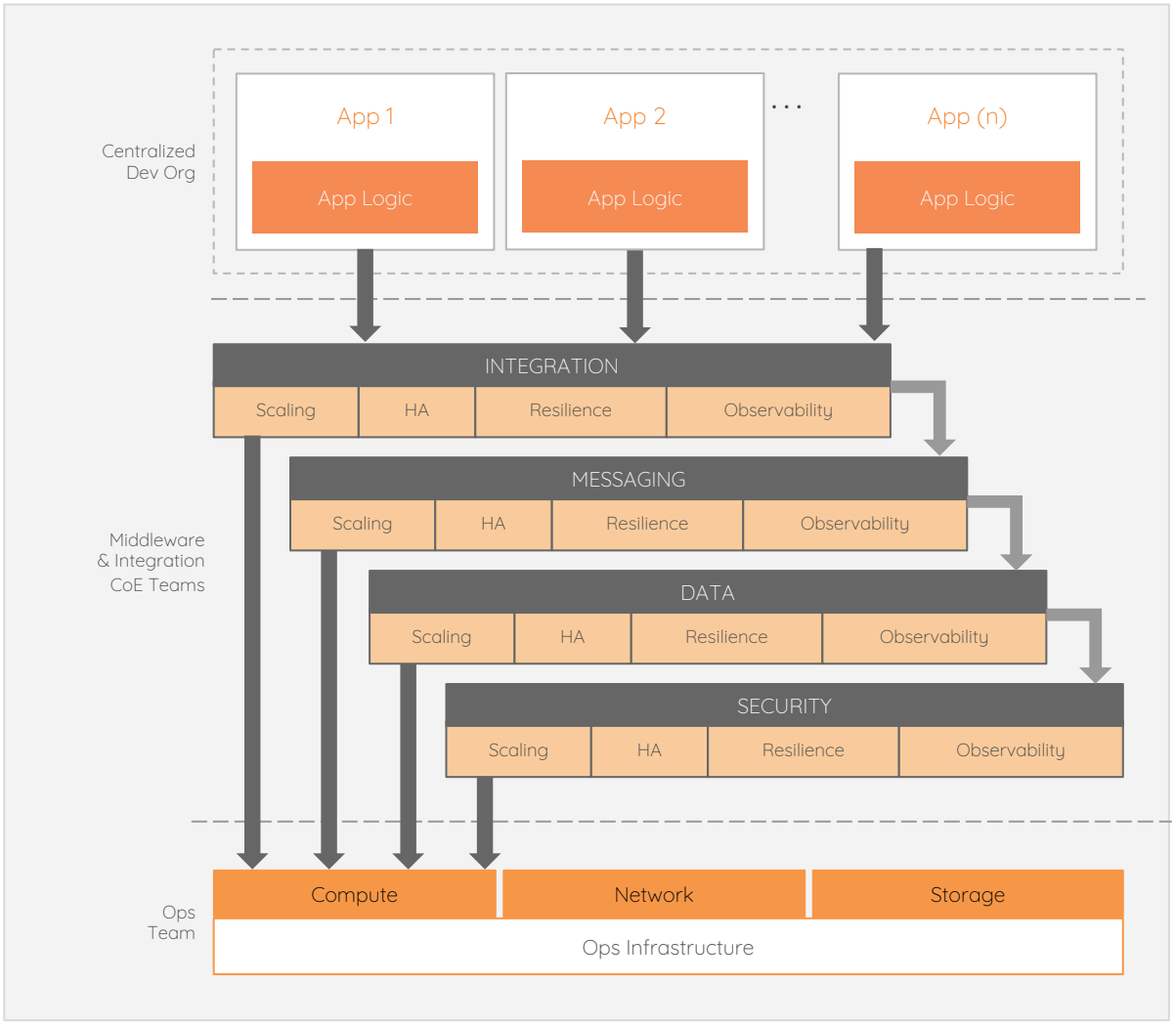
ESB as an implementation of SOA



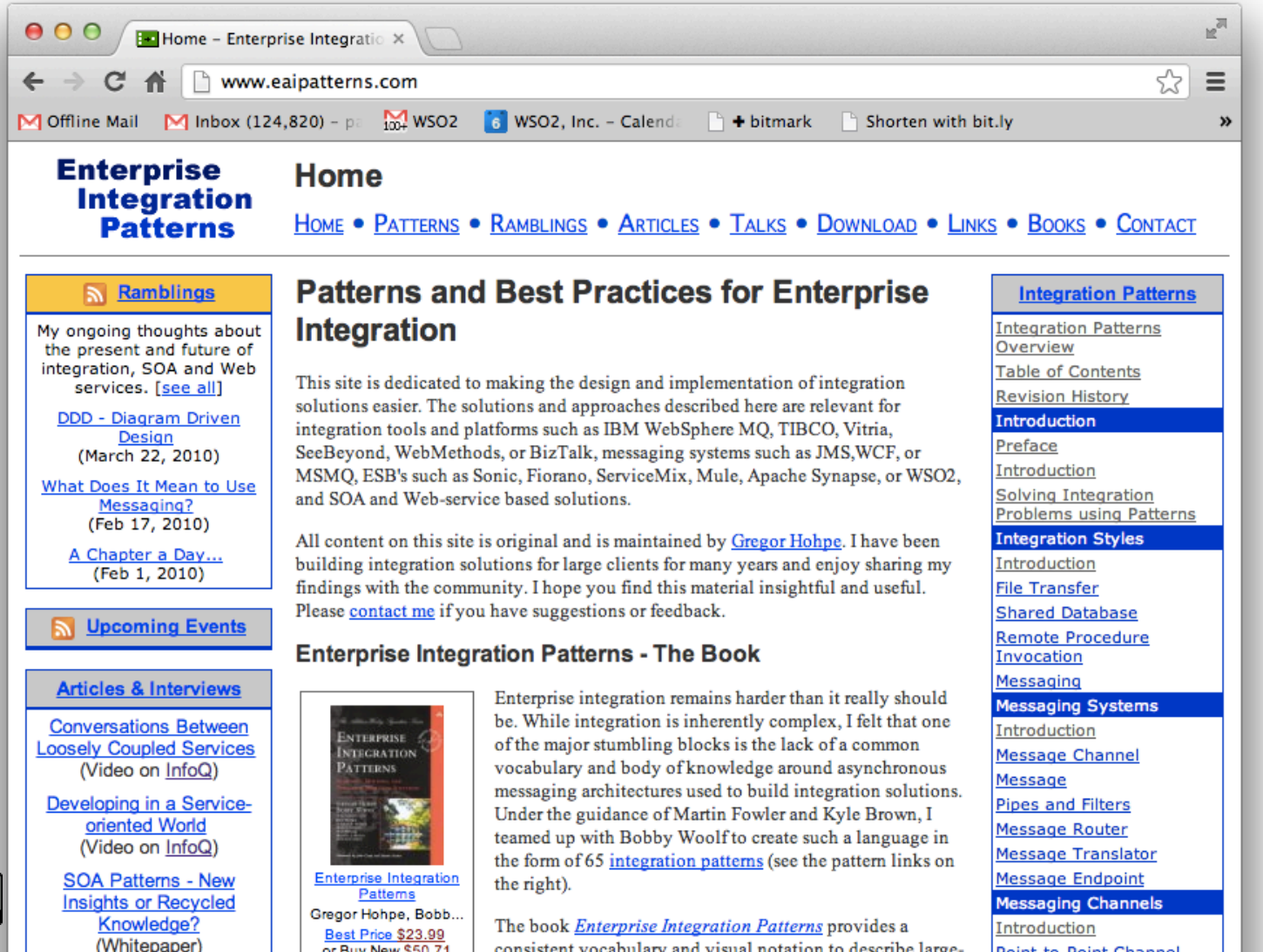


Fast Waterfall

"Wagile"
"Fagile"

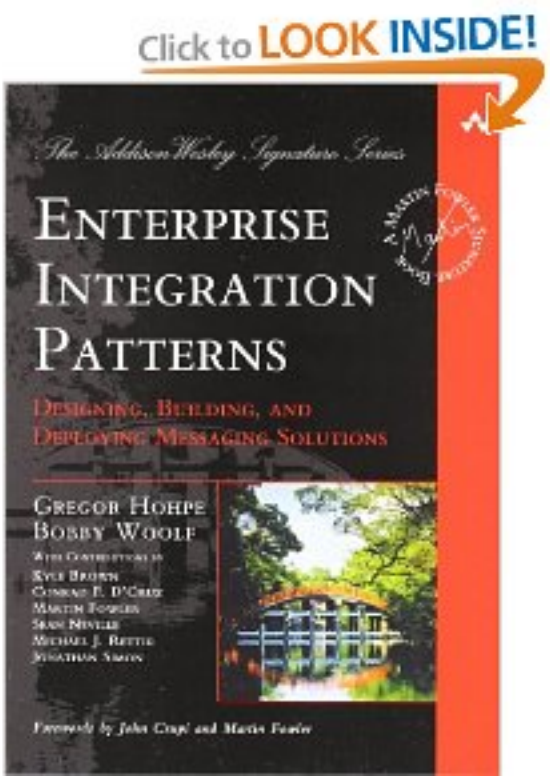


Enterprise Integration Patterns



Enterprise Integration Patterns

- http://www.eaipatterns.com/
- The book
  - Enterprise Integration Patterns
  - Gregor Hohpe, Bobby Woolf



How does mediation / integration fit into Microservices / Containers?

“Smart Endpoints and Dumb Pipes”

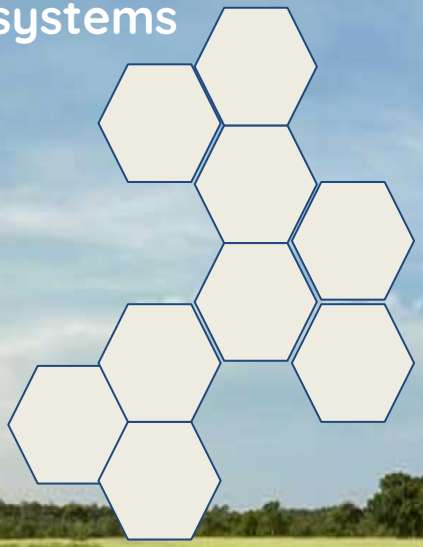

Brownfield
Greenfield

Core Systems

Core Systems

Core Systems

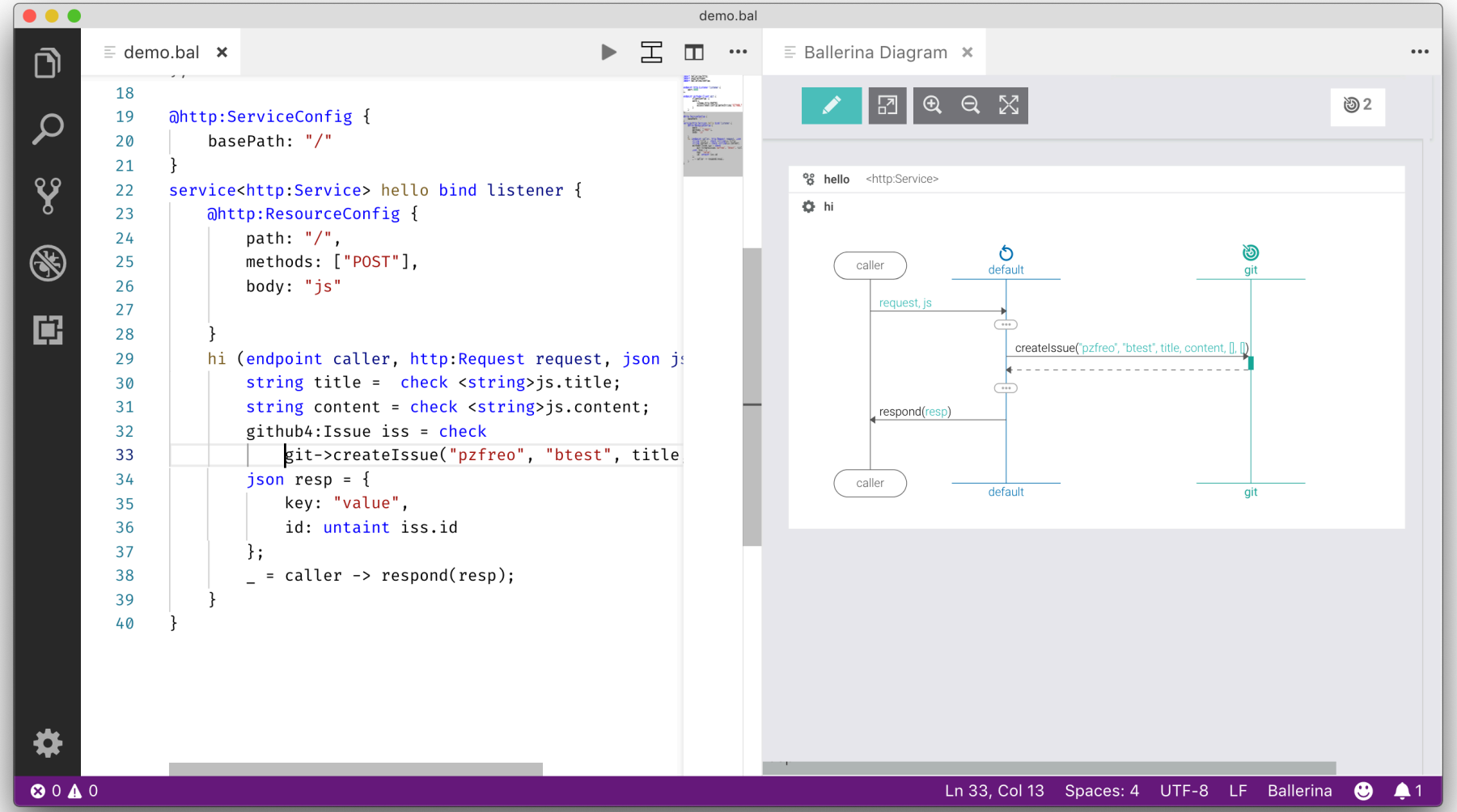
Disaggregated systems



Ballerina Language

- A new integration language and framework for Microservices, RESTful SOA
- Based on Swagger and Sequence Diagrams
- Textual and graphical are 100% interchangeable
- https://ballerina.io

Ballerina diagram and language



Resources

- Wikipedia!
  - http://en.wikipedia.org/wiki/Enterprise_bus
- Books
  - David Chappell: ESB
  - Open Source ESBs in Action
- Open Source
  - synapse.apache.org
  - wso2.com/products/enterprise-service-bus
  - servicemix.apache.org