

# Acumen Business Rule Manager

A Graphical  
Business Rules Environment

for RuleML



# Our Mission Statement

- To deliver a Rule Based Solution that can be maintained by business users (*not programmers*)



# Acumen Business Product History (1/2)

- Vocabulary Upgrader
  - BizTalk Vocabulary Management
- Policy Verificator 1.0.x
  - Rule Verification for BizTalk 2004
- Policy Verificator 1.2.x
  - Rule Dependency Graph
- Policy Verificator 1.3.x
  - Business Rule Editors [Read-only]
  - Interactive Rule Map
  - Html Rule Documentation



# Acumen Business Product History (2/2)

- Rule Manager 1.4.x
  - Support BizTalk 2006
  - Text Search
  - PDF Rule Documentation
- Rule Manager 1.5.x
  - Support Windows Workflow Foundation
  - Vocabulary Management
  - Restrictive Rule Editing
  - Rule Validation

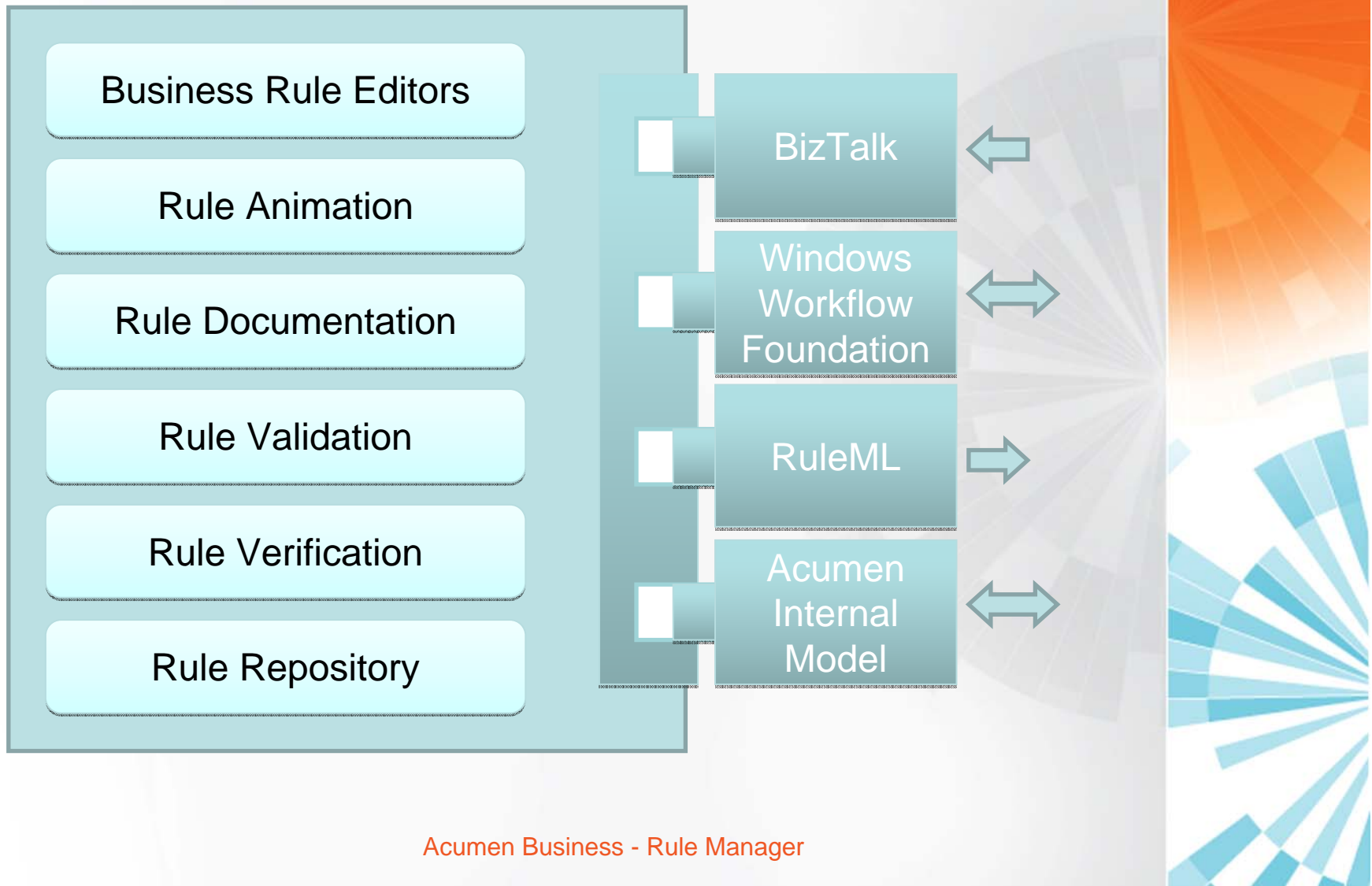


# Overview of Demo

- Create a mortgage approval system
  - Open an existing rule policy
  - Show Rule Documentation
  - Discover Rule Anomalies
  - Edit Rules & Create Rules
  - Export rules
    - to Reaction RuleML format
    - to Windows Workflow Foundation



# Rule Manager Components



# Rule Manager Graphical User Interface



The screenshot displays the 'Rule Manager - [Mortgage Approval v3.5]' application window. The interface includes a menu bar (File, Edit, Rule Repository, Tools, View, Window, Help), a toolbar with icons for file operations and rule management, and a status bar at the bottom showing '100 %'. The main workspace is divided into three panes:

- Rule Repository:** A tree view showing the hierarchy of rule sets, including 'Repository' and 'SiteId'.
- RuleSet:** A list of rules with columns for 'Name' and 'Active' status. The 'Mortgage Approval' rule set is expanded, showing various rules such as 'Age of applic...', 'Approve amo...', 'Borrower risk...', and 'Reject high financial risk'.
- Rule Editor:** The central pane shows the configuration for the selected rule, 'Residence must not have more than 3 units'. It includes fields for 'Name' and 'Author' (Marco Ensing), a 'Description' field, and a logical expression: 'if  NumberOfUnits is equal to or greater than 3 and  PropertyUsage is equal to Primary Residence then  Approved = false'. A dropdown menu for 'PropertyUsage' is open, showing options: 'Primary Residence', 'Investment', 'Primary Residence', and 'Secondary Residence'.


# Rule Editor Features


- Business friendly term names
- Intelligent type conversions
- Term lookup suggestions
- Operator insertion
  - ‘>’ key inserts ‘is greater than’ ...
- Invalid expression mark
- Edit time user input constraints
- Restrictive editing





# Rule Editor

 young female  
if **gender is equal to female**  
and **age is less than 20**  
then **age category = young**

 Name  [Revert](#) [Save](#) [Delete](#)

Description

Priority  Active  Active  Author

if  **gender is equal to**

**and age is less than**

then  **age category =**

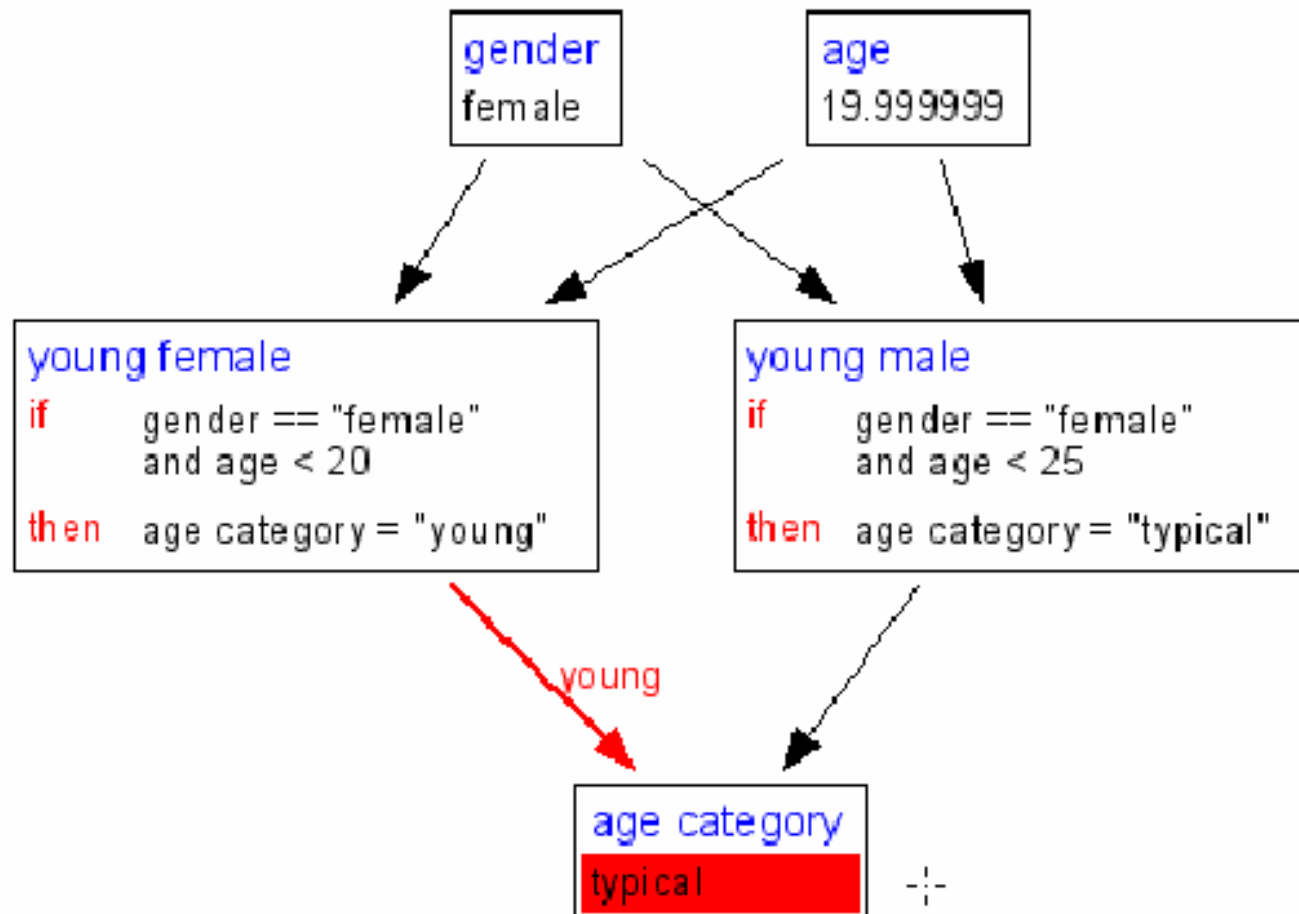
- typical
- young

# Rule Verification

- Detection of Self Anomalies and Rule Anomalies
  - Contradictions
  - Redundancies
  - Tautologies
  - Incompleteness
- Easily visualized in Rule Conflict Network graphs



# Rule Conflict Network



# Rule Documentation and Animation

- PDF Documentation includes
  - Business Rules
  - Rule Index
  - Complete Rule Dependency Graph
- Interactive Rule Graph explores the rule dependency network
- Search and Filter for managing large rulesets

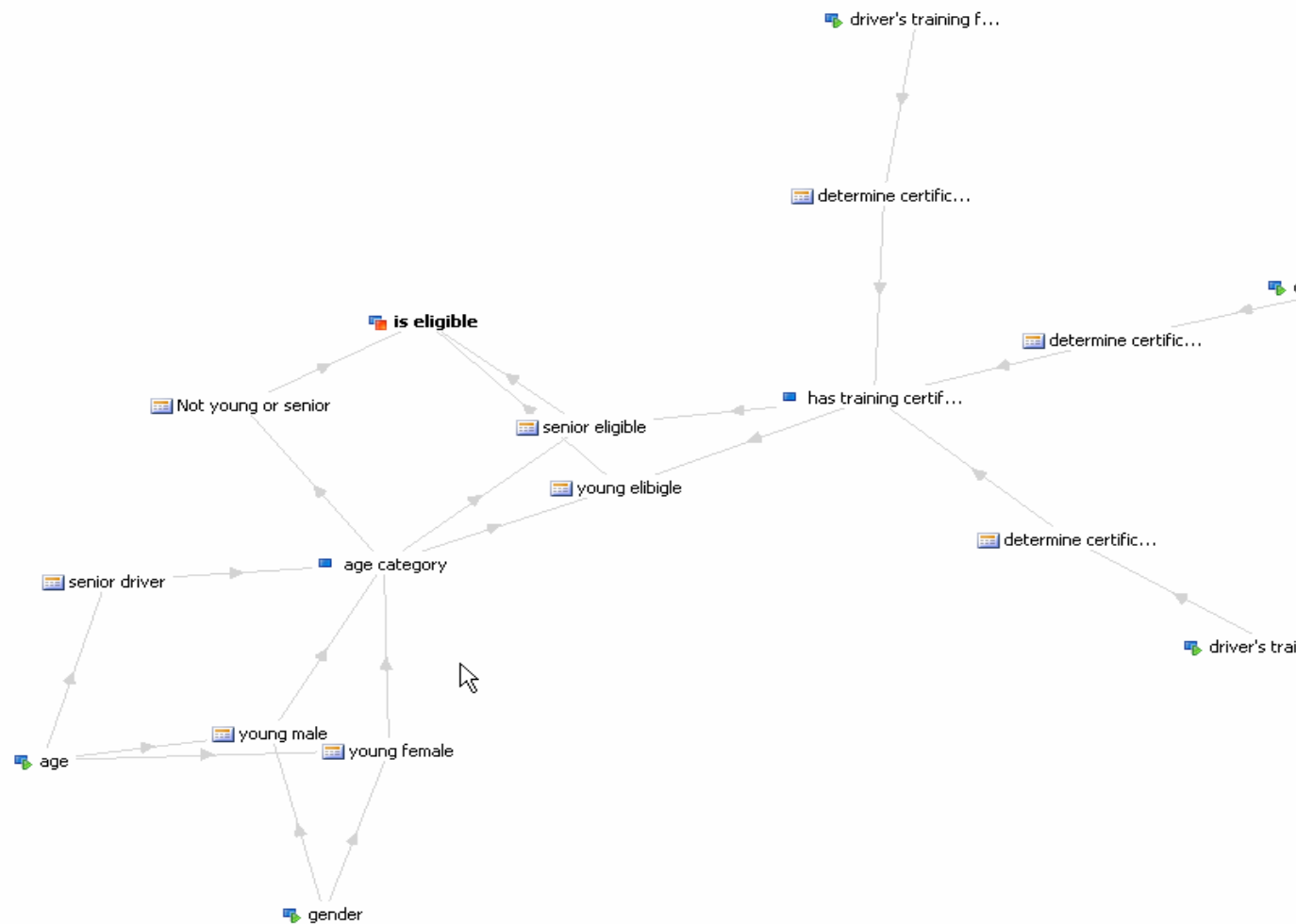


# Rule Validation

- Rule Map (Cause-effect diagram) becomes a simulation of the actual rule execution.
- Every term can be set as a goal
- Test scenarios and expected outcomes can be saved for regression tests [next release]



# Interactive Rule Graph (Cause - Effect Graph)



# Import & Export

- Import and export to different formats based on adapter modules
- Export to Reaction RuleML format
- Import and Export to Windows Workflow Foundation rules



# RuleML Adapter installation



The screenshot displays the 'Rule Manager - [Getting Started]' application window. The main interface shows a 'File Explorer' on the left with a tree view of folders including 'examples', 'Car Diagn...', 'Car Loan...', 'Circularity...', 'Employe...', 'Mortgage ...', and 'Product D...'. The main workspace contains a diagram with nodes like 'is eligible', 'young elibigle', 'has training ce...', and 'determine cercirc...'. A blue-bordered 'Options' dialog box is open in the foreground, titled 'Rule ML'. The dialog box has a tree view on the left with 'Rule ML' selected under 'Adapters'. The main content area of the dialog box contains the following text:

**RuleML (0.2)**

Reaction RuleML is a general, practical, compact and user-friendly XML-serialized rule. It incorporates different kinds of production, action, reaction, complex event notification / messaging and KR temporal/event/action logic rules into the native RuleML syntax using a system of step-wise extensions.

The support for RuleML format (0.2) is currently in early beta development.

Install RuleML Adapter

[Read more about RuleML](#)

Buttons for 'Cancel' and 'OK' are visible at the bottom of the dialog box.



# Export wizard



**Export wizard**

**Export Rules**  
Export current ruleset to desired format.

Export to:

Export format:

Open exported folder on completion

< Back

# RuleML output

```
Driver Eligibility.rml - Notepad
File Edit Format View Help
</Expr>
</Plex>
</label>
<scope>
  <Ind
    uri="#Driver Eligibility" />
  </scope>
  <oid>rule8</oid>
  <if>
    <And>
      <Equal>
        <lhs>
          <Atom>
            <Rel>gender</Rel>
            <Var>Driver</Var>
          </Atom>
        </lhs>
        <rhs>
          <Ind
            type="string">"male"</Ind>
          </rhs>
        </Equal>
        <Atom>
          <Rel>lessThan</Rel>
          <Atom>
            <Rel>age</Rel>
            <Var>Driver</Var>
          </Atom>
          <Ind
            type="int">"25"</Ind>
          </Atom>
        </And>
      </if>
      <do>
        <Atom>
          <Rel>age category</Rel>
          <Var>Driver</Var>
          <Ind
            type="string">"young"</Ind>
          </Atom>
        </do>
      </Rule>
    </Rulebase>
  </RuleML>
```

# About **Acumen Business**

- For more information contact us at [info@acumenbusiness.com](mailto:info@acumenbusiness.com)
- Or visit our website at [www.acumenbusiness.com](http://www.acumenbusiness.com)

