Integrate AI into your business decisions
Red Hat makes it happen!

Utrecht
09-10-2019
WHAT DRIVES THE INTEGRATION OF AI INTO BUSINESS?

▶ Show and explain the importance of Digital Decisioning for AI integration

▶ Show how the integration of an AI solution into business operation with Red Hat can be realised with:
  – Implementation on Open Shift
  – Modelling and testing the business logic in Business Central
  – Adapt logic and data at any time and get real-time results
Positioning Digital Decisioning

- Red Hat: Machine Learning + Decision Management (A standards based approach by Edson Tirelli, Matteo Mortari)

- Forrester: The Dawn Of Digital Decisioning (By John R. Rymer, Mike Gualtieri, April 19, 2018)

  New Software Automates Immediate Insight-To-Action Cycles Crucial For Digital Business
  - Nearly every enterprise will use AI in five years
  - Demystify machine learning for business people
  - Automation focused ML (Auto-ML)
  - Retraining, remodel ML models (ModelOps)
  - Keep humans in the loop (Pragmatic AI) and augment human intelligence
Decision management approach

2. Simplify business processes
   Managing process complexity by extracting the business logic.
   WHY → 2-speed of change
   Result: Significant effort reduction modifying process models in response to changes in business logic.

1. Securing, reusing and Exploiting Business Logic
   Key differentiator is the organizations business logic and how it is managed and applied powering key business decisions.
   WHY → The Logic of Business Knowledge is permanent, it outlives applications, it exists the Business lifetime.
   Result: Business logic becomes a digital asset, with decision management secured and governed

3. Enhance Business–IT collaboration
   Decision models are simple and easy to understand by both IT and the business.
   Result: Eliminates misunderstanding of decision requirements by the IT department.

SEPARATE BUSINESS LOGIC form BUSINESS PROCESSES and supporting applications.
Decision management results

Increase Speed-to-market

Drastically shortened change cycle times (3d versus 3weeks/3months)

Decision Automation speeds up throughput significantly and reduces manual interference. Connected Business Agility and IT Agility

Digital Innovation from the inside

Decision Automation digitizes business processes from the inside, with high re-use and full control.

Full integration of Artificial Intelligence Enabling IoT

Business in control of Business Logic

Full transparency and control over the Business Decision Logic

Reduce costs

Changes in decision logic typically have no impact on process models

Business Logic is no longer coded into business applications.

Reason: High re-use of business logic
-30% Requirements Engineering effort
-50% development effort
-70% maintenance effort

| 09-10-2019 | © Atos |
Atos is developing a PoC that runs on Red Hat OpenShift with:
- Red Hat Process Automation Manager (PAM including DM)
- AI: SuperGraph NeuralRules © Platform
Decision management methodology & expert knowledge

- Processes are modeled using the **BPMN** standard

- A process activity is **linked directly** with a decision

- Decisions are modeled using the **DMN** standard

- The DMN model allows to identify where **expert knowledge** is required
Decision management methodology & data knowledge

- The DMN model reveals where data knowledge is required
- AI acts as a DMN knowledge requirement for the determination Default Claim Probability (example from the PoC)
Methodology used for AI integration

- By integrating the AI output as business rules within the decision automation, we can explain every single decision.

- We can trace the specific analytical insights (data knowledge) used from the information in the AI generated business rules.

- We can trace the specific expert knowledge applied for the offer decision.
Red Hat OpenShift deployment

- What is needed for the OpenShift environment to run?
  - An active cloud environment
  - OpenShift installation files and script
  - 1 to 2 hours of time
What is needed to use PAM on OpenShift?
- Of course, a running OpenShift environment
- PAM installation file and script
- 1 hour to install

- Short demo Business Central
The Business Central in PAM allows to model and manage business processes and business logic.
DMN modeling

- Model operational decisions using the Decision Modeling and Notation (DMN) standard
- Screenshots DMN and decision tables
DMN modeling

- Model operational decisions using the Decision Modeling and Notation (DMN) standard
- Screenshots DMN and decision tables
DMN modeling

- Model operational decisions using the Decision Modeling and Notation (DMN) standard
- Screenshots DMN and decision tables
Testing or simulating

<table>
<thead>
<tr>
<th>#</th>
<th>Scenario description</th>
<th>Car</th>
<th>client City</th>
<th>client_Age</th>
<th>GIVEN</th>
<th>Client</th>
<th>Client Claim Probability</th>
<th>Client Risk Profile</th>
<th>Determine Insurance Prod.</th>
<th>Determine Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>0</td>
<td>&quot;Utrecht&quot;</td>
<td>21</td>
<td>value</td>
<td>10</td>
<td>&quot;Medium&quot;</td>
<td>&quot;Medium Risk Product&quot;</td>
<td>&quot;Medium Risk&quot;</td>
</tr>
<tr>
<td>2</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>1</td>
<td>&quot;Utrecht&quot;</td>
<td>21</td>
<td>value</td>
<td>10</td>
<td>&quot;Medium&quot;</td>
<td>&quot;Medium Risk Product&quot;</td>
<td>&quot;Medium Risk&quot;</td>
</tr>
<tr>
<td>3</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>2</td>
<td>&quot;Utrecht&quot;</td>
<td>21</td>
<td>value</td>
<td>10</td>
<td>&quot;Low&quot;</td>
<td>&quot;Car Insurance Basic&quot;</td>
<td>&quot;Low Risk&quot;</td>
</tr>
<tr>
<td>4</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>5</td>
<td>&quot;Utrecht&quot;</td>
<td>21</td>
<td>value</td>
<td>25</td>
<td>&quot;Low&quot;</td>
<td>&quot;Medium Risk Product&quot;</td>
<td>&quot;Medium Risk&quot;</td>
</tr>
<tr>
<td>5</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>0</td>
<td>&quot;Utrecht&quot;</td>
<td>23</td>
<td>value</td>
<td>3</td>
<td>&quot;Low&quot;</td>
<td>&quot;Car Insurance Basic&quot;</td>
<td>&quot;No Risk&quot;</td>
</tr>
<tr>
<td>6</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>1</td>
<td>&quot;Utrecht&quot;</td>
<td>33</td>
<td>value</td>
<td>3</td>
<td>&quot;Low&quot;</td>
<td>&quot;Car Insurance Basic&quot;</td>
<td>&quot;No Risk&quot;</td>
</tr>
<tr>
<td>7</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>2</td>
<td>&quot;Utrecht&quot;</td>
<td>33</td>
<td>value</td>
<td>3</td>
<td>&quot;No&quot;</td>
<td>&quot;Car Insurance Basic&quot;</td>
<td>&quot;No Risk&quot;</td>
</tr>
<tr>
<td>8</td>
<td>Insert value</td>
<td>&quot;Renault&quot;</td>
<td>5</td>
<td>&quot;Utrecht&quot;</td>
<td>33</td>
<td>value</td>
<td>5</td>
<td>&quot;No&quot;</td>
<td>&quot;Car Insurance Basic&quot;</td>
<td>&quot;No Risk&quot;</td>
</tr>
</tbody>
</table>
Integration with other modellers

- Full model exchange possibilities with Trisotech
For more information please contact:

Marwim van Overschot
Senior Business Consultant
Senior Expert on Decision Management
Marwim.vanoverschot@atos.net
M: +31 613 09 39 30

Peter Kalmijn
Senior IT Consultant, Business Analyst
Senior Expert on Decision Management
Peter.Kalmijn@atos.net
M: +31 630 53 13 01