Oracle Policy Automation
A Modern Enterprise Policy Automation Solution

Features and Benefits
November 2015
Program Agenda

1. Overview of Oracle Policy Automation
2. New features in November 2015 release
3. For more information
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1. Overview of Oracle Policy Automation
2. New features in November 2015 release
3. For more information
Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle’s products remains at the sole discretion of Oracle.
Modern service delivery requires many types of policies

- Service and Advice Rules
- Organizational Best Practices
- Regulations
- Legislation
- Government Policies
- Product Decisions and Eligibility Rules
Organizations and IT struggle to adapt to policy changes
Policy Automation enables consistency and agility
Deploy up to date policies directly into service experiences

**Sources**
- Product and service definition rules
- Regulations
- Company policies

**Managed, Interactive Policy Models**

**Deployment**
- Self-service, mobile
- Chat
- Call center
- Any other apps
Service Cloud Platform

Web Customer Service
Cross Channel Contact Center
Knowledge Management
Policy Automation
Field Service Management
Oracle Policy Automation helps across industries

- Compliance automation
- Warranty management
- Needs Analysis
- Sales bonus incentives
- Complaint logging
- Education course applications
- Customer needs and on-boarding
- Mobile inspections and ticketing
- Claim eligibility
- Payment determinations

 Hundreds of customers in over 20 different industries
The Oracle Policy Automation difference

- Manage policies (Word and Excel)
- No need for custom development
- Deploy across multiple channels
- Provide detailed explanations
- Share logic with other apps
- Track and audit any decision
- Understand impact with what if analysis
- Manage complete policy lifecycle
Personalize Your Customer Interactions

Dynamic Interviews

**Personalized Advice**
- Provide precise advice tailored for each customer
- Collect customer data more accurately and efficiently

**Intelligent Interviews**
- Build and pre-fill Interviews to only show relevant data and fields

**Cross Channel Consistency**
- Ensure a consistent experience regardless of channel – self-service, call center, mobile, or in-person

**Personalized Explanations**
- Provide documents that record data provided and explain decisions
Empower Policy Experts
Rule Modeling

Natural Language Policy Capture
- Model rules in Word and Excel
- Share easily with any policy expert

Intuitive Interviews
- Design interview layout and organize interactive advice screen

Policy Debugging
- Test before deploying

Built-in Data Mapping
- Out of the Box Integration to Oracle Service Cloud
- Easily map to data in other systems
Build Trust through Transparency
Compliance Management

**Policy History Tracking**
- Empower agents to explain why a decision was made
- Avoid customer complaints

**Handle New Obligations**
- Easily manage changes using the structure and wording of the source material

**Decision Audit Reports**
- Empower auditors with detailed explanations of how each rule was applied for every customer decision
- View easily in a report
Policy Quality
- Leverage built-in quality tools to ensure policy changes converge quickly

Multi-language Support
- Create policies in your customer’s preferred language with streamlined translation management

Seamless Collaboration
- Collaborate between stakeholders
- Avoid conflicts
- Share changes
- Deploy the latest policies quickly
Make Consistent Decisions Anywhere
Integration Services

Easy to Integrate
- Integrate decision making with standard APIs to other applications or processes
- Deliver consistency across legacy and cloud architectures

Mobile Ready
- Deploy interviews to mobile devices
- Deliver policies to all parts of your organization
Understand the Impact of Policy Changes
Policy Analytics

Understanding Impact of Revisions
• Easily analyze new or changed policies
• View the impact as it relates to each of your customers prior to changing

Policy Refinement
• Analyze and adapt policy outcomes to avoid unexpected results
• Provide feedback to policy makers

What-if Analysis
• View potential policy outcomes and impacts
• See outcomes side-by-side
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Highlights of Policy Automation November 2015 Release

- Policy usage statistics
- Inclusions
- Reference tags
- Signatures and photos
- New data mapping experience
Understand Use Patterns and Share Service Costs

NOV 2015: Deployment Statistics

CAPABILITY HIGHLIGHTS

- Report overall interview and web service usage by project, per time period
- Download detailed statistics for further analysis

KEY BENEFITS

- Understand how advice needs and usage patterns change over time
- Measure success of marketing initiatives
- Apportion software as a service costs to departments based on recorded usage
Easily Reuse, Share and Update Policy Model Content

NOV 2015: Inclusions

**CAPABILITY HIGHLIGHTS**

- Include any OPA Hub project in other projects, reusing rules, screens, styles etc. as needed
- Choose when to update included projects for full control over the quality lifecycle
- Remove or rollback to previous version of included project if needed

**KEY BENEFITS**

- Easily separate the responsibility for maintaining different rules, screens and branding to appropriate teams
- Update policies centrally without destabilizing projects that are close to release
- Safely try out and update partner modules for a particular industry, project type, or customer, and remove if not applicable
Identify the Authority for any Decision

NOV 2015: Reference Tags

CAPABILITY HIGHLIGHTS

- Tag any rule or rule element with the name of the source material on which it is based
- Show rule tags in explanations of how each decision is reached

KEY BENEFITS

- Simplify rule maintenance by using a flexible but standardized approach to refer to any sort of source material
- Decrease audit cost by easily proving the correct source material was referenced by the rules used for a decision

**Rule Modeler View**

<table>
<thead>
<tr>
<th>Dependent care deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>$[FNA 2008 Sec. 5 Par. (3)] \text{SNAP monthly dependent care deduction} = \text{Minimum(} (200 \times \text{the number of children under age 2 in the household}) + (175 \times \text{the number of people in the household who are age 2 or older}), \text{the sum of the reported monthly child care and dependent care expenses}) \text{)}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical expenses deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>$[FNA 2008 Sec. 5 Par. (5)] \text{SNAP monthly medical expenses deduction} = \text{the greater of} (\text{the monthly medical expenses} - 35) \text{and 0}$</td>
</tr>
</tbody>
</table>

**End User View**

- The household's monthly SNAP deductions (excluding shelter deduction) is $855.00.
- The SNAP monthly earned income deduction is $190.00.
- The SNAP standard monthly deduction is $75.00.
- The SNAP monthly dependent care deduction is $200.00. $[FNA 2008 Sec. 5 Par. (3)]$
- The SNAP monthly medical expenses deduction is $215.00. $[FNA 2008 Sec. 5 Par. (5)]$
- The monthly amount of child support the household is legally required to pay is $175.00.
CAPABILITY HIGHLIGHTS

- Add new or existing photos to a mobile interactive interview
- Capture signatures on any device
- Retrieve photo and signature images in custom mobile apps, with new OPA Mobile SDK methods

KEY BENEFITS

- Include on-site evidence of circumstances with assessment data
- Capture proof that a particular individual provided the answers to interview questions
- Save all captured evidence to the system of record, when building custom mobile assessment apps
Improved Integration Productivity
NOV 2015: New Data Mapping Experience

CAPABILITY HIGHLIGHTS

- **Browse the entire data model** of a connected application, to quickly understand what data and fields are available for use with OPA
- **New dedicated views to map objects and fields** in to and out of interviews, with single-click mapping

KEY BENEFITS

- **Improve integration productivity**, particularly for connected applications that have a large or heavily customized data model
- **Reduce maintenance cost** by seeing at-a-glance all the information that is loaded and saved by an interview, and easily changing that mapping as needed
Feature deep dives

• Deployment statistics
• Inclusions
• References tags
• Mobile photo upload

• Signatures
• Mobile SDK enhancements
• Mew data mapping experience
• Rule loop warnings
Feature Deep Dive

Deployment statistics
Deployment Statistics - Overview

Understand usage volumes and patterns

- Quickly compare adoption rates of different policy models
  - Easily view recent activity
  - Choose some or all deployed policies

- Understand how usage varies over time
  - View total sessions, actions or users
  - Group by hour, day or month

- Download data for offline analysis
  - Choose any data range for downloaded data
Deployment Statistics – View in Hub

See recent activity at a glance

- Statistics for active deployments reflect all usage
  - Interview and API sessions, as well as individual interactions
  - Users:
    - Service Cloud agent interviews
    - Other application-user interviews
- Quickly see recent activity, and highlight any deployment
- Create customized comparisons
Deployment Statistics – Download CSV

Perform offline statistical analysis

- Download historical data
  - Choose some or all deployed policies
  - Choose time granularity

- Analyze in Excel
  - Downloaded files are in Excel CSV format to enable rapid custom charting
  - Server time is used for all statistics, ensuring consistency of reporting
Inclusions – Overview

Reuse policy modeling assets across multiple OPA projects

- Collaborate to create reusable assets
- Mix-in different projects for different assets as needed: rules, screens, styles, ...
- Update to latest version only as needed
- Override part of an inclusion while still using its other updates when available
- Revert/sync at any time to the master inclusion, or completely remove all included assets
Inclusions – Add from Repository
Include any project that is managed in the OPA Hub repository

- Inclusions are managed just like any other project in the OPA Hub repository
- Include a hub project into any other
- Each inclusion merges in its:
  - Word and Excel rule documents
  - Screens, stages and interview styles
  - Data model and value lists
  - Input and output mappings
  - Generated form templates
  - Custom scripts, CSS files, and more
Inclusions – Update at Any Time

Easy to update to the latest version

- Choose if and when to update included assets to the latest version
- Each project that uses an inclusion can be updated independently
- All changes since the last update are clearly indicated:
  - New assets
  - Modified assets
  - Removed assets
Inclusions – Merge, not Overwrite

All included assets are merged with the “current” project state

- Assets are merged at detailed level
- See where each asset came from
  - Each asset marked with its source inclusion
- Override any included asset
  - Local changes are automatically reapplied the next time the inclusion is updated
- Reset any project asset to the included version at any time
Inclusions – Multiple Inheritance

Safely reuse common components

- Project assets can come in via more than one path
- This means inclusions can themselves have common inclusions!
- If there are differences in the versions of the included assets, easily pick which one to use
  - This selection is retained for future updates
Inclusions – Removable

Remove an inclusion

- An inclusion can be removed at any time
- Any locally modified assets are retained
- All other assets are removed from the project
- This allows safely “trying out” an inclusion to see if it provides the required capabilities
Inclusions – A Versioned Project Asset

Inclusions are themselves treated as a version controlled project component

- Inclusion changes are also tracked by the multi-user authoring system
  - Inclusion added
  - Inclusion updated to a later version
  - Inclusion removed

- This provides
  - Complete transparency of when inclusions were add/updated or removed within the included project
  - Ability to easily revert an entire inclusion-level operation
Feature Deep Dive

Reference tags
Reference Tags - Overview

Keep track of and show the sources used in making every decision

- Annotate decision logic with the source material for each clause
  - Quickly identify relevant rules that need to change when source material is updated
- Refer to the applicable source material in explanations and audit reports
  - Prove compliance
  - Decrease audit cost
  - Improve customer satisfaction
  - Reduce number of appealed decisions

### Rule Modeler View

- **Dependent care deduction**
  - \([FNA 2008 \text{ Sec. 5 Par. (3)}]\) the SNAP monthly dependent care deduction = Minimum(\(200 \times \text{the number of children under age 2 in the household}\) + \(175 \times \text{the number of people in the household who are age 2 or older}\), the sum of the reported monthly child care and dependent care expenses)

- **Medical expenses deduction**
  - \([FNA 2008 \text{ Sec. 5 Par. (5)}]\) the SNAP monthly medical expenses deduction = the greater of (the monthly medical expenses - 35) and 0

### End User View

- The household’s monthly SNAP deductions (excluding shelter deduction) is $855.00.
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Reference Tags – In Word Rules

Tag rules with references to the source authority

- Place tags *at the start* of any conclusion or premise
  - Put square brackets around each tag
  - Multiple tags per line are permitted
  - Cannot currently tag both/either/all etc.

- Also works in Word rule tables
  - Tag conclusion and condition cells
  - But can’t tag *otherwise* conditions
  - (Can tag *otherwise* conclusions)
Reference Tags – In Excel Rules

Tag rules with references to the source authority

- Place tags in Excel Review comments
- Same appearance as in Word
  - Surrounded with square brackets
  - Multiple tags per comments are permitted

- Put tags in any Excel rule table
  - Tag condition and conclusion cells
  - Tag conclusion headings
  - Can’t tag condition headings or *else* condition
  - (Can tag *else* conclusion cells)
Reference Tags – In Explanations

Tags appear in explanations of how decisions are reached

- By default, reference tags appear in explanations shown in interviews
- They can be easily turned off, per explanation
- When testing, a tag can be clicked to show all rule locations where it is used
Reference Tags – As a Project Navigation Tool
Search for and navigate rules using reference tags

- Search for any reference tags
  - Search box includes matching tags
  - Type ‘[‘ to start an exact match for tags only

- When testing a project
  - Reference tags are clickable in explanations
  - They are also shown in the decision view

- Navigate to a chosen tag
  - A list of all locations of that tag is shown
  - Pick one to navigate directly to tagged rule
Reference Tags – In Audit Reports

Included in audit reports that are saved to the connected applications

- Audit reports now automatically include all reference tags
  - Remember that Audit reports can be turned on for any attribute
  - All audit reports are saved to the connected application when the interview completes
  - In Service Cloud they are attached to main mapped out object (e.g. Contact or Incident)
  - For applications connected via the web service connector, they are provided as part of the submitted data payload
Reference Tags – In Web Services
Included in decision reports returned from OPA web services

Decision reports returned from OPA web services now include reference tags
- Assess Service
- Answer Service
- Interview Service

ReferenceTagList (v12.2.1)
Container for reference tags returned from an Assess action.

Namespace
http://oracle.com/determinations/server/12.2.1/rulebase/assess/types

Used By
AttributeNodeType, RelationshipNodeType

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reference-tag[]</td>
<td>ReferenceTag</td>
<td>The reference tag definition.</td>
</tr>
</tbody>
</table>
Feature Deep Dive

Photos, signatures and Mobile SDK enhancements
Add photo evidence

• Attach images to mobile interviews
  ✔ Use camera directly
  ✔ Add existing photos from the device
  ✔ Is simply the mobile version of the “Upload” control
Signatures

- Capture and save signatures
  - Works with both touch and mouse
  - Easily redo signature if mistake is made
  - Included as an image in the session data
  - Works in both mobile and web interviews
Mobile SDK Enhancements

Work with attached files
✓ Access all interview session attachments
  • Images / media
  • Signatures
  • Automatic audit reports
✓ Save/send to other applications as needed

Complete auditibility
✓ Generate full audit reports for any decision
  • For any global attribute
  • For every instance of an entity attribute
✓ Save for use as evidence, or display as needed

Easily save all answers
✓ Attribute text is now provided in interview session data
✓ Automatically included for every question that is answered
✓ No data mapping required

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<table>
<thead>
<tr>
<th>AttachmentType</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Represents a file that was attached to the interview session.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>xsd:string</td>
<td>File name of the attachment. On export, signatures will have a file name prefixed with &quot;SIGNATURE&quot; and photos will have a file name prefixed with &quot;PHOTO&quot;.</td>
</tr>
<tr>
<td>owner-entity</td>
<td>xsd:string</td>
<td>The name of the entity with which this attachment is associated.</td>
</tr>
<tr>
<td>owner-entity-instance</td>
<td>xsd:string</td>
<td>The name of the entity instance with which this attachment is associated.</td>
</tr>
<tr>
<td>(value)</td>
<td>xsd:string</td>
<td>Base 64 encoded string of the attachment data.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Class</th>
<th>Method Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>InterviewSession</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>Description</td>
</tr>
<tr>
<td>Modifier and Type</td>
<td></td>
</tr>
<tr>
<td>java.lang.String</td>
<td>exportData(boolean verbose, boolean outputAttachments) Export data from the interview session</td>
</tr>
<tr>
<td>java.lang.String</td>
<td>getAuditReport(java.lang.String attributeName, java.lang.String entityName) Retrieve an audit report for a specified attribute for each instance of the specified entity.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>AttributeInstanceType</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>An attribute value. On input, for attributes with an unknown value, either leave the attribute out entirely, or use the unknown-val element.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>xsd:string</td>
<td>The name of the attribute as defined in Oracle Policy Modeling, or a generated Globally Unique Identifier (GUID) if no name was defined.</td>
</tr>
<tr>
<td>attribute-text</td>
<td>xsd:string</td>
<td>The attribute text as specified in Oracle Policy Modeling within in statement form.</td>
</tr>
<tr>
<td>type</td>
<td>AttributeTypeEnum</td>
<td>The data type of the attribute.</td>
</tr>
</tbody>
</table>
Feature Deep Dive

New data mapping experience
New Data Mapping Experience – Overview

- Dedicated input and output mapping views
- Browse available objects and fields from the connected application
- Map and unmap fields with a single click
- Understand each object hierarchy mapped for input and output
New Data Mapping Experience – Dedicated Views

New mapping views focus on what data is handled, and when

- Dedicated input and output mapping views
- Each load/save context is clearly managed as a separate hierarchy:
  1. The user’s identity and related objects
  2. The loaded objects
  3. The updated or created objects
  4. Any data loaded after submit
New Data Mapping Experience – What to Map

Easily browse the connected application’s data structure

- More easily choose what to map from the connected application
  - Browse through related application objects
  - For each object, see all its available fields, even before it is mapped

![Diagram showing data mapping options](image-url)
New Data Mapping Experience – Object Mapping
Easily add objects to the set of mapped data

✔ Easily map application objects to new or existing entities in the OPA data model
New Data Mapping Experience – Field Mapping

Map fields with a single click

- Simply click a checkbox to add a field to a mapping
  - A new mapped attribute is automatically created in the correct entity
  - Can still see mappings for a field in the attribute editor
- Edit attribute names inline
Feature Deep Dive

Rule loop warnings
Rule Loop Warnings - Overview
Projects are now permitted to contain logical rule loops

- Loops in rule logic are now shown on the Rules tab as warnings, not as errors
- Each rule loop warning can be independently hidden
- When any warnings are hidden, the total number of hidden warnings is shown on the Rules tab
- Hidden warnings can be reset, causing them to reappear as warnings on the Rules tab
- Projects with rule loop warnings can be deployed (regardless of whether those warnings are hidden or not)
Rule Loop Warnings – Guidance for Rule Authors

• Rule loop warnings should be taken seriously!

• It is the rule author’s responsibility to ensure that each rule loop is well-grounded – i.e. That the loop has a starting point that does not depend on any data earlier in the loop

• The most common use for “valid” rule loops is with entities:
  – An attribute in one instance of an entity is calculated using the value of that same attribute in one or more other instances of the same entity
  – This requires a relationship from the entity back to itself (either directly, or via one or more other entities)

• At runtime, if calculation does not complete within a fixed number of iterations then a runtime error is thrown

• Best practice: Create test cases for 0, 1 and many instances of the entities that participate in the rule loop
Rule Loop Warnings – Example of a Valid Rule Loop

the number of direct child entities of the business entity = InstanceCount(child business entity)

the number of descendants of the business entity = InstanceSum(child business entity, the number of descendants of the business entity) + the number of direct child entities of the business entity

the number of descendants of the business entity
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Where to get more information

Background


Documentation


Forums

- RightNow: http://communities.rightnow.com/groups/eedd6685ae/summary
Social Media Resources

http://www.youtube.com/user/OraclePAVideos

https://www.facebook.com/OraclePolicyAutomation

https://twitter.com/OracleOPA

http://www.linkedin.com/groups/Oracle-Policy-Automation-3431282/about

https://blogs.oracle.com/OPA/

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Integrated Cloud
Applications & Platform Services