



JUDCon

JBoss Users & Developers Conference

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Innovative ideas for Integration Solutions through JBoss ESB

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Agenda

- JBoss ESB today and tomorrow
- Extending JBoss ESB Components
- Working with:
 - GoogleDocs
 - Openfire (XMPP)
- Apache Camel and JBoss ESB
- Breakinwoods Project

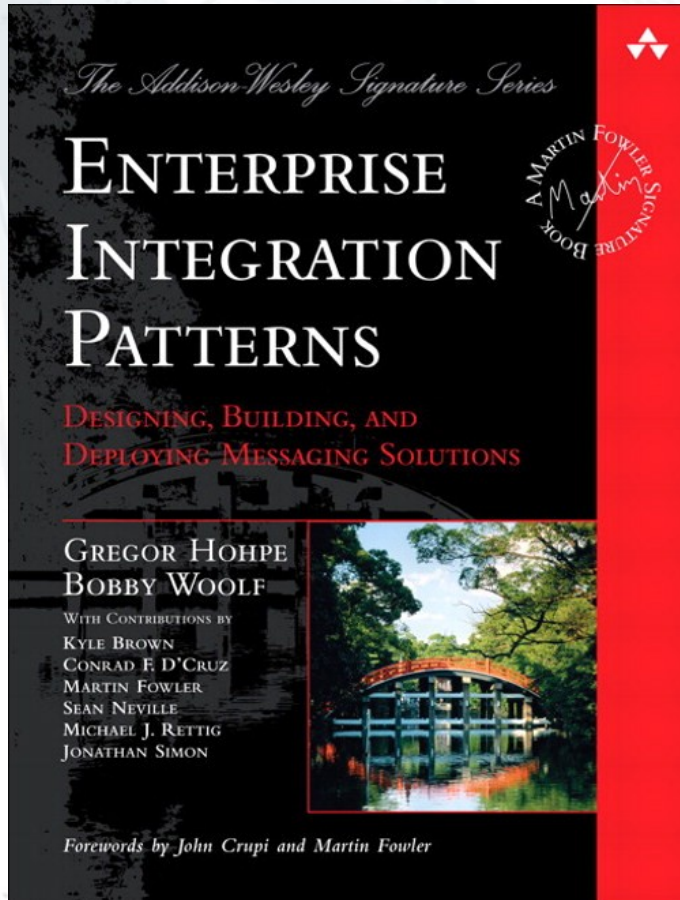






Enterprise Integration Patterns

Enterprise Integration Patterns



- There are just 4 Integration Styles :
 - File Transfer
 - Shared Database
 - RPC
 - Messaging
- <http://www.eaipatterns.com/>



JBoss ESB is built according EIPs principles

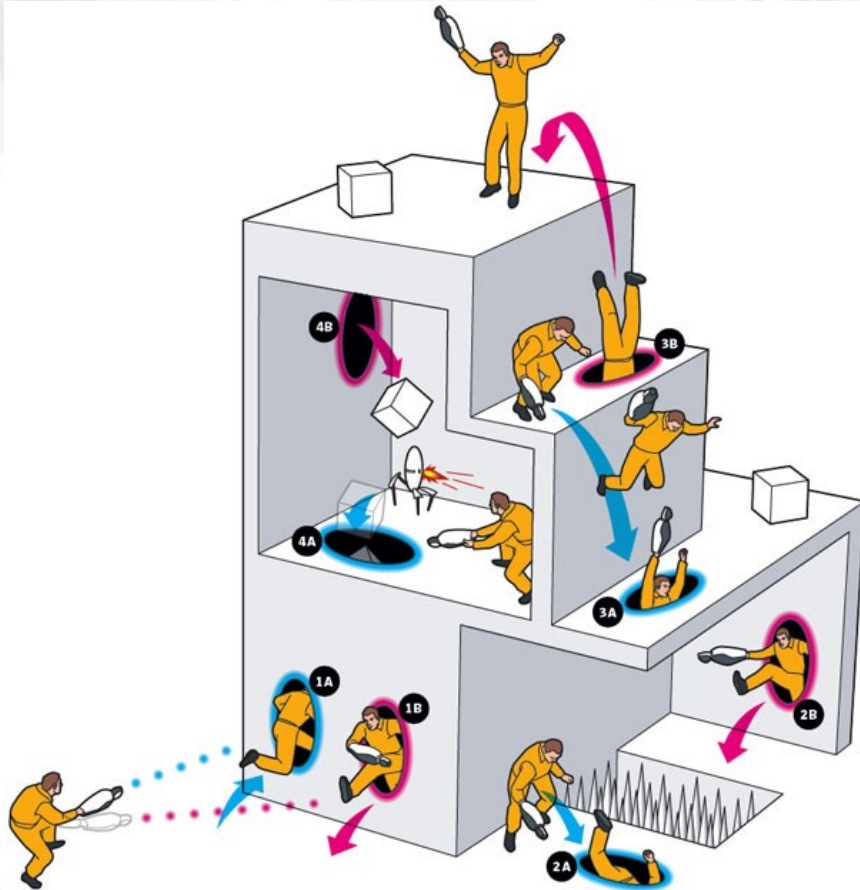


Is there a place for an ESB into your Architecture ?

(*) Curiosity: Red Hat Brazil Viewing in São Paulo Brazil

Why do I need an ESB ?

You shall be bored to listen it again though :)



- An ESB can promote an “Event Architecture” simply due to the capacity to listen the events that the company produces and must to react based on them.
- Would be great we think in Clouds of ESBs
- Collaboration is required
- Transport warranty (JMS Clustering + Fault Tolerance)
- Events are like Messages for ESBs

ESB vs Standards

- There is no JSR that standardize an ESB, however the majority of ESB are created on top of many standards:
 - JDBC, JMS, JAX-WS, JAX-RS, JNDI etc
- ESB (Service Bus) offers a way to integrate several applications through standards and common protocols such as File Systems, FTP, E-mail etc
- **Caution:**
 - Sometimes is had better to adopt a standardized document / protocol to perform data interchange as well as integration
 - Ex: XML+Schema , JSON, CSV etc

JBoss ESB

- Can be used as a Lightweight Enterprise Service Bus
- Inherits benefits from the traditional JBoss Application Server
- Many services “out-of-the-box”
 - CBR based on Rules Engines (**Drools (drl) e Guvnor**)
 - Workflow based on **JBPM**
 - Services Orchestration via **BPEL** (Riftsaw/Apache ODE)
 - Transformation Services via **Smooks**
 - Adapters (File, FTP, Http, REST, WS, JMS etc)
 - InVM Transport
- Available at: <http://www.jboss.org/jbossesb>

**“Show me the
source code” !**



breakingwoods

Opensource components and ideas for JBoss ESB



<http://code.google.com/p/breakingwoods>



esbgen.sh

**Creating a new ESB Project made
easy**



GoogleDocs Listener



XMPPListener (Openfire+Smack)




Apache Camel is already present

in JBoss ESB 4.9 svn trunk

Thanks David Ward !

<http://community.jboss.org/wiki/CamelGateway>

```
<jbossesb xmlns="
http://anonsvn.labs.jboss.com/labs/jbossesb/trunk/product/etc/schemas/xml/jbossesb-1.3.0
" parameterReloadSecs="5">
  <services>
    <service category="camel_helloworld" name="service1" description="Hello
World" invmScope="GLOBAL">
      <listeners>
        <camel-gateway name="gateway1">
          <from
uri="file:///.../samples/quickstarts/camel_helloworld/build/input1?delete=true"/>
          <from
uri="file:///.../samples/quickstarts/camel_helloworld/build/input2?delete=true"/>
          </camel-gateway>
        </listeners>
        <actions>
          <action name="action1" class="org.jboss.esb.actions.SystemPrintln"/>
        </actions>
      </service>
    </services>
  </jbossesb>
```

```
<to uri="jbossesb://service?category=camel_helloworld&name=service1"/>
```

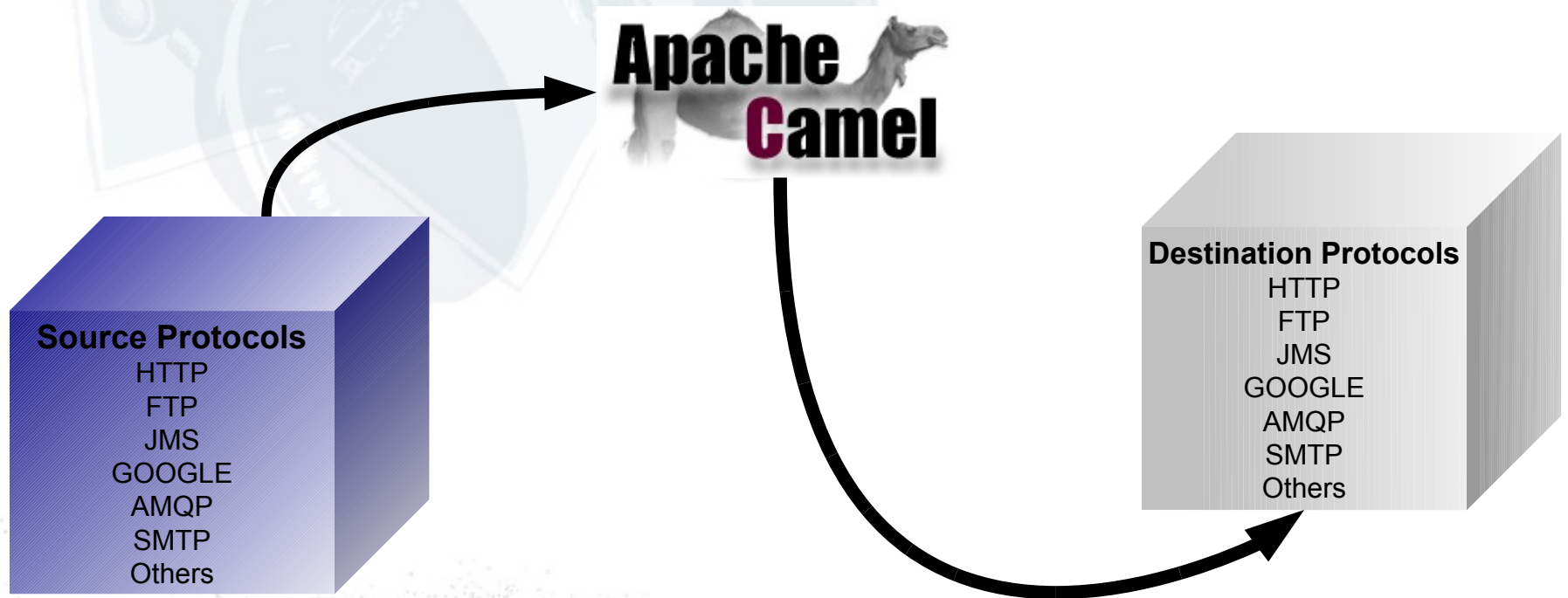
Introducing Apache Camel



- <http://camel.apache.org>
- Apache Camel is a powerful open source **Integration Framework** based on known Enterprise Integration Patterns
- Apache Camel uses URIs so that it can easily work directly with any kind of Transport or messaging model, for **instance:**
 - `mina:tcp://localhost:6200?textline=true&sync=false`
 - `ftp://scott@localhost/public/reports?password=tiger&binary=true&delay=60000`

Apache Camel can to Act as...

- Event Consumer
- Event Producer



Available Components URI

- ActiveMQ / activemq-camel
- ActiveMQ Journal / activemq-core
- AMQP / camel-amqp
- Atom / camel-atom
- Bean / camel-core
- Browse / camel-core
- Cache / camel-cache
- Cometd / camel-cometd
- CXF / camel-cxf
- CXFRS / camel-cxf
- DataSet / camel-core
- Direct / camel-core
- Esper / camel-esper in camel-extra
- Event / camel-spring
- File / camel-core
- Flatpack / camel-flatpack
- Freemaker / camel-freemaker
- FTP / camel-ftp
- FTPS / camel-ftp
- GAuth / camel-gae
- GHttp / camel-gae
- GLogin / camel-gae
- GTask / camel-gae
- GMail / camel-gae
- HDFS / camel-hdfs in camel-hdfs
- Hibernate / camel-hibernate in camel-extra
- HL7 / camel-hl7
- HTTP / camel-http
- IRC / camel-irc
- RSS / camel-rss
- SERVLET / camel-servlet
- Smooks / camel-smooks in camel-extra
- SMTP / camel-mail
- SMPP / camel-smpp
- SNMP / camel-snmp
- SpringIntegration / camel-spring-integration
- SQL / camel-sql
- Stream / camel-stream
- TCP / camel-mina
- Others

Full Components List:

<http://camel.apache.org/components.html>

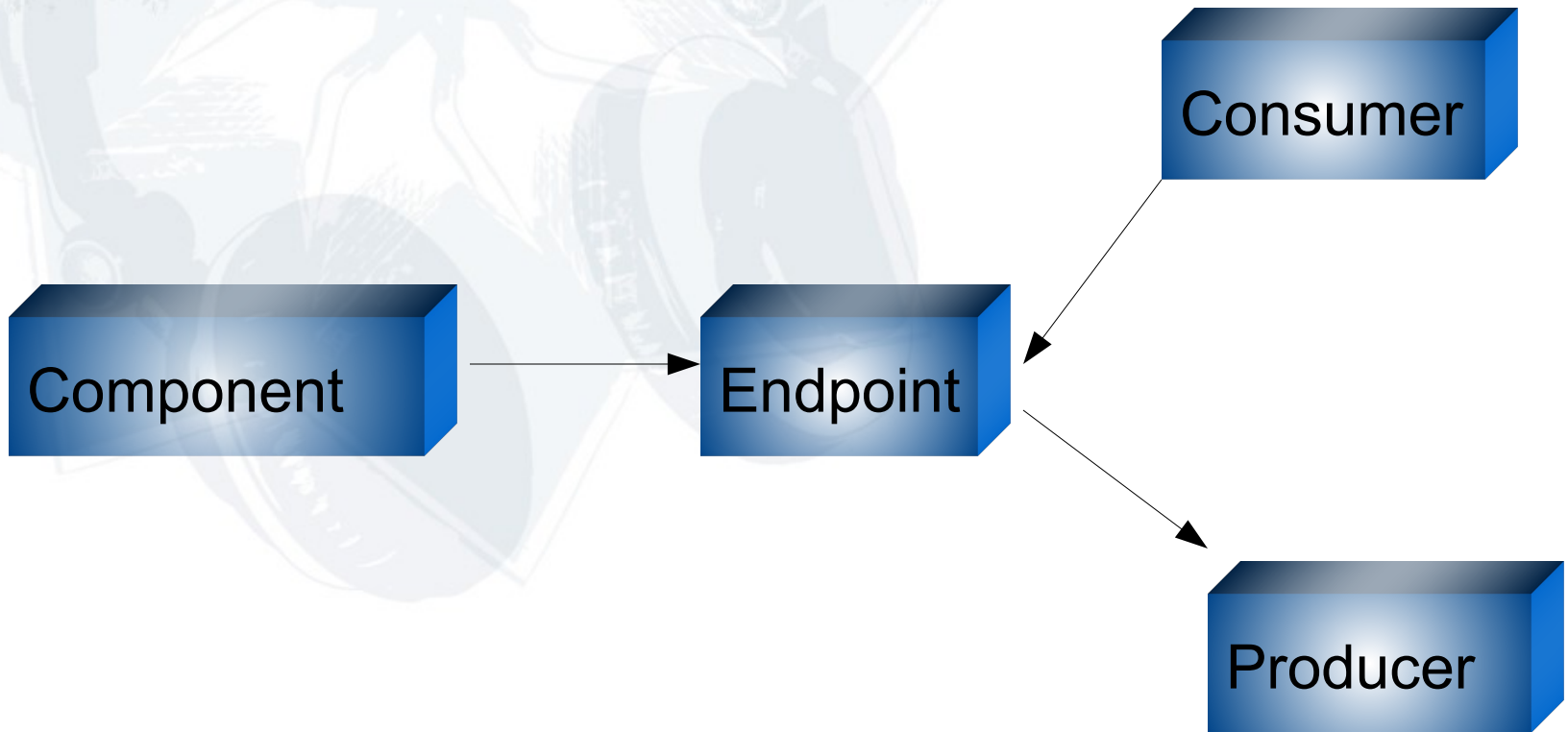
Routing (from...to)

From an URI (Process the Exchange) deliver **to** another URI

```
from("direct:start")  
    .setHeader(HttpConstants.HTTP_METHOD,  
constant(org.apache.camel.component.http.HttpMethods.POST))  
    .to("http://www.google.com")  
    .to("mock:results");
```




Extending Apache Camel



Creating a New Apache Camel Component

Infinispan (Cache/Datagrid)

<http://www.jboss.org/infinispan>

**“Show me the
source code” !**



Proposed Architecture

Apache Camel Data Consumer Cloud

JBoss ESB Server

CBR, Drools, CEP, Workflow, BPM, BPEL, EJB,
Transactions, Clustering, Loadbalancing etc

Java Virtual Machine



QA

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