



Enterprise Integration Patterns

Best Practices for Application Integration

Java Forum Stuttgart 2013

Wir lösen das – persönlich!

innoQ

Enterprise Applications

Enterprise Applications

ERP

Enterprise Applications

ERP

CRM

Enterprise Applications

ERP

CRM

SCM

Enterprise Applications

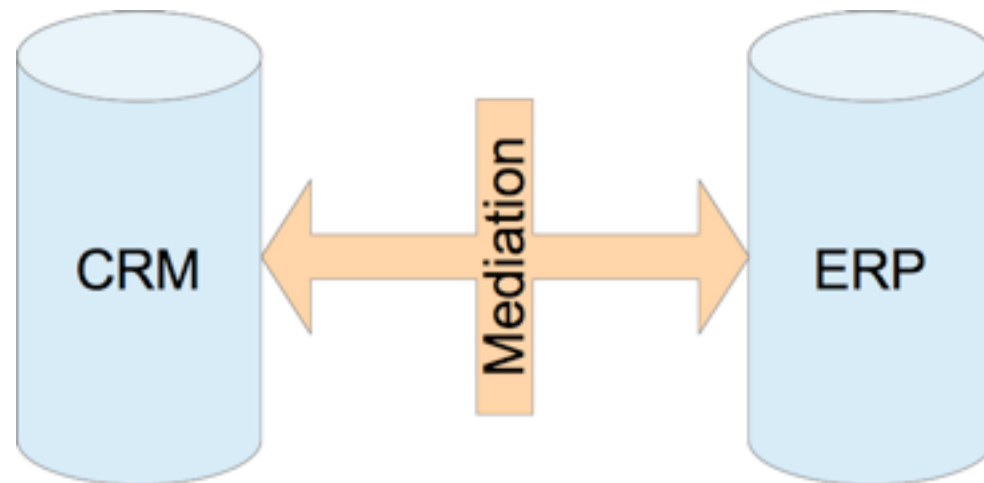
ERP

CRM

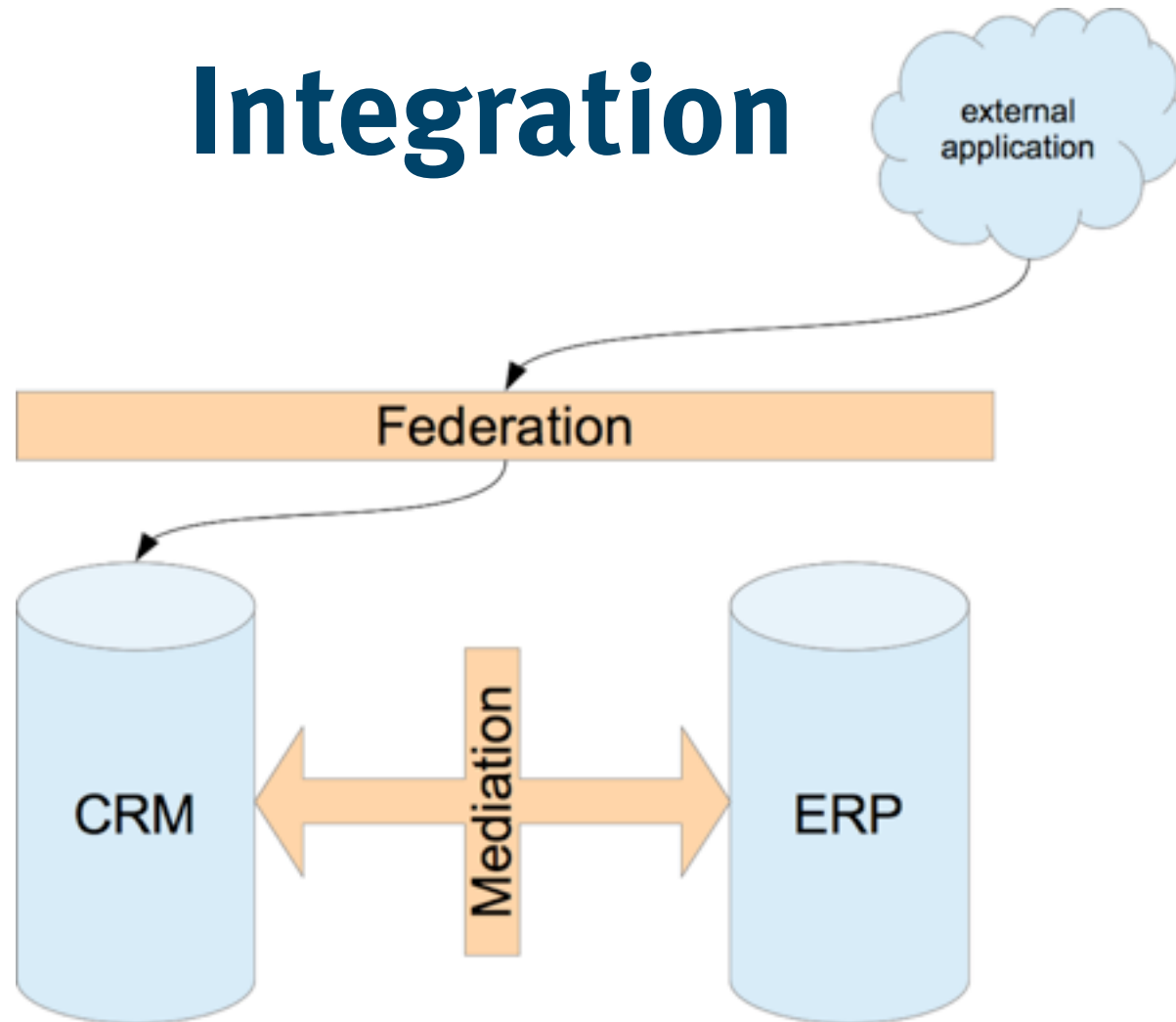
SCM

Ihre selbstentwickelte
Anwendung!

Integration



Integration





Wozu diese Pattern?

Wir lösen das – persönlich!

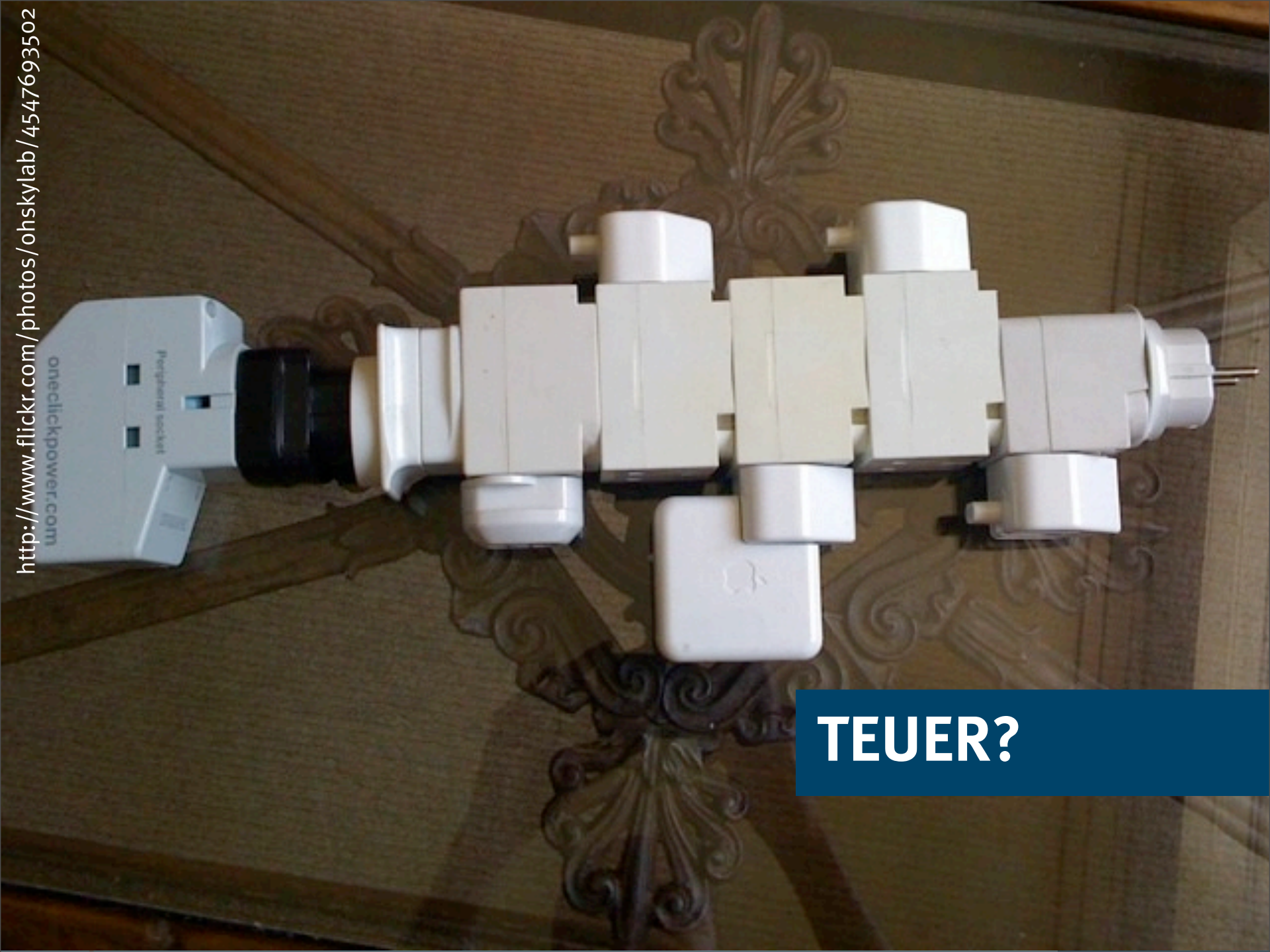
innoQ

**Eine Integrationsaufgabe erkennen,
wenn sie direkt vor einem steht?**



LEICHT!

Die passenden Hilfsmittel verwenden?



TEUER?

**Eine einfache und stabile
Lösung entwickeln?**



UNBEZAHLBAR!

Enterprise Integration Pattern

Enterprise Integration Pattern

Rezepte gegen
Integrationsschmerzen!

Pattern für EAI

Pattern für EAI

Design Patterns (Gamma et al), 1994



Pattern für EAI

Design Patterns (Gamma et al), 1994

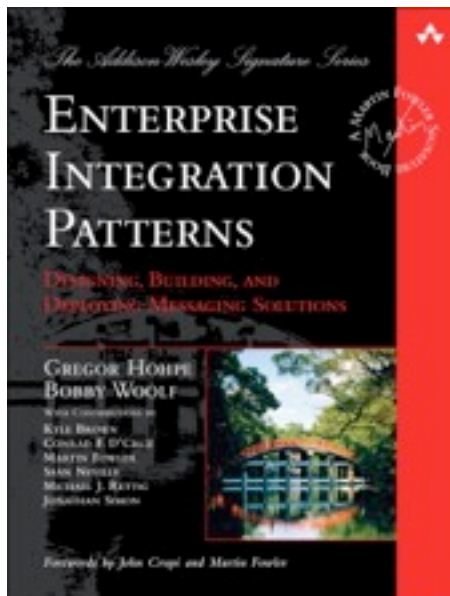
Proven solutions for common problems



Pattern für EAI

Design Patterns (Gamma et al), 1994

Proven solutions for common problems

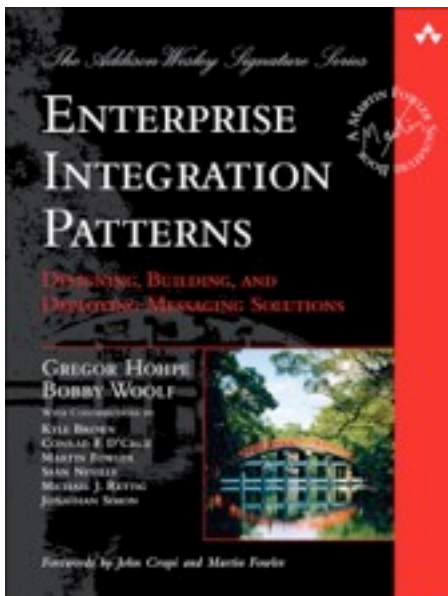


Enterprise Integration Patterns (Hohpe & Woolf), 2003

Pattern für EAI

Design Patterns (Gamma et al), 1994

Proven solutions for common problems



Enterprise Integration Patterns (Hohpe & Woolf), 2003

Swiss-army knife for asynchronous messaging



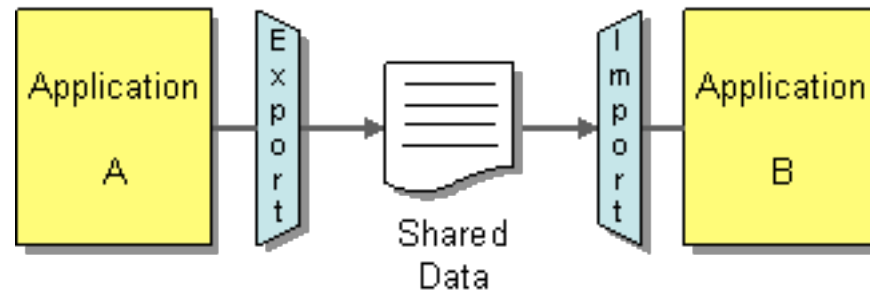
Integration Styles

Wir lösen das – persönlich!

innoQ

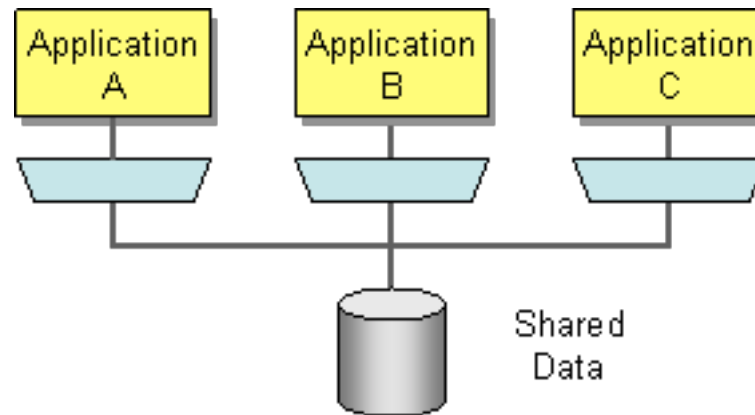
Integration Styles

File Transfer



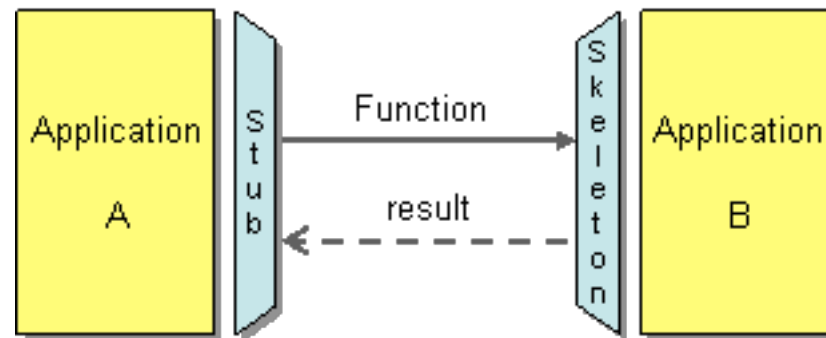
Integration Styles

Shared Database



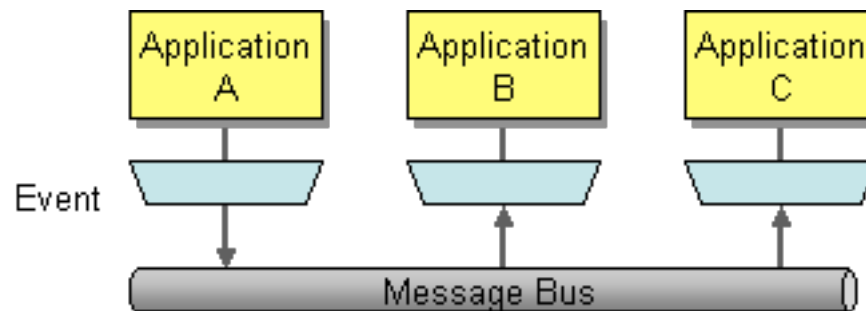
Integration Styles

Remote Procedure Invocation



Integration Styles

Messaging



“Various technologies have been around (...). We all believe that asynchronous messaging carries the greatest promise.”

- Martin Fowler (Enterprise Integration Patterns, 2003)



Variationen
eines
Klassikers

MESSAGING?

Gründe für async. Messaging

Gründe für async. Messaging

message-based communication -> decoupling

Gründe für async. Messaging

message-based communication -> decoupling

integrate heterogenous platforms/ languages

Gründe für async. Messaging

message-based communication -> decoupling

integrate heterogenous platforms/ languages

variable timing & throttling

Gründe für async. Messaging

message-based communication -> decoupling

integrate heterogenous platforms/ languages

variable timing & throttling

reliable communication

Gründe für async. Messaging

message-based communication -> decoupling

integrate heterogenous platforms/ languages

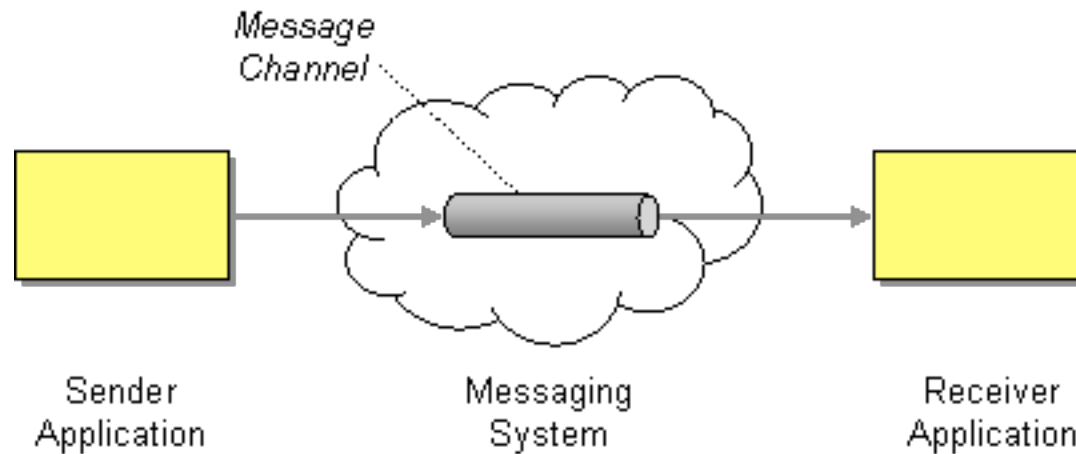
variable timing & throttling

reliable communication

disconnected operation

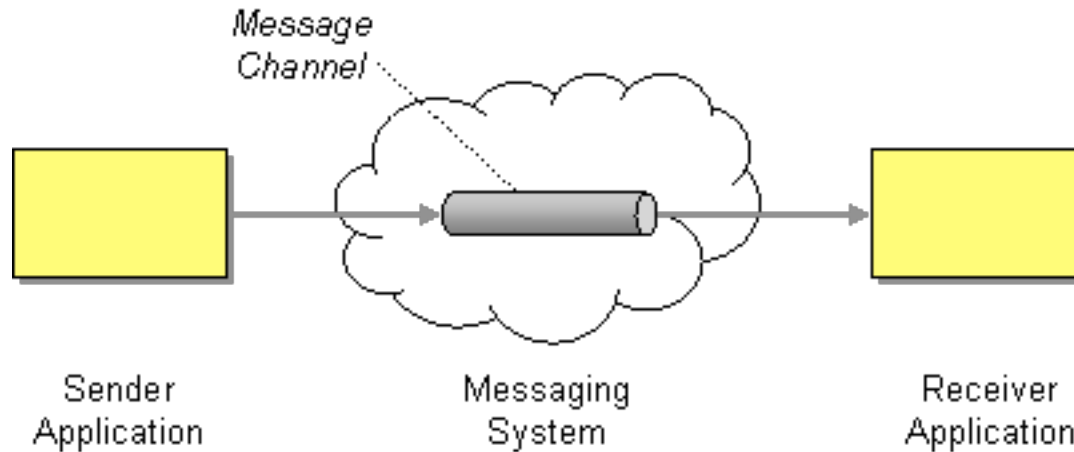
Common Wording

Message Channel

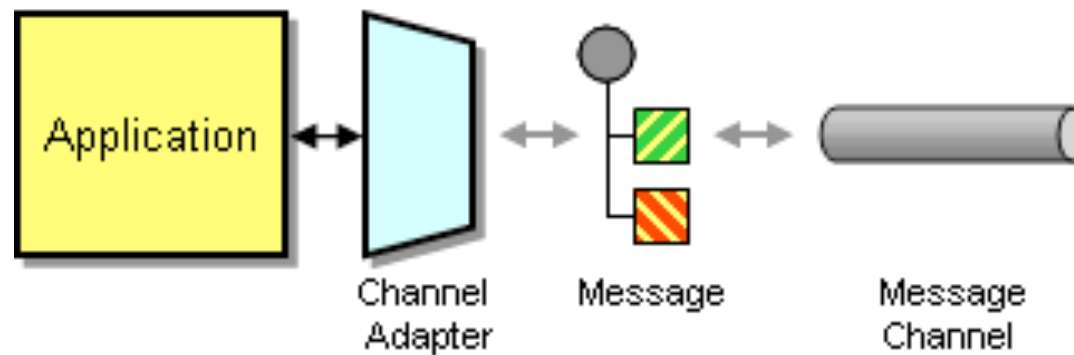


Message Channel

InMemory oder Persistent

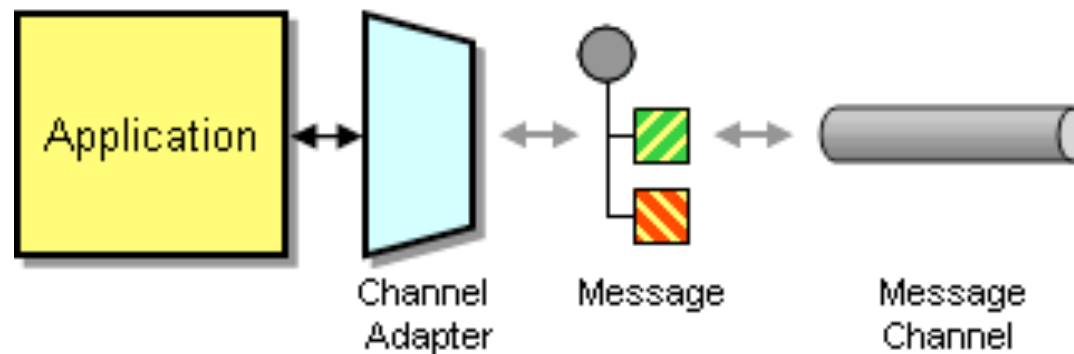


Inbound & Outbound Adapter

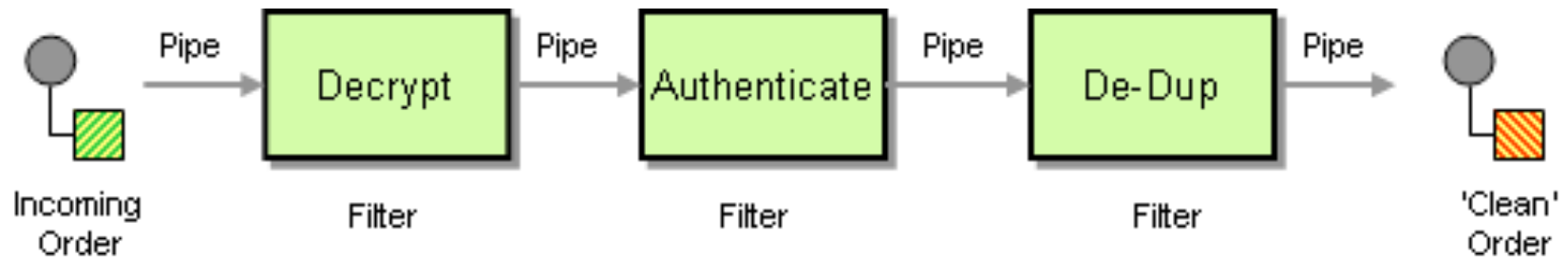


Inbound & Outbound Adapter

Applikationsspezifische Interfaces

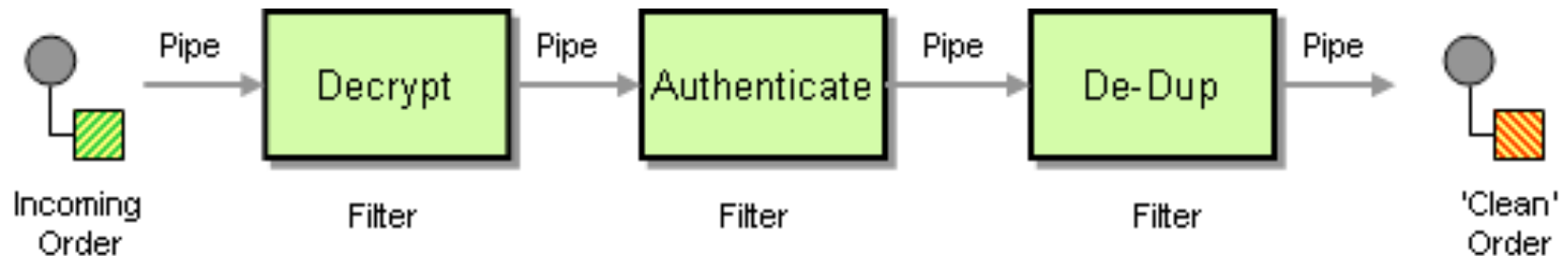


Pipes and Filters

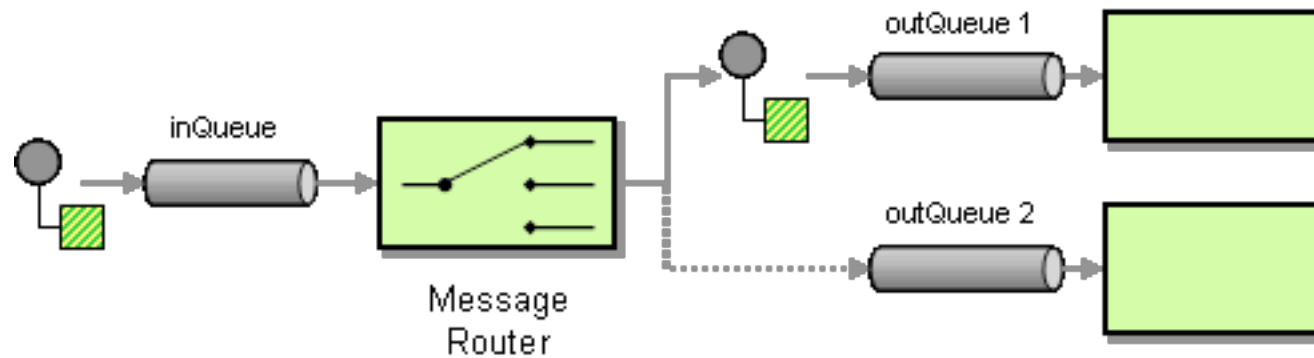


Pipes and Filters

Verarbeitung in kleine Schritte aufteilen

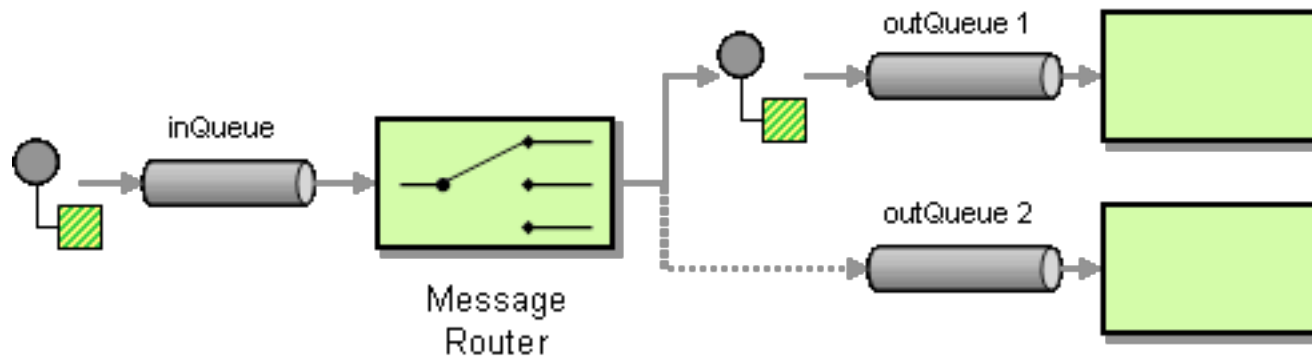


Message Router



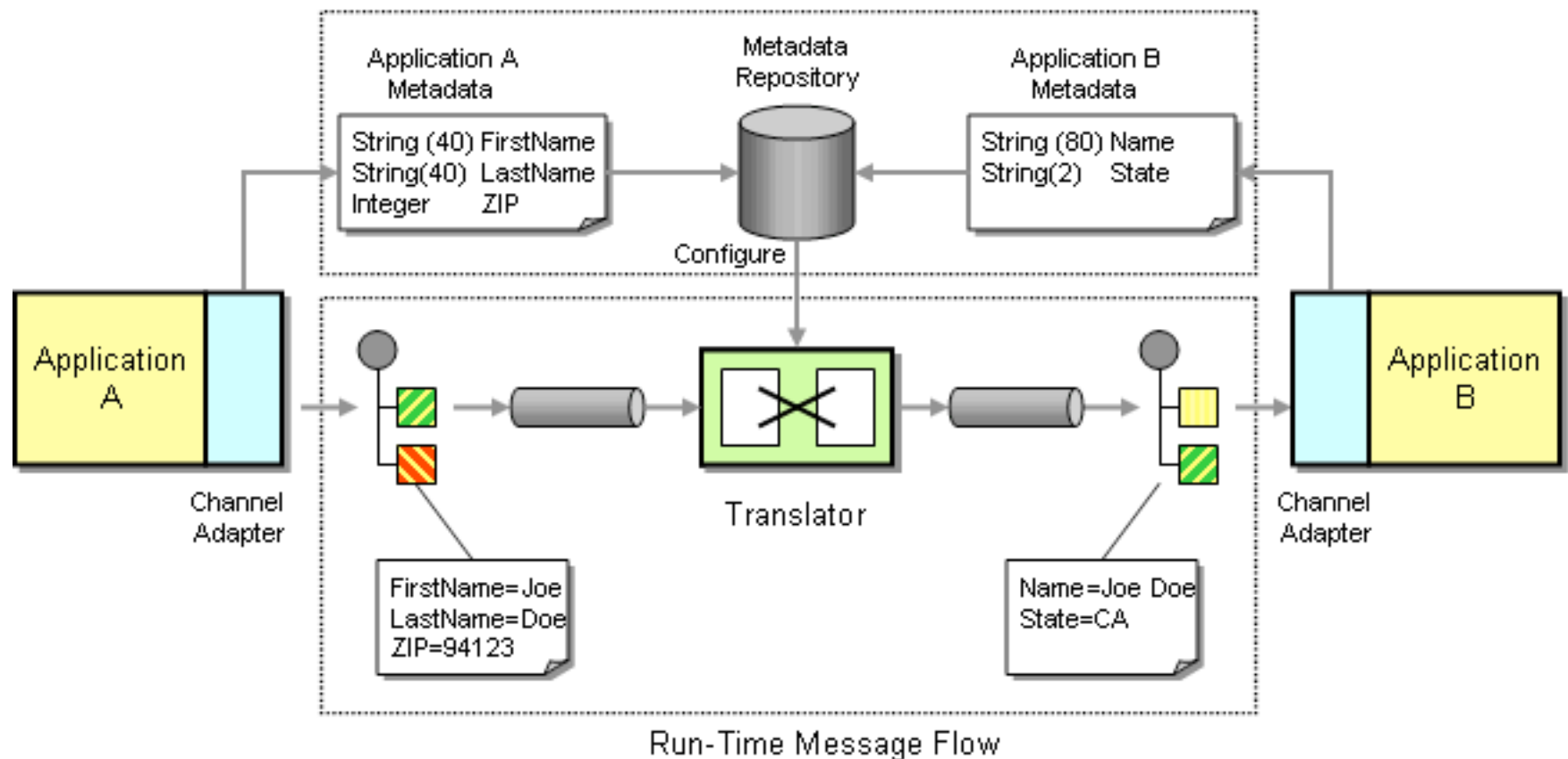
Message Router

Weiterleitung anhand von Bedingungen

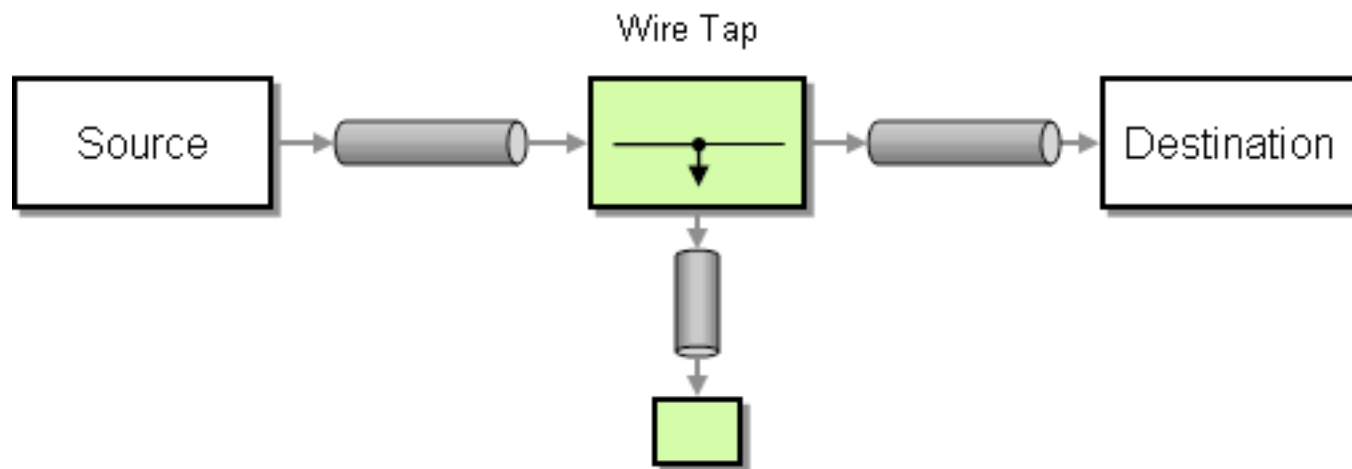


Transformer

Design-Time Metadata Flow

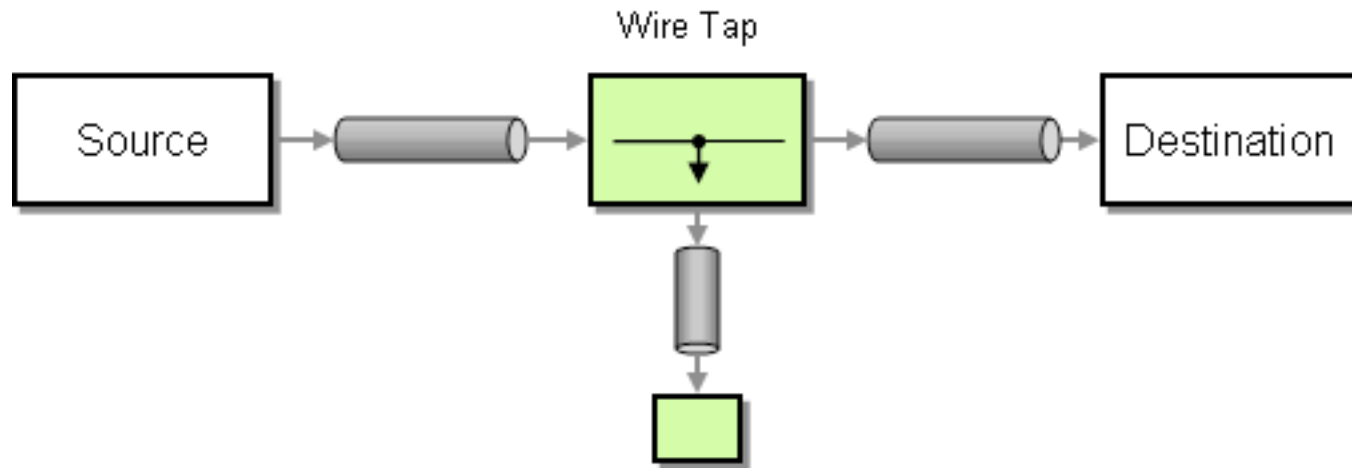


Wire Tap

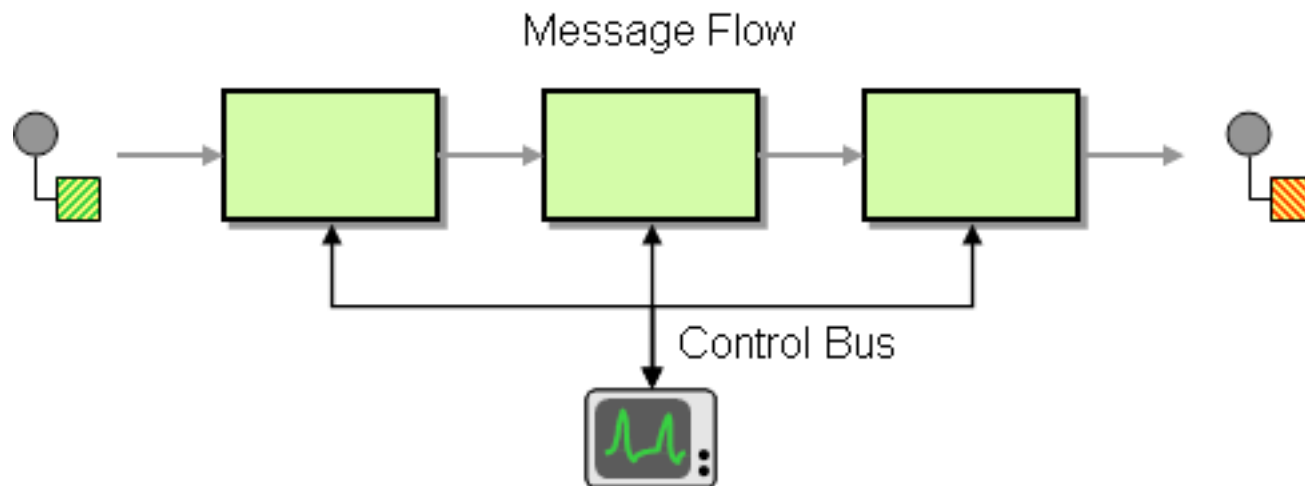


Wire Tap

Simple fixed Recipient List

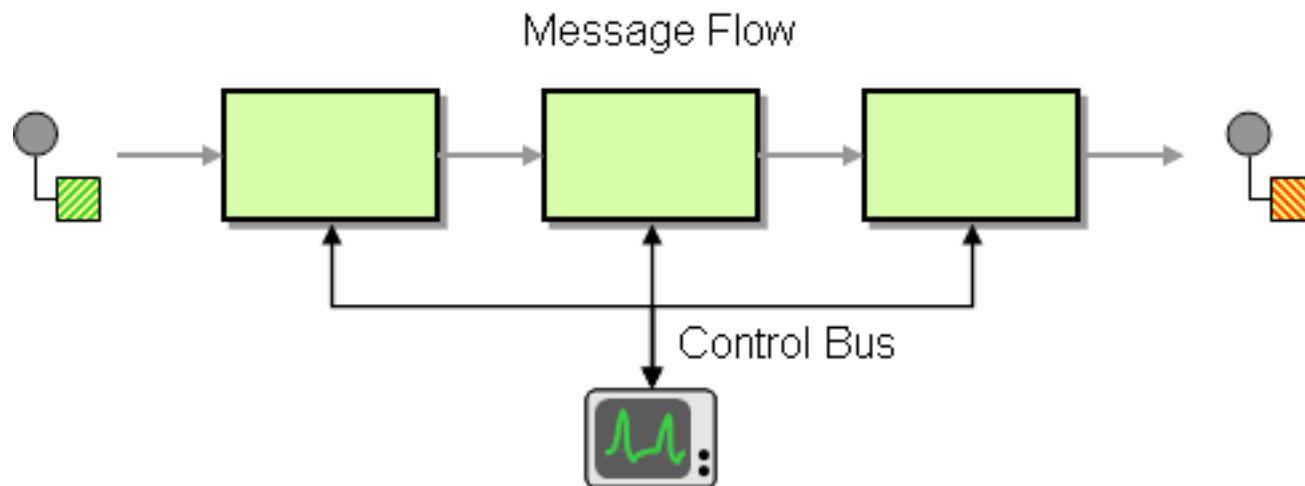


Control Bus



Control Bus

Manage integration systems & components



Nachrichtentypen

Nachrichtentypen

Allgemein

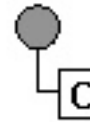


Nachrichtentypen

Allgemein



Command Message

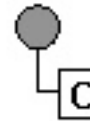


Nachrichtentypen

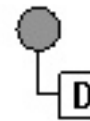
Allgemein



Command Message



Document Message

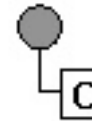


Nachrichtentypen

Allgemein



Command Message



Document Message



Event Message



EAI Frameworks



Apache Camel



Spring Integration

Code Beispiel:

GatewaySampleTest

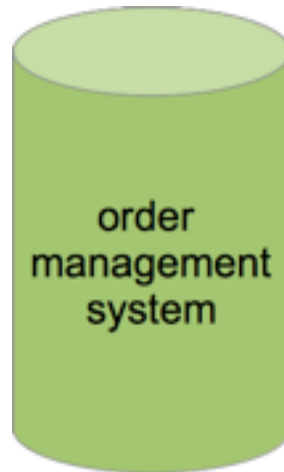
Immer ein EAI-Framework verwenden?

Immer ein EAI-Framework verwenden?

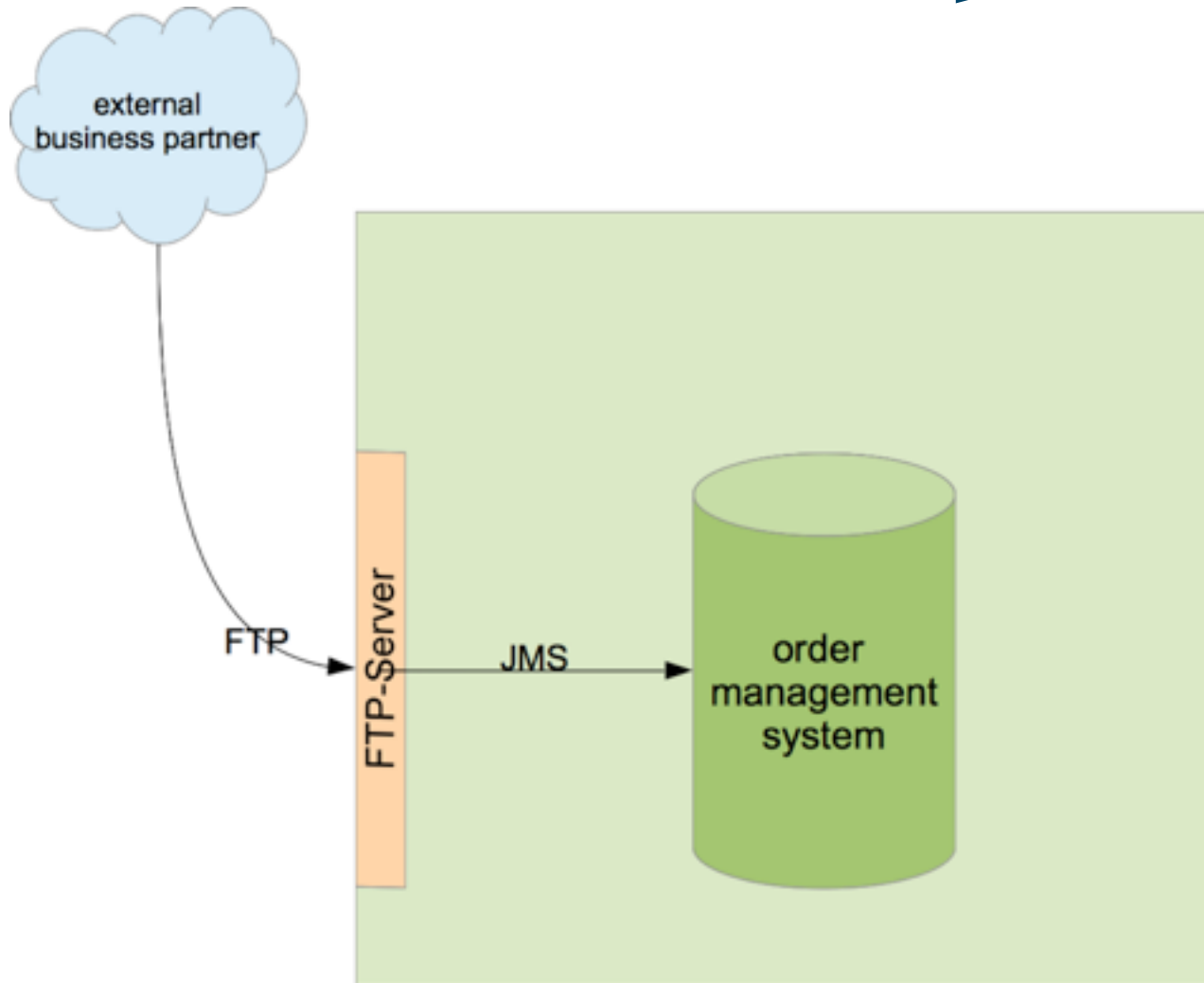
It depends!

Praxis-Beispiel

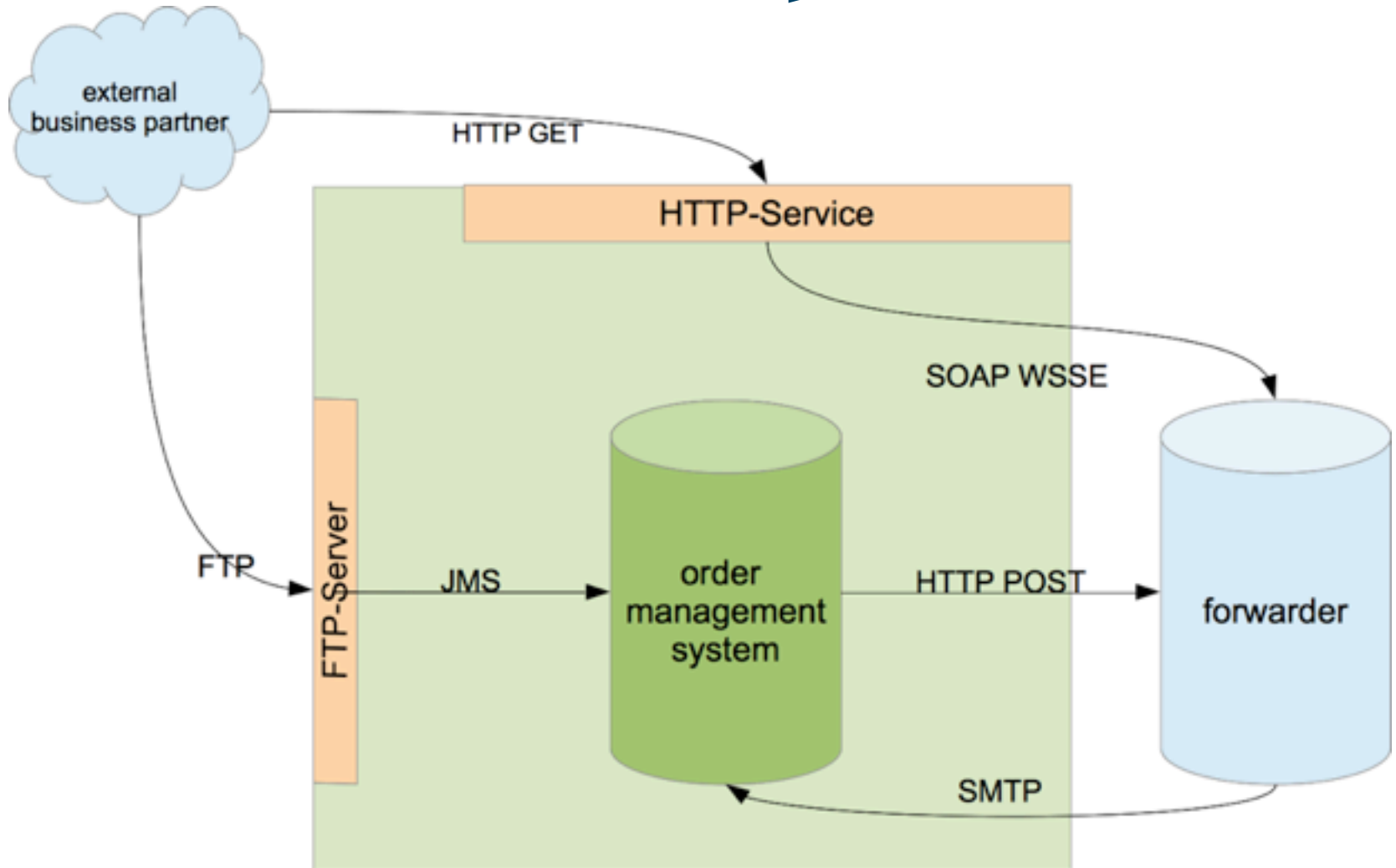
Eine einfache Auftragsverwaltung



2 Monate später



2 Jahre später



Code Beispiel

„CSV“-Import



Vielen Dank!

Alexander Heusingfeld, @goldstift
alexander.heusingfeld@innoq.com
<http://www.innoq.com>

Wir lösen das – persönlich!

