Chapter 1: Business Process Management, Service-oriented Architecture, and Enterprise Architecture

- Policies
- Stakeholders

- Vision
- Strategy
- Tactics

- Projects
- Products and services
- KPIs

- Capabilities
- Value chains
- Organization

- Rules
- Business processes
- Events

- Applications
- Data and information
Business Process Modeling
Modeling, simulation, and optimization of processes

Service Oriented Architecture
Orchestrates business processes with service composition and mediates service providers

Monitors performance for optimizations
Designed processes are implemented with SOA in a round-trip fashion

Service changes do not impact processes

Services
Reusable services are exposed to be composed into various processes and different contexts
Chapter 2: Modeling Business Processes for SOA - Methodology
Editing KPI for Vehicle Reservation & Allocation

**KPI**

Name: PercentageOfCustomerComplaints
Display Name: Percentage of Customer Complaints
Description: Number of customer complaints expressed as a percentage of total customers in a period.
Type: Manual

**Measure**

*Measure Name: PercentageOfCustomerComplaints*
*Manual Value: 5*

**Target**

*Target Type: Simple*  
*Target Value: 5*  
*Allowed Deviation: Percentage*  
*10 %*

*Greater than Acceptable Range: Danger*
*Inside Acceptable Range: OK*
*Less than Acceptable Range: OK*
Joint team

- RYLC domain experts
- BPM / SOA architect and tool SME
- BPM & portal developers
- SOA developers

Value chain and top level business processes:
- high level structure; org units; goals; KPIs

Workflows:
- define structure, rules, data
- integration: define service contracts

Integration:
- develop pages, mappings, rules, service calls, exception handling and so on
- develop mappings, rules, transaction handling, exception handling, adapters

<table>
<thead>
<tr>
<th>Business process</th>
<th>Workflows</th>
<th>Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value chain; business processes to level 3</td>
<td>Business processes level 4 and below</td>
<td>APIs; SOA services</td>
</tr>
</tbody>
</table>
Group A

Process 1

Define conventions and quality gateways for
- Process / service structure
- Names of verbs, nouns
- Structure of sub processes, transactions, exceptions, errors

Sprint 1

ONE SHARED LANGUAGE

Shared language
- Business
- IT
- System integrator

Model

Understand

Sprint 2

Process 6

Process 23

Sprint 3

Process 12

Process 5

Process 8

Process 2
Chapter 3: BPMN for Business Process Modeling

Event
Start event

Check credit

Send to partner 1

Partner 1 approves

Send to partner 2

Partner 2 approves

End Event
Start event

Late Baggage arrives at terminal

Large distance courier
- Bags delivered across city

Local delivery
- Bags delivered in city

End Event
Chapter 4: Process-driven Service Design
Chapter 5: Composite Applications
<table>
<thead>
<tr>
<th>Enterprise and domain business processes; business activity monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workflow</strong></td>
</tr>
<tr>
<td>Workflow process model / execution</td>
</tr>
<tr>
<td>Flowchart</td>
</tr>
<tr>
<td>Case mgmt</td>
</tr>
<tr>
<td>Adhoc / Social</td>
</tr>
<tr>
<td>Task mgmt</td>
</tr>
<tr>
<td><strong>Channels</strong></td>
</tr>
<tr>
<td>Page flow model / execution</td>
</tr>
<tr>
<td>Pages</td>
</tr>
<tr>
<td>Channel-specific</td>
</tr>
<tr>
<td>Cross channel</td>
</tr>
<tr>
<td><strong>Security</strong></td>
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<tr>
<td>Service security</td>
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<tr>
<td>API security</td>
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<tr>
<td>IDM</td>
</tr>
<tr>
<td>Entitlement</td>
</tr>
<tr>
<td><strong>Application-specific functionality</strong></td>
</tr>
<tr>
<td>Data validations</td>
</tr>
<tr>
<td>Decisions, calculations, constraints</td>
</tr>
<tr>
<td><strong>Services/ APIs</strong></td>
</tr>
<tr>
<td>Service composition</td>
</tr>
<tr>
<td>System integration</td>
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<tr>
<td>Event processing</td>
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<tr>
<td><strong>Domain functionality</strong></td>
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<tr>
<td>Decisions, calculations, constraints</td>
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<td>Monitoring</td>
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<td><strong>Data access</strong></td>
</tr>
<tr>
<td>Data virtualization</td>
</tr>
<tr>
<td>Data / protocol mappings</td>
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<tr>
<td>Data enrichment</td>
</tr>
<tr>
<td>Data validation/sanitization</td>
</tr>
<tr>
<td>Data access</td>
</tr>
<tr>
<td><strong>Data source</strong></td>
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<tr>
<td>Local cache</td>
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<tr>
<td>Domain cache</td>
</tr>
<tr>
<td>Replica DB</td>
</tr>
<tr>
<td>Real-time update</td>
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<tr>
<td><strong>Legacy systems</strong></td>
</tr>
<tr>
<td>System A</td>
</tr>
<tr>
<td>System A DB</td>
</tr>
<tr>
<td>Table system A entity</td>
</tr>
<tr>
<td><strong>Legend</strong></td>
</tr>
<tr>
<td>Owned by business domain</td>
</tr>
<tr>
<td>Owned by application</td>
</tr>
</tbody>
</table>
Channels

- **Oracle composer**
  - ADF task flow
    - Model and execute use case steps/form flows
- **Oracle composer**
  - ADF faces
    - Pages: Define unified skinning/layout
- **Oracle composer**
  - ADF mobile
    - Define mobile UIs
- **Oracle composer**
  - ADF data binding/data control
    - Frontend data handling and binding

Security

- **Web services manager**
  - WS-Policies; WS-Security
  - Access and secure SOAP services
- **API gateway**
  - OAuth and so on
  - Access and secure APIs-REST/JSON services
Chapter 6: Process Execution with BPMN and BPEL
Business Process Methodology

BPMN in BPM Composer

BPEL

ADF TaskFlow in WebCenter

SOA Suite & Enterprise Repository

Rule Editor in SOA Suite / BPM Suite

Subprocess and/or Task Mgmt in BPM Suite
Project Name: FleetManagement
Directory: D:\PAOR\12c\Implementation\3_services\RentalServices\FleetManagement

**Project Features:**

**SOA Suite**

SOA Suite is a suite of tools to model SOA (Service Oriented Architecture) applications.
A BPEL process is a service orchestration, based on the BPEL specification, used to describe/execute a business process (or large grained service), which is implemented as a stateful service.

Name: OperationDelegator
Namespace: http://ryc.org/product/RentalServices/FleetManagement/OperationDelegator
Directory: D:\PACKT\Ryc_12c\implementation\03_services\RentalServices\FleetManagement\SOA\BPEL
Template: Define Service Later
Chapter 7: Human Interaction with Business Processes
Discover
- Interview Stakeholders
- Conduct user research
- Create personas

Design
- Sketch Design Concepts
- Prototype designs
- Validate designs

Deploy
- Conduct final design review
- Create training material
- Obtain final user feedback

Involves users at every phase
### RYLC Car Rental Portal

**Enter Car Rental Request**

<table>
<thead>
<tr>
<th>Contents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental City</td>
<td></td>
</tr>
<tr>
<td>Rental Date</td>
<td></td>
</tr>
<tr>
<td>Rental Time</td>
<td></td>
</tr>
<tr>
<td>Return City</td>
<td></td>
</tr>
<tr>
<td>Return Date</td>
<td></td>
</tr>
<tr>
<td>Return Time</td>
<td></td>
</tr>
</tbody>
</table>

**Submit**
RYLC Car Rental Portal

Enter Car Rental Request

Contents
- Enter Request - Rental
  - Rental City: Cologne
  - Rental Date: 4/4/2015
  - Rental Time: 13:00
- Enter Request - Returnal
  - Return City: Cologne
  - Return Date: 4/7/2015
  - Return Time: 18:00

Select Car

Submit

Select Vehicle

Add or remove the URI for the user defined task details application.

View ▼  Add URI ▼  Remove URI

<table>
<thead>
<tr>
<th>Application Name</th>
<th>Host Name</th>
<th>HTTP Port</th>
<th>HTTPS Port</th>
<th>URI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CarRentalApplication</td>
<td>NYC-105</td>
<td>50224</td>
<td></td>
<td>/selectCar.aspx</td>
</tr>
</tbody>
</table>
Chapter 8: Business Rules
### Business Phrases

<table>
<thead>
<tr>
<th>Business Phrases:</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>(customer) is Platinum customer</td>
<td>Test Business Phrase</td>
</tr>
<tr>
<td>(customer) is Gold customer</td>
<td>Test Business Phrase</td>
</tr>
<tr>
<td>add discount for platinum customer to invoice</td>
<td>Action Business Phrase</td>
</tr>
<tr>
<td>add discount for gold customer to invoice</td>
<td>Action Business Phrase</td>
</tr>
<tr>
<td>(rentalCar) has exceeded free miles limit</td>
<td>Test Business Phrase</td>
</tr>
<tr>
<td>add additional fee for free miles limit exceed to (invoice)</td>
<td>Action Business Phrase</td>
</tr>
<tr>
<td>(customer) is super customer</td>
<td>Test Business Phrase</td>
</tr>
<tr>
<td>(customer) becomes Platinum customer</td>
<td>Action Business Phrase</td>
</tr>
</tbody>
</table>

### Parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>invoice</td>
<td>Expression</td>
<td>Invoice</td>
</tr>
</tbody>
</table>

### Value:

- add additional fee for free miles limit exceed to (invoice)

### Mapping:

- assign new AdditionalFees additionalFee = newAdditionalFees()
- modify additionalFees (<edit properties> amount: newBigDecimal(SOPCOSTS_PER_EXTRA_MILE), type: "FREE_MILES_LIMIT_EXCEEDED")
- modify invoice (<edit properties> additionalFees: RLList.create(additionalFee))
Chapter 9: Adaptive Case Management
**Design-time phase**

- **Modeling**
  - Plan Items
    - A
    - B
    - C
    - D
  - Discretionary Items

**Run-time phase**

- **Plan**
  - A
  - B

- **Planning**
  - C, D
  - A case worker can add one or more instances of C and/or D to the plan

This is the plan to be executed.
Chapter 10: Mobile and Multichannel

Decision Tables
A Decision Table displays multiple related rules in a single spreadsheet-style view.

Milestone Reached Decisions
Activity Activation Decisions
User Defined Event Decisions

Rendering

Request

Response

User Interface
Business Logic
Storage

Frontend

Backend
Chapter 11: Event Processing and BPM

<table>
<thead>
<tr>
<th>Situation Awareness</th>
<th>Reaction to Situation</th>
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<tbody>
<tr>
<td>Detect</td>
<td>Derive</td>
</tr>
<tr>
<td>Did something happen?</td>
<td>Decide</td>
</tr>
<tr>
<td>A Situation of Interest: Has happened!</td>
<td>Do</td>
</tr>
</tbody>
</table>

What should we do about it?
Event Stream Processing (ESP)
- All of SEP +
  - Aggregation
  - High-Volume Streaming
  - Simple Decision Rules

Complex Event Processing (CEP)
- all of SEP + ESP +
  - Pattern Detection
  - Time Window
  - Correlation / Join
  - Location / Motion

Event Consumer
- Dashboard
- Business Process
- Business Service
Welcome to the Oracle Stream Editor. This is where you can discover interesting things about your data stream using Oracle tools and features. The data stream is shown in the Live Output Stream table and as a graph below. Additionally, certain types of streams can be filtered using the filter window below the graph. To learn more about these tools, refer to the manual as you explore.
Chapter 12: Business Activity Monitoring
**Name**: Campaign

**Display Name**: /RYLC/Campaign

**Type**: Simple Data Object

**Archived**: ✔

**Continuous Query Type**: RELATION

**Category**: 

**Number of String Columns**: 25

**Number of Long String Columns**: 25

**Number of Integer Columns**: 25

**Number of Float Columns**: 25

**Number of Decimal Columns**: 25

**Number of Date/Time Columns**: 10

**Description**: 

---

**Create**  **Cancel**
### Campaign Table

<table>
<thead>
<tr>
<th>Column Name</th>
<th>Display Name</th>
<th>Column Type</th>
<th>Data Type</th>
<th>Size</th>
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<th>Unique</th>
<th>Default Value</th>
<th>Comment</th>
<th>Action</th>
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<tbody>
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<tr>
<td>DATAOBJECT_CREATED</td>
<td>DATAOBJECT_CREATED</td>
<td>DIMENSION</td>
<td>DATETIME</td>
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### Country Table

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<th>Data Type</th>
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</table>

### Campaigns Table

<table>
<thead>
<tr>
<th>Primary Data Object</th>
<th>Primary Column</th>
<th>Foreign Data Object</th>
<th>Foreign Column</th>
<th>Action</th>
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<tbody>
<tr>
<td>MktLDCampaign</td>
<td>Country</td>
<td>MktLDCountryCode</td>
<td>CountryCode</td>
<td></td>
</tr>
</tbody>
</table>
Glance
Dashboards showing key high level status to identify areas of interest

Scan
Drill down into more granular information that so that the area of discrepancy can be pointed and compared to trends

Commit
Identify the individual instance of data that needs addressing, opportunity or exception
**Campaign Monitoring**

| Region | Sales | €1,288,400 | €227,100 | €170,000 | 0.967% | 12 |

**Channel Revenue Per Country**

<table>
<thead>
<tr>
<th>Country</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>1234</td>
</tr>
<tr>
<td>FR</td>
<td>5678</td>
</tr>
<tr>
<td>NL</td>
<td>9012</td>
</tr>
</tbody>
</table>

**Campaign Bubble**

- Shows the revenue/cost quadrants, with lower right showing the successful campaign.

Series: FACEBOOK, UK
Group: Revenue
X: 115.5k
Y: 10.00k
Z: 453.0
Channel Ratio

Rental Revenue Split
1,268,400.00
24%
18%
19%
18%

Add Ons Revenue Split
227,100.00
18%
19%
19%
22%

Shows where the income is coming from