

Enterprise integratie met Apache Camel

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Introductie

- Richard Kettelerij
- Hands-on software architect
- Apache Camel committer



mindloops.nl



[rkettelerij](https://github.com/rkettelerij)



[@rkettelerij](https://twitter.com/rkettelerij)

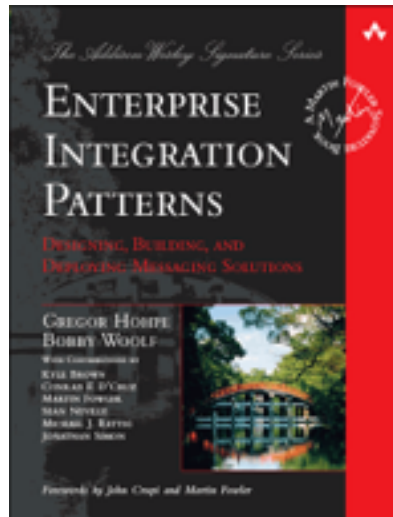
Agenda

- Introductie
- Demo
- Concepten
- Alternatieven
- Gotchas

Camel?



Integration framework



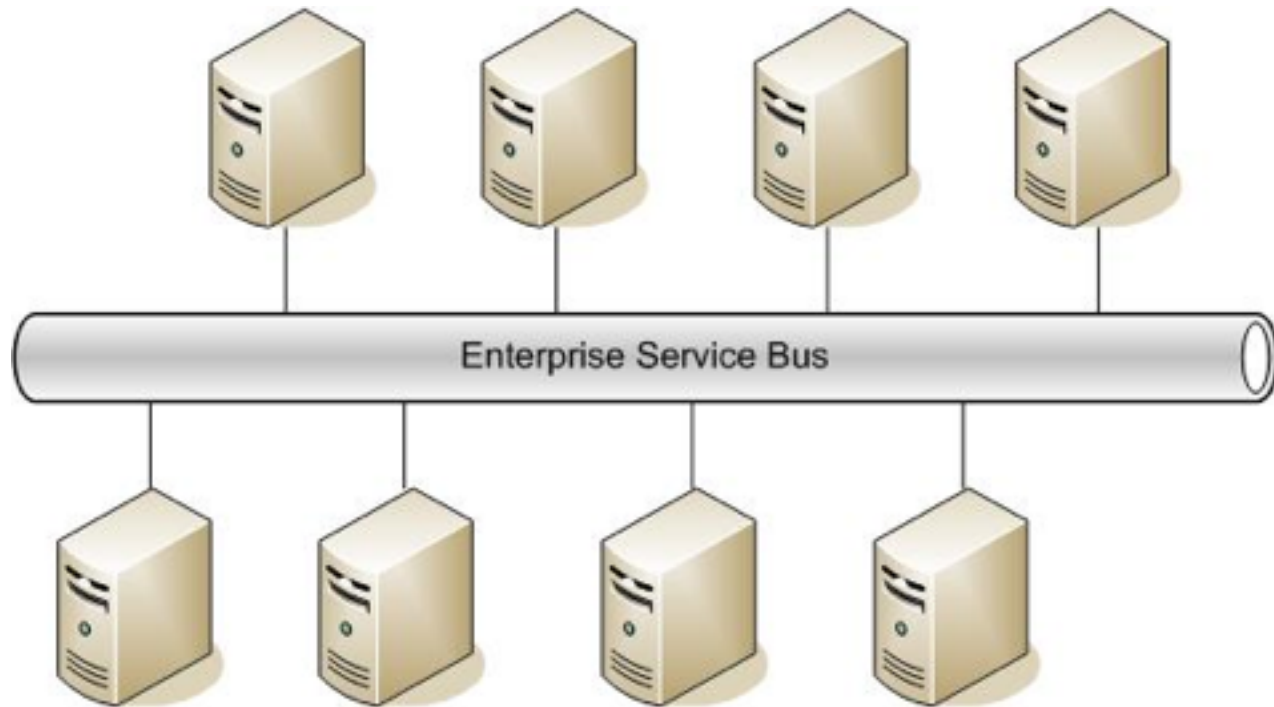
Functies

- Messaging
- Routing
- Transformatie
- Protocol vertaling

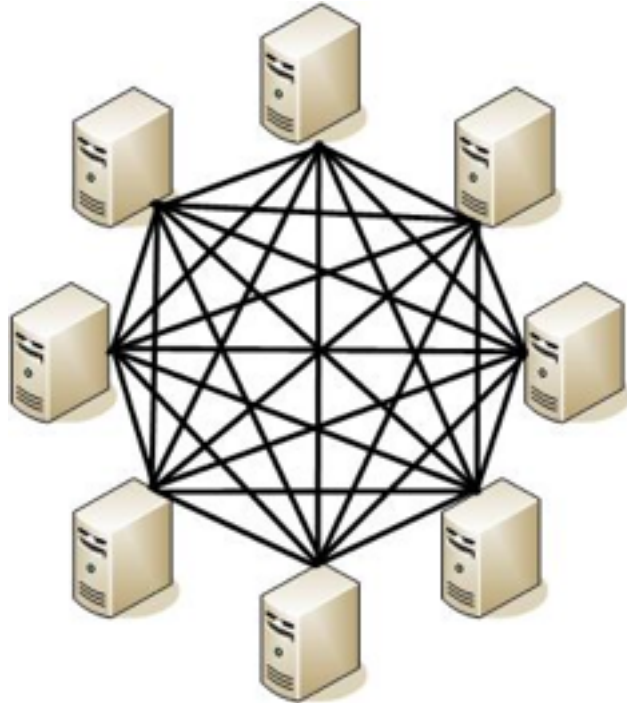


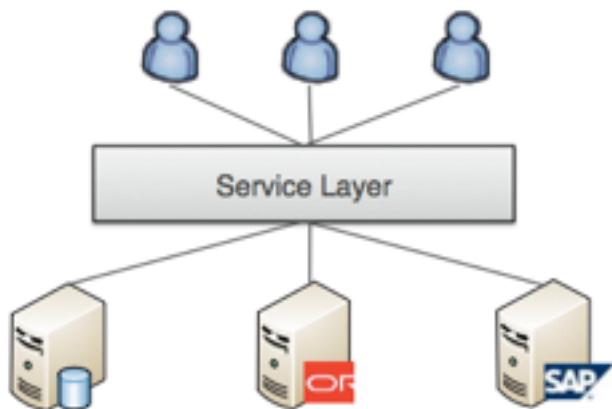
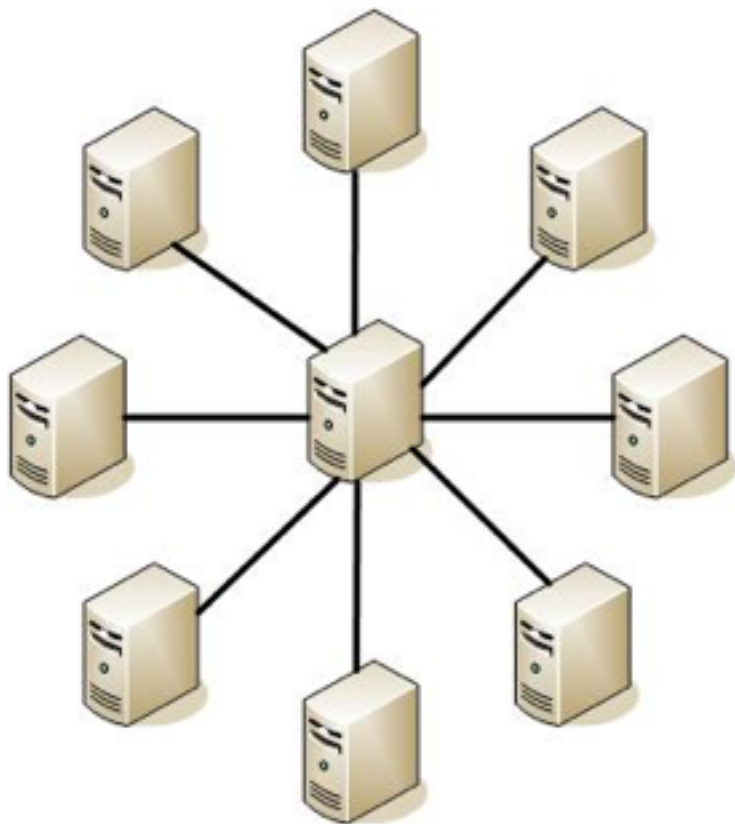
Demo

ESB?

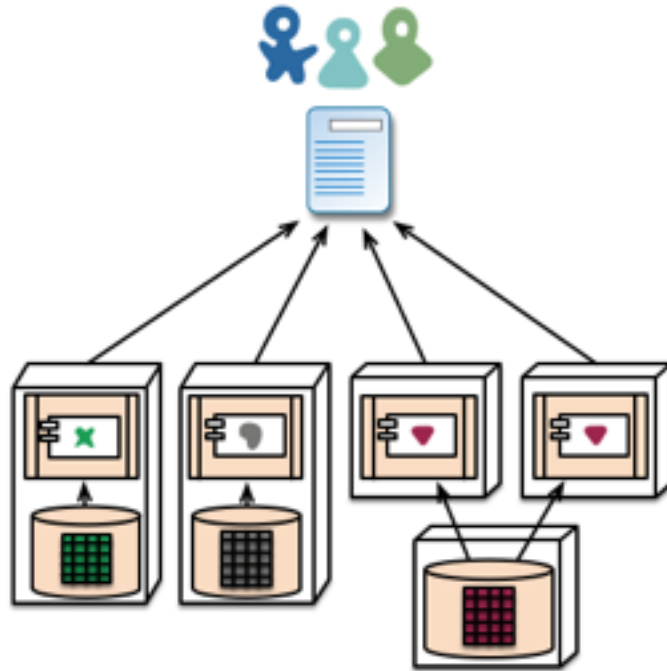


Point-to-point





Microservices



Camel runtime



Concepten

- Route
- DSL
- CamelContext
- Exchange
- EIPs
- Component
- Endpoint
- Processor
- Consumer
- Producer

Route

```
from("file://inbox/?move=../processed").from("direct:sendfile").from("j  
    .log(LoggingLevel.INFO, "Processing file ${headers.CamelFileName}")  
    .transform(body().replaceAll("Hello", "Goodbye"))  
    .split(body(String.class).tokenize("\n"))  
    .log(LoggingLevel.INFO, "Creating separate file ${body}.txt")  
    .choice()  
        .when(body().contains("Mies"))  
            .to("file://outbox-mies/")  
        .when(body().contains("Klaas"))  
            .to("file://outbox-klaas/")  
        .otherwise()  
            .to("file://outbox/")  
    .end();
```

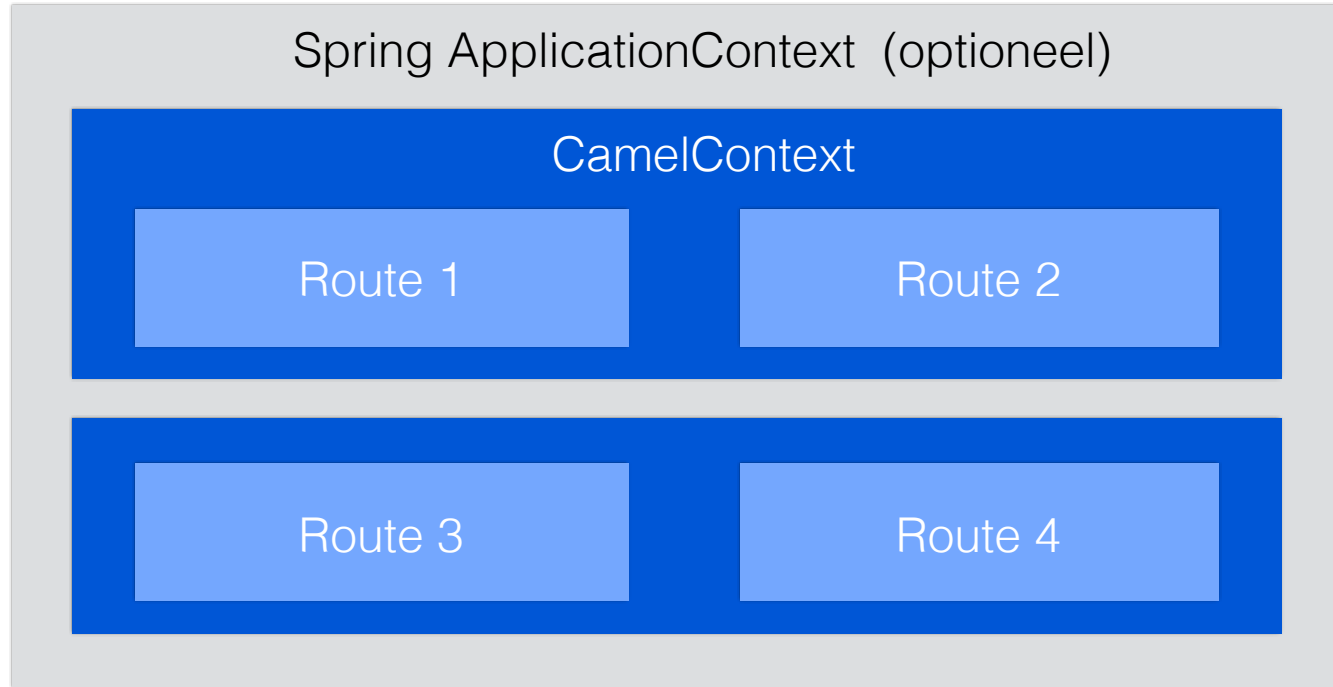
DSL



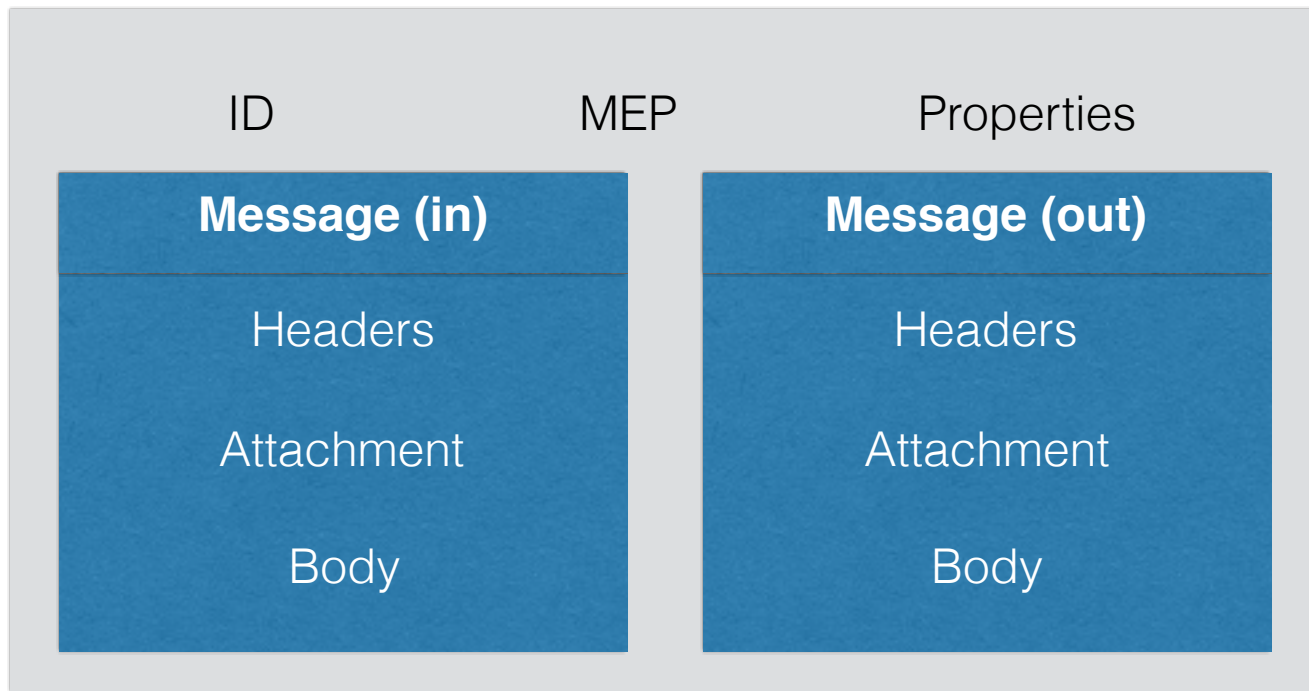
<?xml?>



CamelContext



Exchange



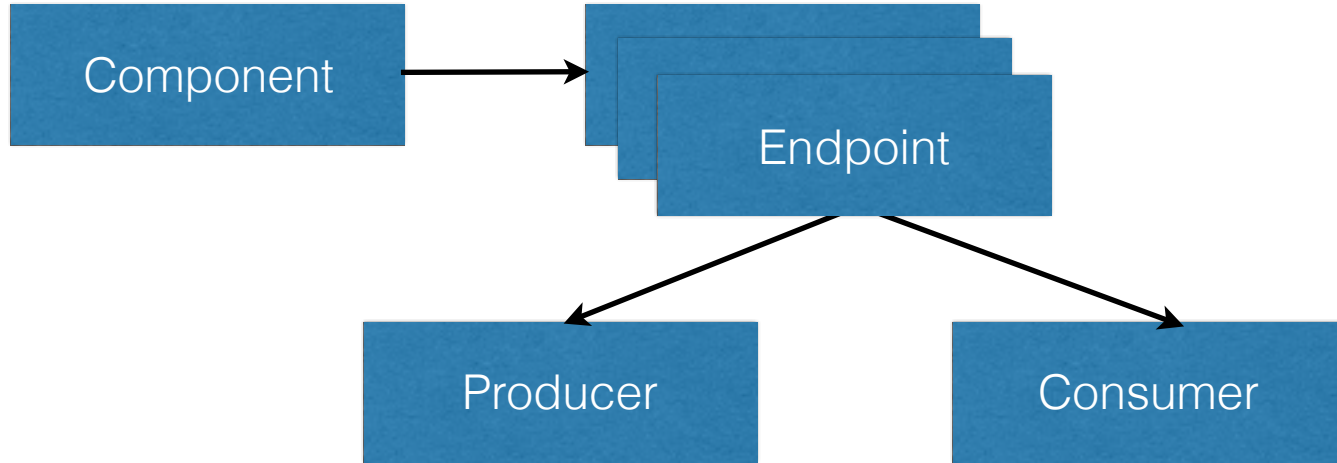
Message Exchange Pattern

- In-Only
- In-Out

Component

- 170+ components
- Networking, Mail, Webservices, Search, Databases, Scheduling, Filesystems, Big Data, Messaging, etc
- HTTP, FTP, IRC, JMS, SMTP, RSS, HL7, ElasticSearch, S3, Text files, etc

Component



Consumer/Producer

- Event-driven consumer
 - `from("cxf:bean:fancyWebservice")`
- Polling consumer
 - `from("ftp://user@server.nl/inbox?password=a")`
- Producer
 - `to("file:///home/rickette/")`

Processor

- **Alles is een processor**

EIPs

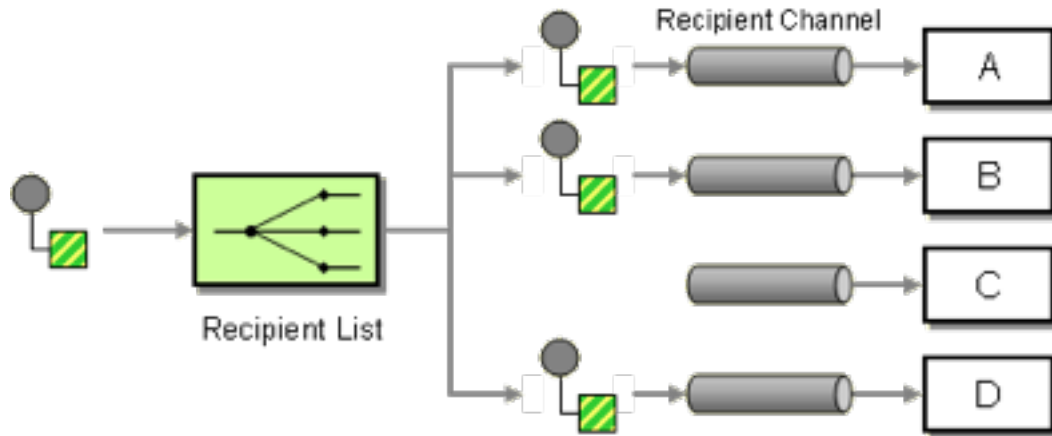
- Pipes and filters
- Splitter
- Multicast
- Recipient list
- Content-based router
- Resequencer

Multicast

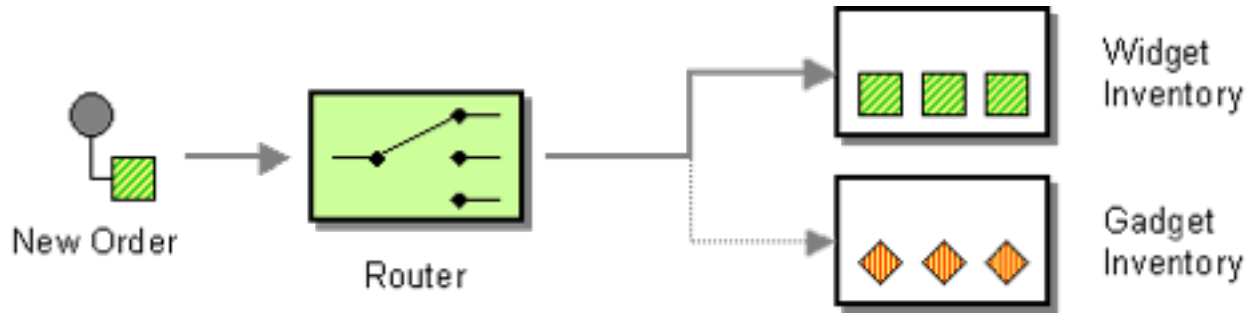
- Eén bericht naar meerdere endpoints
- Optioneel: combineren met aggregator

Recipient list

- Eén bericht naar meerdere dynamisch bepaalde endpoints

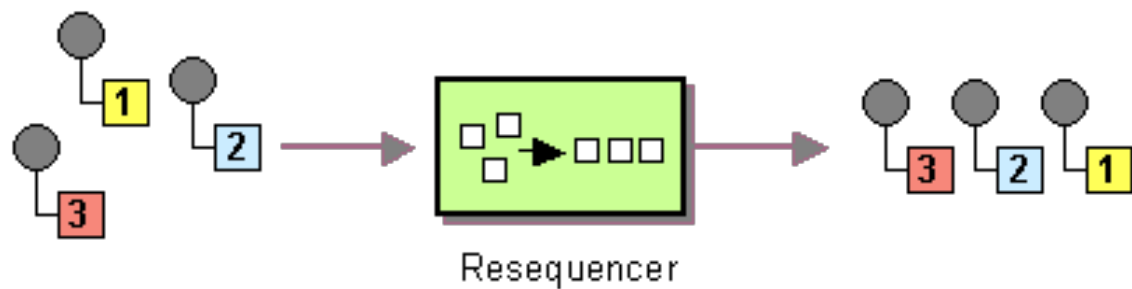


Content-based router



```
from("new order")  
  .choice()  
    .when("predicate")  
      .to("widget")  
    .otherwise()  
      .to("gadget")
```

Resequencer



Testen

- Unit testen
- Integratie testen
- Mocking

Alternatieven



Alternatieven (2)

ORACLE®

IBM

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Gotchas

- Debug logging
- `getIn()` vs. `getOut()`
- Header propagation
- Processor anti-pattern

Demo sources

- **<https://github.com/rkettelerij/guest-lecture-apache-camel>**

Support

- Camel website
 - <http://camel.apache.org/documentation.html>
- Mailing list

Support

- StackOverflow
 - tag “apache-camel”
- Unit tests!
- Examples
 - <http://camel.apache.org/examples.html>



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