

Wasser in der Wüste

Vom custom-made
SQL-DB-Messaging Anti-Pattern
zum JMS-Standard mit Apache Camel

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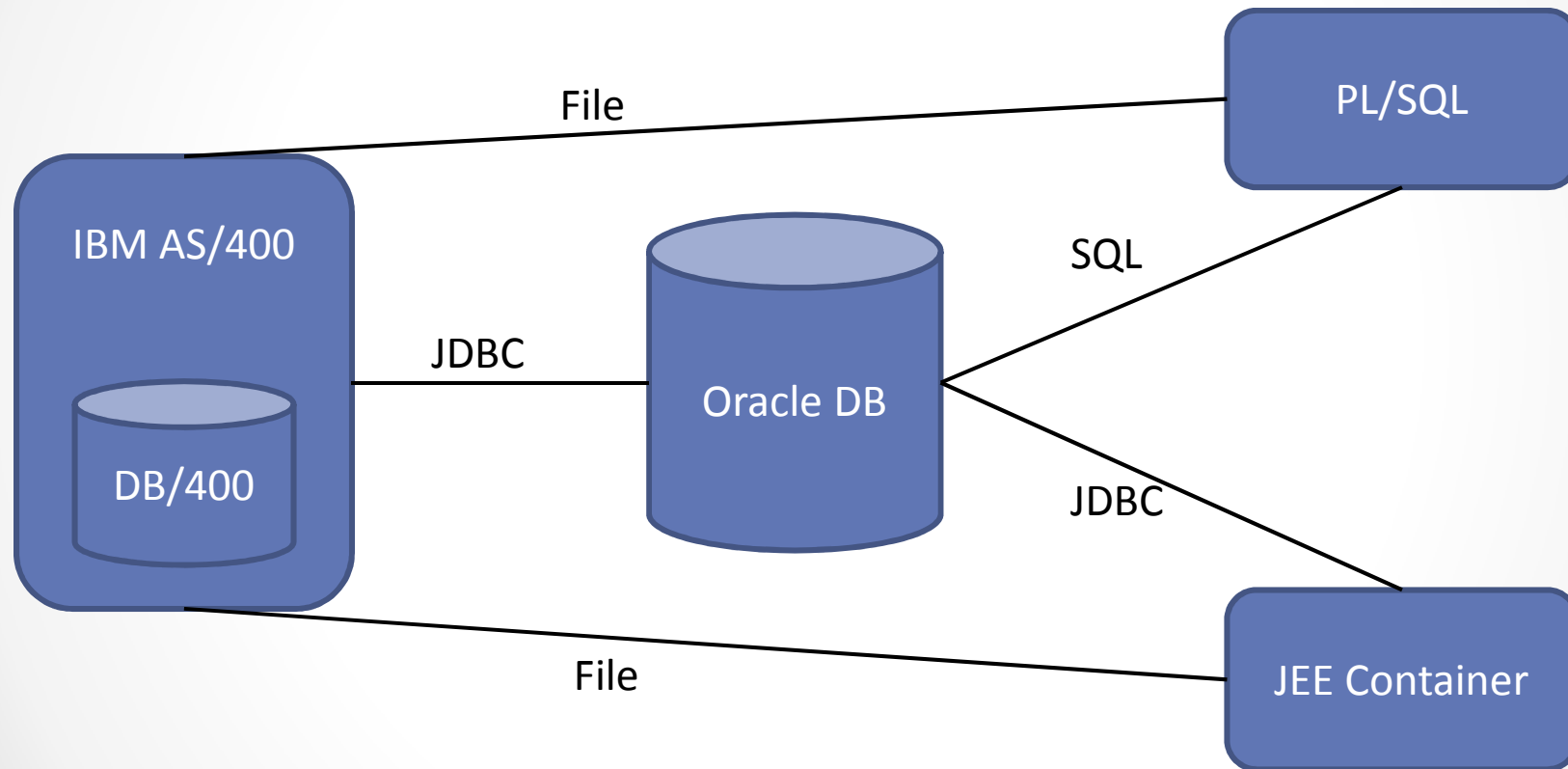
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Herausforderung



Der Weg I

- IBM WebSphere MQ ???
- Oracle JMS Suite ???
- JMS!
- Lose Kopplung
- Asynchrone Übertragung
- Queues (point-to-point)
vs.
Topics (publish-subscribe)

Oracle AQ

- JMS-Provider „built-in“
- Seit Version 9i Release 2 „Advanced Queuing“
- Auch in XE!
- Robust, stabil, etabliert
- Datenbanktabellen / -user
- Nutzbar über PL/SQL-Packages oder JMS-Adapter
- Kein weiteres System notwendig

Der Weg II

- ~~Spring Integration~~
- ~~Mule ESB / Mule Integration~~
- Apache Camel

Was ist Apache Camel?

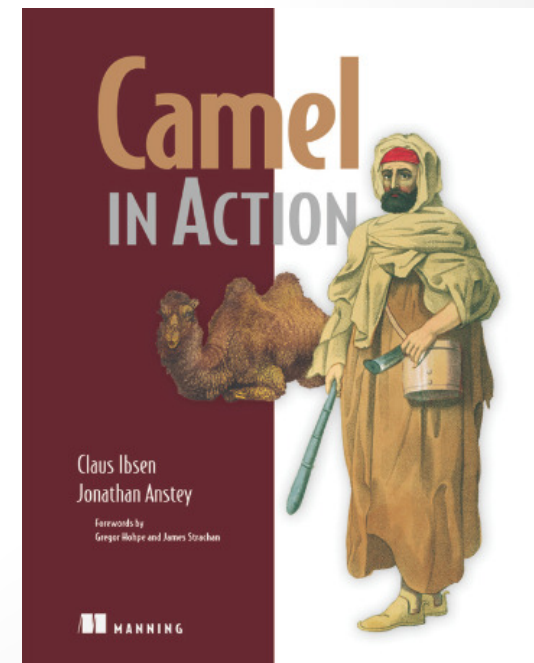
„Apache Camel is messaging technology glue with routing. It joins together messaging start and end points allowing the transference of messages from different sources to different destinations.“

„It's a complete production-ready framework for people who want to implement their solotuion to follow the EIPs.“

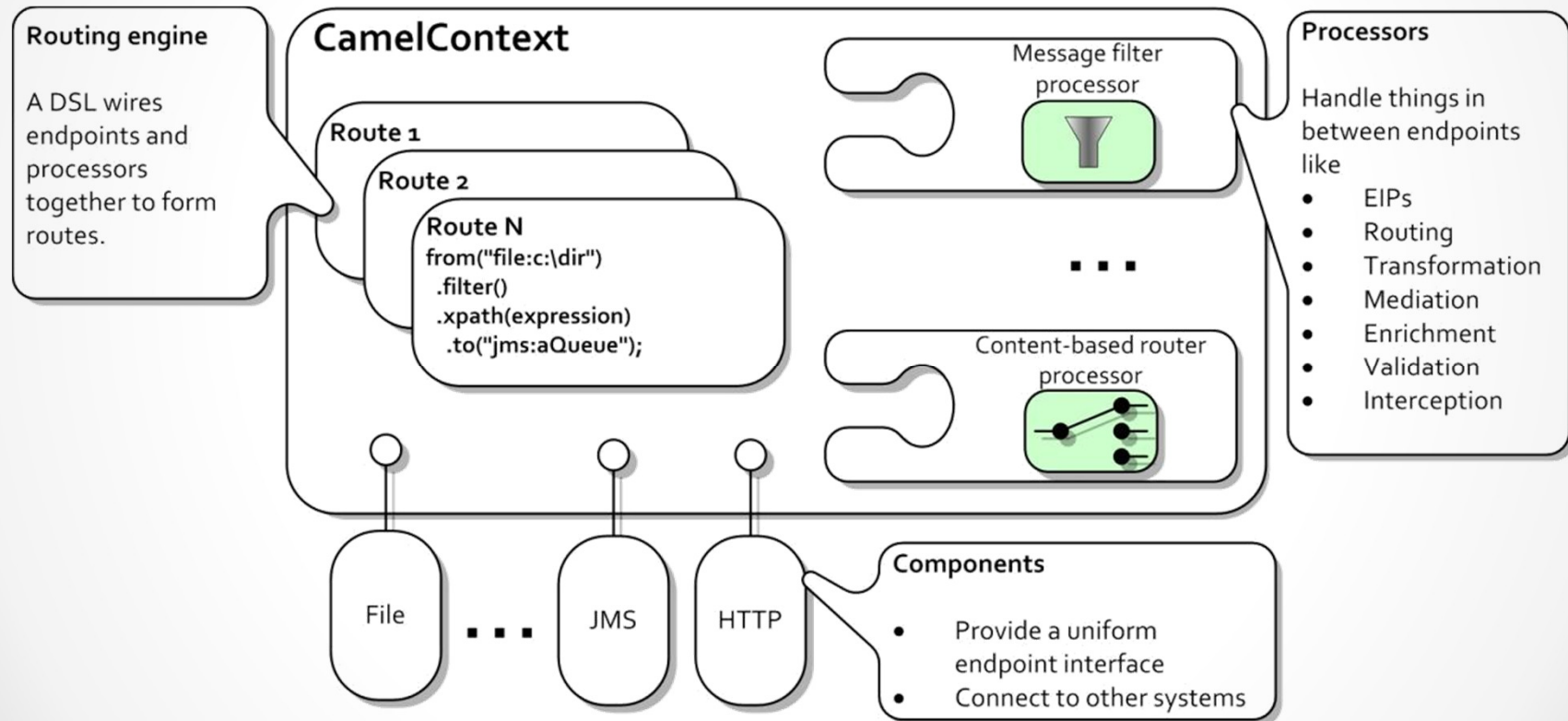
Quelle: <http://stackoverflow.com/questions/8845186/what-exactly-is-apache-camel>

Apache Camel

- EIP Open Source Framework
- leichtgewichtig
- Implementiert in Java
- Routing / Mediation / Transformation
- DSLs: Java, XML, Scala
- Pipes&Filters, Bean Binding
- Testbar (Unit-Tests)
- Apache Projekte, die Camel verwenden:
 - ServiceMix
 - ActiveMQ
 - ...



Apache Camel – 10.000m



Camel Beispiel - Java

```
CamelRoute.java ✖
package de.nk.camel.route;

import org.apache.camel.CamelContext;

public class CamelRoute {

    public void foo() throws Exception {
        CamelContext context = new DefaultCamelContext();
        context.addRoutes(new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("jms:queue:test.queue").to("file://text.txt");
            }
        });
    }
}
```

Camel Beispiel - XML

```
camel-context.xml
<?xml version="1.0" encoding="UTF-8"?>

<beans xmlns="http://www.springframework.org/schema/beans"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:camel="http://camel.apache.org/schema/spring"
  xsi:schemaLocation="
    http://www.springframework.org/schema/beans http://www.springf
    http://camel.apache.org/schema/spring http://camel.apache.org/s

  <camel:route>
    <camel:from uri="jms:queue:test.queue" />
    <camel:to uri="file://text.txt" />
  </camel:route>

</beans>
```

Apache Camel Components

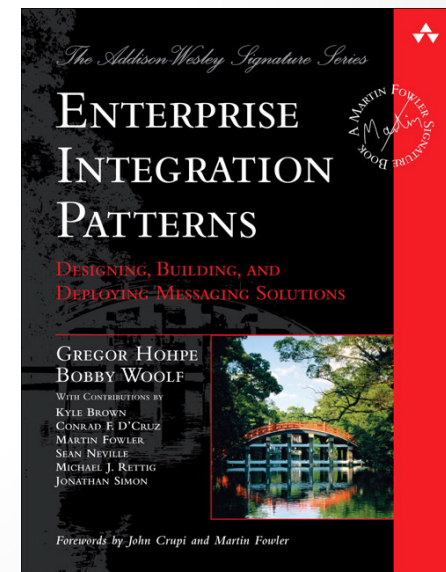
- Atom
- Amazon WS
- Bean / Bean Validation
- Crypto
- CXF (SOAP)
- Direct, Seda, Mock
- EJB
- File
- Freemarker
- FTP
- GAuth, GMail, ...
- HBase
- HDFS
- HTTP
- iBatis
- IRC
- JDBC
- JMS
- JMX
- JPA

Apache Camel Components

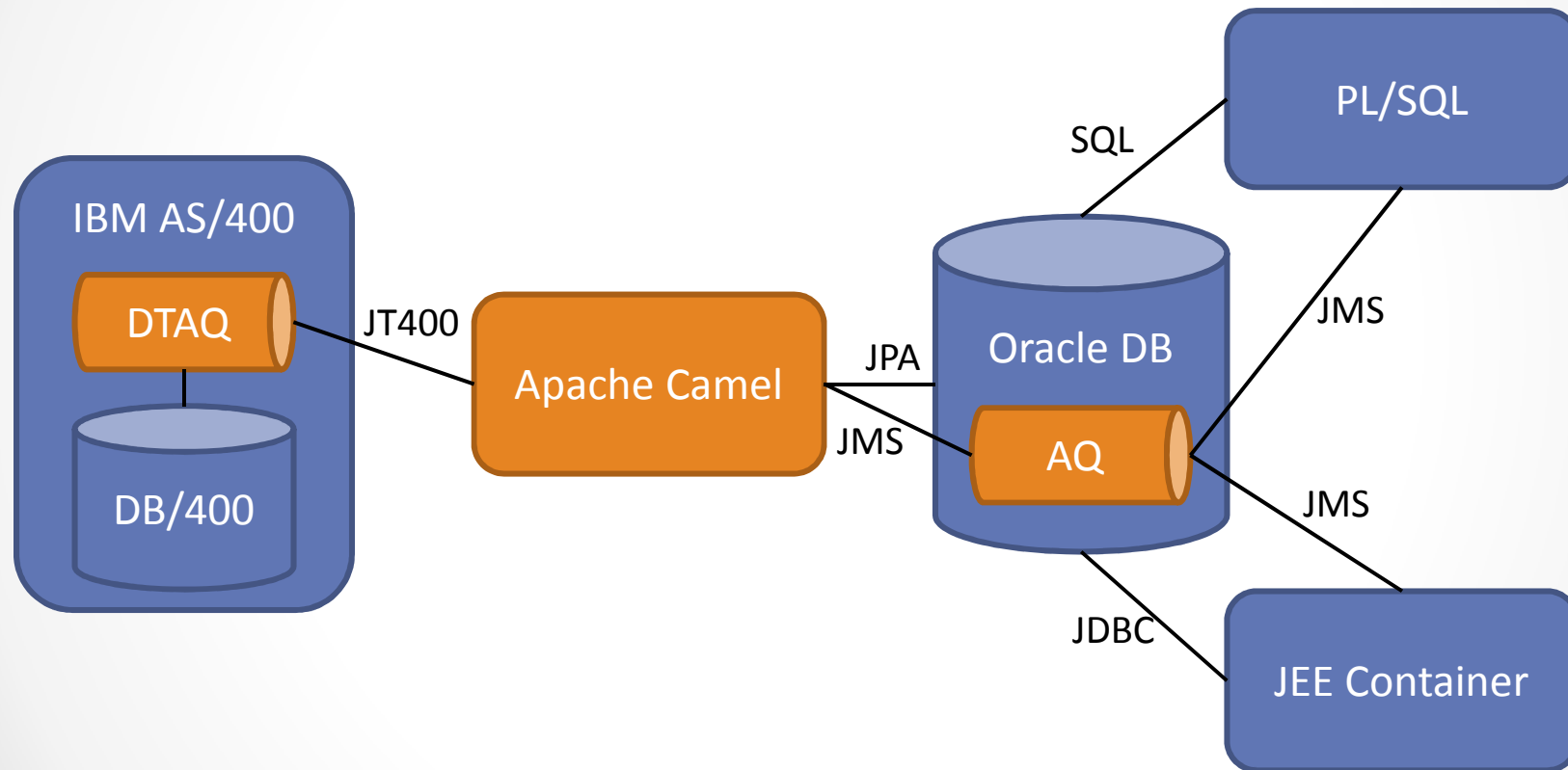
- JT400
- LDAP
- Log
- Lucene
- Mail (IMAP, POP3, SMTP)
- MongoDB
- Nagios
- Printer
- REST
- RMI
- RSS
- Solr
- SpringBatch, -Integration
- SQL
- SSH
- StAX
- TCP
- Twitter
- XQuery
- XSLT

Enterprise Integration Patterns

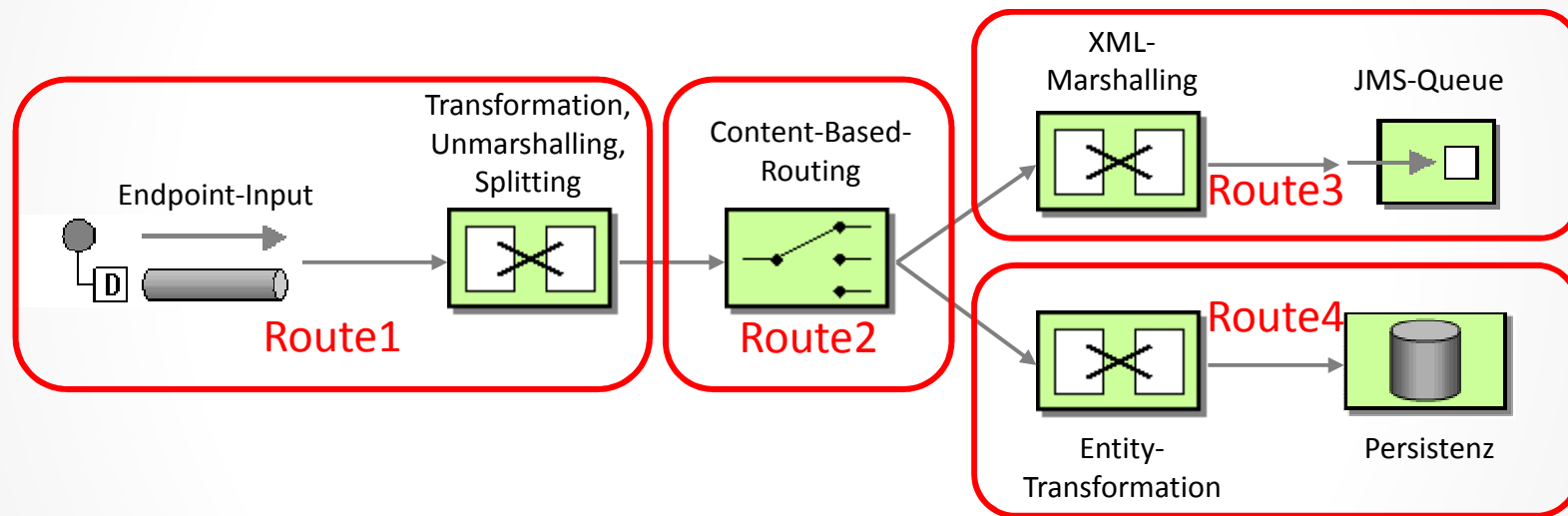
- Gregor Hohpe & Bobby Woolf
- *Designing, Building and Deploying Messaging Solutions*
- 65 Patterns
 - (einfache) Lösungen und Ansätze für verschiedene bzw. alle Integrations-Werkzeuge
 - „Gemeinsame Sprache“ und visuelle Notation
- *If you are involved with the operation or development of an enterprise application, there will doubtless come a time when you will need to integrate your application with another using the emerging preferred approach of messaging. When that time comes, this book will be your most valuable reference.*
(Randy Stafford, Oracle)



Ziel-Architektur



Ziel-Routing



Demo



Q&A



Links

- Oracle AQ: [http://en.wikipedia.org/wiki/Oracle Advanced Queueing](http://en.wikipedia.org/wiki/Oracle_Advanced_Queueing)
- JMS: [http://de.wikipedia.org/wiki/Java Message Service](http://de.wikipedia.org/wiki/Java_Message_Service)
- Apache Camel: <http://camel.apache.org>
- Spring Integration: <http://www.springsource.org/spring-integration>
- Mule ESB: <http://www.mulesoft.org>
- EAI Patterns: <http://www.eaipatterns.com>
- JT400: <http://jt400.sourceforge.net>