Agenda

1. Learn more about Business Rules
2. Integrated Rules and Process Management
3. Business Rule Management in ARIS
4. Life Demonstration
5. Summary
Challenge: Agile Processes

- Banking – Credit Application
  - Regular changes of interest rates
    - How the interest rate is calculated?
  - Changes in legislations/ organizational policy
    - Who is allowed to accept a credit request?
  - New products like accounts for students, pensioners, …

- Insurance – Life insurance
  - Changes in risk classifications
    - How is the risk class of a customer determined?
  - Special offers for special customer groups

- Telecommunication - Billing
  - New tariffs
    - How is a phone call charged according to the selected tariff?
IT Landscapes Not Built For Change

Business Strategy

- Strategy for Growth

- Prohibitive cost and time of IT changes
  - IT not aligned with business

- Over 80% of IT budget spent on status quo
  - TCO pressures continue to rise

Business Change

Lack of innovation & flexibility

Ability to Execute

Existing IT Landscapes

- Prohibitive cost and time of IT changes
  - IT not aligned with business

- Over 80% of IT budget spent on status quo
  - TCO pressures continue to rise
More flexible support of business processes via orchestration of enterprise services

BUT

- Business logic within services or decision functions are still hard coded
- Business user can’t change the process/system in any way

Real flexibility comes with a combination of BPM and Business Rules Management Systems
Flexibility in Business Strategies by Business Rules

Business BPM

Call Center
Order Processing
Fulfillment
Call Center

Receive Purchase Order
Initiate Production Scheduling
Complete Production Scheduling
Fulfill Order
Issue Invoice

calculate
Schedule check
Schedule Consistency

Technical BPM

CRM
SCM
DB
E-mail
eBusiness
ERP
Business rules guide or control business decisions.

- **Routing Decisions** – Affect routing of work
  - Decision: Where do we route this application for processing?
    - Rule: If insurance limit is greater than $100K, a manager must approve.

- **Task Decisions** – Affect work output
  - Decision: What is the applicant’s risk?
    - Rule: Applicants who skydive have a high risk rating.
Routing Decision Today

- Complex diagrams
- Not readable
- High error rate
- Expensive maintenance
Task Decision Today

- Appended as comments
- Not formalized
- Not able to analyze
- Not positioned to automate
**Challenge: Integrated Process and Rules Management**

**Externalizing Business Rules as Rule Models**

**Process Model #1**

Life Insurance Application → Route Application → Profile Risk

**Rule Model #1**

<table>
<thead>
<tr>
<th>Rule Statements</th>
</tr>
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<tbody>
<tr>
<td>1. Applicants who do not have a high risk rating.</td>
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<tr>
<td>2. Applicants who are less than 30 years of age have a low risk rating.</td>
</tr>
<tr>
<td>3. Invalid.</td>
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**Rule Model #2**

<table>
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Why Business Rules Management?

- Conclusion: We Must Externalize Business Rules
- Options to Externalize Business Rules
  - Traditional Programming Techniques
  - Traditional Business Rule Engines
  - Business Rules Modeling

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Programming</th>
<th>Traditional BRE</th>
<th>Rules Modeling</th>
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</thead>
<tbody>
<tr>
<td>Executable Specification</td>
<td>✔️</td>
<td>✗</td>
<td>✔️</td>
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<tr>
<td>Business-Level Design (Simple Rules)</td>
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<td>✔️</td>
<td>✗</td>
</tr>
<tr>
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<tr>
<td>Business-Level Verification</td>
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<tr>
<td>Business-Level Testing</td>
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<tr>
<td>Process Modeling Integration</td>
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<td>✔️</td>
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</table>
Business Rules Management In Action

Rules Modeling Methodology

- Scope
- Specify
- Test
- Model
- Verify
- Deploy
- Execute
Integrated Process and Rules Management

Responsiveness
Agility
Markets & Legislative
- § Sarbanes Oxley
- § Basel II, KonTraG
- § Money Laundering

Business Processes Management

Employees

Implementation by Knowledge Management

Implementation by Business Rules Technology

Information Technology

Impact

Drive

Externalise

Impact

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Benefits in Practice

Business example
  ▶ Secure online funds transfer service, conducting more than $3.4 billion in electronic transactions for 2 million customers across the globe

Business challenge
  ▶ Automate identity verification process
  ▶ Quickly integrate new data verification sources
  ▶ Increase the speed and scope of new account approvals

Results
  ▶ One rule set alone has increased monthly revenue by 1.5 million
  ▶ Rule implementation reduced from 3 months to under 24 hours
  ▶ Verify more people, more quickly, generating more business
Integrated Process and Rule Management

Process Discovery → Process Modelling → Process Optimization

Rule Discovery → Rule Modelling → Rule Optimization

Data/Vocabulary → Rules

Process and Rule Deployment → Process and Rule Execution

time
Business Rules Modeling

1. Identify the Business Decision
   Ask: What decision is being made?

2. Identify the Business Rules
   Ask: How do you make the decision?

3. Model the Business Rules

Example Decision:
Based on information contained in the application, determine applicant’s risk profile

Example Business Rules:
1. Applicants who skydive have a High Risk rating.
2. Applicants less than 35 years of age have a Low Risk rating.
Integration by common Fact Model

Information Structure

- Technical Terms model
  - UML Class Diagram
  - ER-Diagram

Fact Model

Business Vocabulary

Rule Template

Rule Implementation

- Human execution
- System execution

Business Rule Statement

Formal Expression

Rule Repository

view of

defines terms for

defines structure for

translates to

equates to

stores in
Repository Integration

Fact model in eERM notation: Repository-based input for Business vocabulary of commercial rule management software

Task decision: Input data -> Client credit rating

Task decision: Client credit rating -> Job allocation

Routing decision: Determine process routing

Approved

Rejected
Integrated Process and Rule Implementation

Business-Level Design

IT-Level Application Specification

Execution

Process Modeling

Rules Modeling

• Diagram-Level Integration

BPEL Modeling

Rules Service Directory

• Service-Level Integration

Process Execution

Rules Execution

• Run-Time Integration
Rule and process interconnection
- Which processes are effected when changing a rule?
- Integrated Rule and Process Simulation
- What if Scenarios based on data history
- What effect has a change of legislation on my processes?

Rule Classification
- List all policy rules, legislation policies, ...
- Which rules are relevant for different countries?

Rule composition
- Where rules are reused?
- How a complex rule is composed?
- Which data is used in a rule?
- How is the rule flow?

Rule Implementation
- Where is a rule implemented?
- Which application system calls a rule service?

Rule Responsibilities
- Who is responsible for a rule?
- Who is responsible for a rule service?
Business Rules Modeling Demonstration

Credit Application Classification

Rules:
1. Customer credit limit > 25,000
2. Customer credit limit > 50,000
3. Customer credit limit > 75,000

Actions:
1. Customer credit limit
2. Customer credit limit (Info, Warning, Error)

Rule Statements:
1. Credit Applications with Credit Amount < 250,000 are always of Type Small
2. Credit Applications with Customer Risk Group = A and Credit Amount > 250,000 are of Type Standard
3. Credit Applications with Customer Risk Group = B and Credit Amount = 250,000 are of Type Special
4. Credit Applications with Credit Amount between 250,000 and 500,000 are of Type Standard unless the Customer Risk Group is E
5. Credit Applications with Credit Amount > 1,000,000 are of Type Special unless the Customer Risk Group is A
6. Credit Applications with Credit Amount between 500,000 and 750,000 and Customer Risk Group = B are of Type Standard
7. Credit Applications with Credit Amount between 500,000 and 750,000 and Customer Risk Group = C are of Type Special
8. Credit Applications with Credit Amount between 500,000 and 750,000 and Customer Risk Group = D are of Type Special
9. Credit Applications with Credit Amount between 750,000 and 1,000,000 and Customer Risk Group = B are of Type Standard
10. Credit Applications with Credit Amount between 750,000 and 1,000,000 and Customer Risk Group = C are of Type Special
11. Credit Applications with Credit Amount between 750,000 and 1,000,000 and Customer Risk Group = D are of Type Special
Reduce time to market for new or modified products

Reduce TCO

Capture the logic at the source

Generate more business by automation

Increase consistency - Reduce costs of errors by higher process quality

“Being rules-driven and being agile are not necessarily mutually exclusive goals. Explicit business rules contribute value in each of the five steps of the enterprise agility cycle...“
How IDS will support you

- **Customer Training Workshop**
  - 1day ARIS Business Rules Designer concept, ARIS business rules methodology and product, adopted to your ARIS modelling conventions
  - 2days rule modelling

- **Rules Discovery Workshop**
  - 15 days of methodology based consulting
  - Focused on a given process analyzing the decisions as their associated high level rules definitions
  - Determine the ROI for modeling and automating the business rules associated with each decision within the process

- **Rules Implementation Workshop**
  - 25 days of consulting to model, verify and test one identified decision services
  - ready for consumption by an existing business process or application
  - After completing product training and this service, you will be able to discover, design and implement new decision services on your own.

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