Oracle Policy Automation

The Modern Enterprise Advice Platform

Features and Benefits
February 2017
Program Agenda

1. Overview of Oracle Policy Automation
2. New features in February 2017 release
3. For more information
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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 involves many kinds of policies

- Government Policies
- Regulations
- Service Policies
- Organizational Policies
- Legislation
- Product Policies
Customers expect simple, accurate and personalized advice
Required: Customer satisfaction, compliance and agility

Policy Automation
✓ Advise
✓ Audit
✓ Manage
Oracle CX
Complete Customer Experience Platform

Integrated Customer Experience Foundation
- Social Network
- Mobile
- Analytic KPIs & Dashboards
- Predictive Analytics
- Integrations
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, from large enterprises to small mid-market businesses
Oracle Policy Automation overview

Oracle Policy Automation for Mobile Devices

Mobile App

Mobile SDK

Oracle Policy Automation Cloud Service

Modeling

Interviews

APIs

Management

Cloud Applications

On-Premises Applications
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
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
Simplify Policy Management

**Policy Lifecycle**

- **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**

**Understand Impact of Revisions**
- Easily analyze new or changes 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 February 2017 Release

✓ **Service Cloud connection enhancements**
  Simplify the administration of Service Cloud interviews

✓ **Enhanced user management**
  Synchronize OPA Hub users with other systems

✓ **Export project data model**
  Validate that projects comply with integration needs and best practices
Simplify Service Cloud Interview Administration
FEB 2017: Service Cloud Connection Enhancements

CAPABILITY HIGHLIGHTS
- Handle anonymous, logged in customer and call center agent users with one OPA interview
- Use Service Cloud custom menus to define selections in OPA interviews
- Self-configuring OPA widget for Customer Portal

KEY BENEFITS
- Attract customers with advanced anonymous advice tools, that are completely consistent with what is available to agents. For example, an anonymous loan advice wizard that can then turn into a full loan application.
- Centrally manage the options shown to customers and agents, even when using Service Cloud custom objects and fields
- Simplify upgrades and administration of Customer Portal sites that use OPA interviews
Synchronize OPA Hub Users With Other Systems
FEB 2017: Enhanced User Management

**CAPABILITY HIGHLIGHTS**
- **Create and update Hub user permissions** with the OPA Hub REST API
- **Manage application integration accounts** separately from interactive Hub users
- **Use an external identity provider** to authenticate interactive Hub users *(OPA private cloud customers only)*

**KEY BENEFITS**
- **Automate creation of user accounts** with the correct roles: for administrators, policy authors and mobile agents
- **Continuity for application integrations** when single-sign on is enabled
- **Comply with corporate identity management standards** for OPA Hub user account lifecycle *(OPA private cloud customers only)*
Validate Integrations and Confirm Best Practices

FEB 2017: Export Project Data Model

**Oracle Policy Modeling**

**Command-line tool**

**Export CSV file**

**CAPABILITY HIGHLIGHTS**

- Export some or all of the attributes that define an OPA project’s data model
- Review and analyze attribute metadata in any tool that can work with CSV files
- Detailed entity and relationship information is also provided

**KEY BENEFITS**

- Develop integration tools that auto-configure middleware or mapping interfaces to conform to the data model of deployed policies
- Use external quality tools to validate mappings, attribute names, explanation options or any other data attribute settings in an OPA project
Feature Deep Dive

Service Cloud connection enhancements
Anonymous multi-channel Service Cloud interviews
Maintain a single interview for anonymous and other user types

Provide identical self-service and call center-assisted experiences

- Give agents the same experiences used by self-service customers that aren’t logged in (i.e. are anonymous)
- In Mapping Settings, choose any combination of anonymous, logged-in contacts, and agents
- Remember: Customer Portal interviews can create a new contact record for an anonymous user, if needed
Service Cloud custom menu synchronization

Use Service Cloud custom menu item lists in OPA interviews

- Define custom lists of values centrally in Service Cloud
  - Maintain lists of values in Service Cloud for OPA interviews and other customer and agent experiences
  - Value list updated in Policy Modeling whenever metadata is refreshed
  - Change choice order and override labels in each OPA project, if needed
  - When a policy model is redeployed, the latest list of values is used
Self-configuring OPA widget
Simplify administration for Customer Portal sites that use OPA interviews

OPA interviews work in cloned Service Cloud sites without any manual widget updates

- Feb 2017 OPA widget automatically builds correct OPA interview `startsessiion` URLs for the connected OPA site
- Feb 2017 OPA widget uses an automatically configured shared secret
- Existing shared secret is used only for Nov 2016 and earlier OPA widget
Feature Deep Dive

Integration users
Integration users - Overview
Manage integrations independently of interactive users

- New integration user account type, designed for application integration
  - Automated deployment
  - Non-interactive use of Determinations API
  - User synchronization

- Integration users are different from regular user accounts
  - Cannot be used to logon to OPA Hub or Oracle Policy Modeling
  - Always use the username/password set in OPA Hub. I.e. any external identity provider is ignored
Integration users – Roles

Limit the operations that integration users can perform

Roles control what integration users can do

- To manage users via OPA Hub REST API: assign the *Hub Administrator* role
- To manage deployments via command line admin tool: assign the *Deploy Admin* role for the relevant collections
- To invoke Determinations API web services: assign the *Determinations API* role

✓ Determinations API role is still permitted for non-integration user accounts

- Except for private cloud customers with SSO enabled
Feature Deep Dive

OPA Hub REST API
OPA Hub REST API – Overview
Administer OPA resources programatically

<table>
<thead>
<tr>
<th>URI</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>auth</td>
<td>Obtain OAuth 2 token</td>
</tr>
<tr>
<td>{version}/users</td>
<td>Manage OPA Hub users</td>
</tr>
<tr>
<td>{version}/metadata-catalog</td>
<td>Structured URIs describing all REST API resources</td>
</tr>
<tr>
<td>{version}/swagger.json</td>
<td>Details of entire Hub REST API in a single JSON payload</td>
</tr>
</tbody>
</table>

- OAuth 2.0 access control
  - Authorized as integration users

- API for managing OPA Hub users

- Fully self-describing
  - Base URL is <site>/opa-hub/api
  - Oracle standard metadata-catalog schema is provided
  - Swagger 2.0 description also available
OPA Hub REST API – Authorization

Authenticate using OAuth 2.0

Integration users must access the REST API using OAuth2 tokens

- Obtain with Client Credentials Grant flow
- Client Identification is the login of an integration user
- Client Secret is the integration user’s password
- To access the users REST API, the integration user must have the Hub Administrator role

Authorization URI:

```<base>/auth```
OPA Hub REST API – Discoverability

All resources are self-describing

```json
{
   "items": [
   {
      "name": "users",
      "links": [
         {
            "rel": "self",
            "mediaType": "application/json"
         },
         {
            "rel": "canonical",
            "mediaType": "application/json"
         },
         {
            "rel": "describes",
            "href": "https://10.187.106.144/customer/opa-hub/api/12.2.6/users"
         }
      ]
   },
   ...
],
```

First part of response to GET <site>/opa-hub/api/latest/metadata-catalog

- Oracle standard metadata is provided across the entire OPA Hub REST API
  - Start with `GET <base>{version}/metadata-catalog` and follow href links for more details
  - Provides `describes` links to each resource URI
  - Canonical (versioned) links always included
- Discover supported methods with OPTIONS
  - E.g. `OPTIONS <base>{version}/users/admin` will return GET, PUT, PATCH, DELETE
- API is versioned, starting from 12.2.6
  - `latest` alias is also provided for `{version}`
OPA Hub REST API – Documentation

Use familiar REST API documentation format

- User-friendly documentation provided in standard Oracle format at docs.oracle.com
OPA Hub REST API – User management

Synchronize users with external identity management systems

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
</table>
| {version}/users : Manage one or more users | • GET to retrieve users info  
• POST to create users  
• PUT to create/replace users  
• PATCH to partial update users (including disable) |
| {version}/users/{user} : Manage individual users | • GET to retrieve user info  
• PUT to create/replace user  
• PATCH to partial update user (including disable)  
• DELETE to delete users |

 ✓ Manage OPA Hub users via standards-based REST API
 ✓ Bulk create/update operations are supported
 ✓ Assign permissions
 ✓ Build your own synchronization with external identity providers (private cloud only in Feb 2017 release)
Feature Deep Dive

External identity provider (private cloud only)
External identity provider – Overview
Manage OPA Hub users in corporate standard identity manager (private cloud only)

- Manage user lifecycle outside OPA Hub
  - Enable SSO for OPA Hub, Policy Modeling and OPA mobile app
  - Continue to manage OPA Hub user roles as OPA Hub admin (no change)

- Leverage standard WebLogic authentication providers
  - Put OPA Hub into external auth mode
  - Set up WebLogic identity asserter
  - Configure logout URL
  - Works with any SAML2 identity provider
  - Oracle Access Manager 11g+ certified
External identity provider – Setup
Configure WebLogic to work with your SAML capable identity provider (private cloud only)

- Clearly documented steps to enable external authentication mode for your private cloud OPA Hub
  1. Enable SAML in your identity provider
  2. Configure your identity provider as a WebLogic security provider
  3. Protect OPA Hub authentication URL with an appropriate rule
  4. Turn on external authentication mode for your OPA site – including choosing an externally authenticated administrator

Using this URL pattern ensures that all access to OPA Hub must have a login session from external identity provider
External identity provider – Managing Access

Control OPA application access in your enterprise identity management system

- Manage OPA application access in your identity management system
  - Use one or more groups in your access management system to define which users are able to login with SSO to OPA
  - Either: Create additional groups that correspond to OPA Hub permissions and use the OPA Hub Rest API for users to synchronize those permissions with OPA
  - Or: Manage OPA user permissions as any administrator user in OPA Hub
External identity provider – Login Experience

SSO-redirected login for Policy Modeling and OPA

- Your identity provider’s single sign on page is used for all OPA Hub logins
  - Policy Modeling login to OPA Hub
  - Direct login to OPA Hub interface

- Logout URL is also supported
  - Set as OPA Hub configuration property
  - OPA Hub users use Logout menu item
  - Policy Modeling users are logged out when application is closed
  - Session timeout rules also apply

Oracle Policy Modeling Hub Login popup, showing SSO login page from Oracle Access Manager
Feature Deep Dive

Export project data model
Export project data model – Overview

Get all data model and mapping information from any OPA project

- Export some or all of a project’s data model and related metadata
  - From Oracle Policy Modeling Data tab and via command-line
  - Includes attributes, entities and relationships, with mapping information and more
  - Generates CSV files that can be opened in Excel, and used easily by development lifecycle tools
Export data model information interactively

- Export attributes for any entity
  - From Entity Structure view on Data tab
  - Optionally apply an attribute filter
  - Single CSV file contains only attribute details

- Export for multiple entities
  - From Data tab Flat view
  - Optionally apply an attribute filter
  - Multiple CSV files contain attribute, entity and relationship details
Export project data model – Command-line

Automate export of data model information

Export data model from Windows command line

- Works with any local Oracle Policy Modeling project
- Apply optional attribute filters
- Generates CSV files with attribute, entity and relationship details
OPA Hub REST API – CSV file structure

CSV files contain detailed information for each element in the data model

- Detailed information for data model components provided in three CSV files
  - `<filename>.csv` (for attributes)
  - `<filename>-entities.csv`
  - `<filename>-relationships.csv`

- Each file includes all information relevant to that object type
  - Name, type, object contained by
  - Mapping details
  - Sentence text
  - Explanation options

**Attribute CSV file columns**
- Attribute Text
- Entity
- Data Type
- Role
- Name
- Filter by
- Mapped In
- Load Stage
- Mapped Out
- Audit?
- Question
- Sentence
- Negative
- Uncertain
- Unknown
- Minimum
- Maximum
- Regular Expression
  - Seed from URL parameter
  - Validation Message
  - Allow Substitution
  - Substitution Gender
  - Substitution Attribute
  - Invisible If True
  - Invisible If False
  - Invisible If Certain
  - Invisible If Uncertain
  - Invisible If Unknown
  - Invisible Always
  - Silent If True
  - Silent If False
  - Silent If Certain
  - Silent If Unknown
  - Invisible If True
  - Invisible If False
  - Invisible If Certain
  - Invisible If Uncertain
  - Invisible If Unknown
  - Invisible Always
  - Silent If True
  - Silent If False
  - Silent If Certain
  - Silent If Unknown
  - Silent Always

**Entity CSV file columns**
- Entity Text
- Contained By
- Identifying Attribute
- Name
- Inferrable
- Mapped to
- Mapped Via
  - Relationship Text
  - Relationship Type
  - Relationship Name
  - Relationship Reverse Name
  - Relationship Reverse Text

**Relationship CSV file columns**
- Text
- Name
- Inferrable
- Type
  - Source
  - Target
  - Mapped Via
  - Reverse Text
  - Reverse Name
Other Enhancements
Other enhancements

- Browse entity and relationship usage
- Use images on sliders
- Restrict uploads by file extension
- Optional prompt when leaving unsaved interviews
- RuleScript now supported in Java 8 environments
Browse entity and relationship usage

Easily find where inferred entities and relationships are defined in a model

✔ Browse through all entity and relationship usage
  • Right-click any entity or relationship in the data view
  • Easily locate inferred entity and relationship rules
  • Single-click to navigate to the rule or screen that uses the entity or relationship

✔ Easily find inferred entities
  • In the data view, inferred entity names are italicized
Use images on sliders

Provide intuitive sliders for your audience and needs

- Display slider values as images
  - Use value lists to define the set of values and the image to use for each
  - Bind any attribute to the value list type
  - Add the attribute to a screen, and choose the slider control type
  - Use blank images for slider spaces

- Reduce on-screen text
  - Perfect for mobile experiences and non-native language speakers
Restrict uploads by file extension

Ensure that users upload only file types that should be permitted

Configure via Interview Styles dialog:

- **Upload Controls**
  - **Restrict uploads by file extension**: jpg, png, bmp, pdf

Interview experience:

- **Optional: upload an image of the clothing item:**
- **Add**

> Invalid file 'Install.bat'. Only attachments with the following extension(s) are allowed: jpg, png, bmp, pdf.

- Ensure interview users only upload appropriate file types (e.g. images, documents, etc.)
  - Provide an allowed file extension list, defined in the Interview Styles dialog
  - Same list used for all uploads in a project
  - Note: This is not a substitute for virus scanning, which is the responsibility of the receiving application
Optional prompt when leaving unsaved interviews
Ensure advice experiences prevent users from accidentally losing data

Configure via Interview Styles dialog:

- Ensure interview users don’t accidentally lose unsaved data they have entered
  - Choose whether to prompt user if any interview data is unsaved
  - Triggered by interview Restart, Exit, closing browser etc.
  - Data is considered “saved” when a checkpoint is reached, or the interview is Submitted
  - Data entered into the current screen is always considered unsaved
  - Only for Latest version interviews - behavior of August 2016 interviews remains unchanged
RuleScript now supported in Java 8 environments

Develop and deploy projects with RuleScript, with latest Java runtime

- Develop and deploy projects containing RuleScript on environments using Java 8
  - When developing Oracle Policy Modeling projects that contain RuleScript
  - When deploying OPA private cloud on WebLogic 11g, 12c
  - All Oracle Public Cloud OPA environments remain 100% compatible with RuleScript
  - In Feb 2017 release, RuleScript remains an experimental feature that is enabled only on request
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Where to get more information

Background

• Oracle Service Cloud: https://cloud.oracle.com/service-cloud

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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