

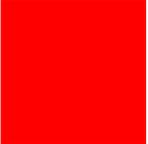
The logo features the word "ORACLE" in red, uppercase letters with a registered trademark symbol, positioned above a thin horizontal line. Below the line, the words "POLICY AUTOMATION" are written in black, uppercase letters. The entire logo is centered within a white rectangular box, which is itself centered on a grey background strip. This grey strip is flanked by red vertical bars on the left and right, and the entire composition is set against a larger red background.

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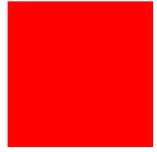
Oracle Policy Automation 10.2 – Features and Benefits

December 2010



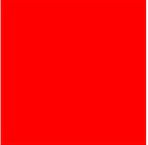
Introducing Oracle Policy Automation 10.2

- More than 60 new features, based heavily on customer and partner input
- Highlights include:
 - ✓ Quickly deliver **multi-lingual self-service guidance** with new translation lifecycle support
 - ✓ **Easier to learn** policy modeling, with new ribbons and simpler rule structures
 - ✓ **Collaborate more efficiently** by easily comparing policy versions
 - ✓ More **power and productivity** for advanced policy modelers
 - ✓ Speed improvements of **more than 20%** to OPA Determinations Server
 - ✓ Even more integration flexibility, with a new **interview web service** and **Determinations Server extensibility**



Agenda

- ➔ *Policy Modeling Productivity*
- Enhanced Global Readiness
- Richly Embeddable Interviews
- Flexible and High Performance
- Integration



Policy Modeling Productivity - Overview

1. Improved Team Authoring

- Zero-config *subversion* support
- Highlight changes between Word document versions
- Support for multiple versioning providers

2. Intuitive Relationship Model

- New *containment* concept for all entities
- Visualize data model hierarchy and relationships
- Easily use projects from previous versions

3. Simpler Rule Modeling

- Be more productive in Word and Excel 2007/2010
- Simplify rules about households
- Use Excel for rules about households
- Excel rule tables give answers with missing data
- Find duplicates in collections
- Accessible screen flow authoring

4. Advanced Rule Enhancements

- Validate codes and easily find matching text
- Simplify rules for interview and screen control
- Set missing information using any known data
- Model time period or other cascading rule logic
- Simpler totaling for values that can change monthly
- Use the weekdays in a period to determine payments
- Transparently extend the rule functions available

5. Faster Debugging

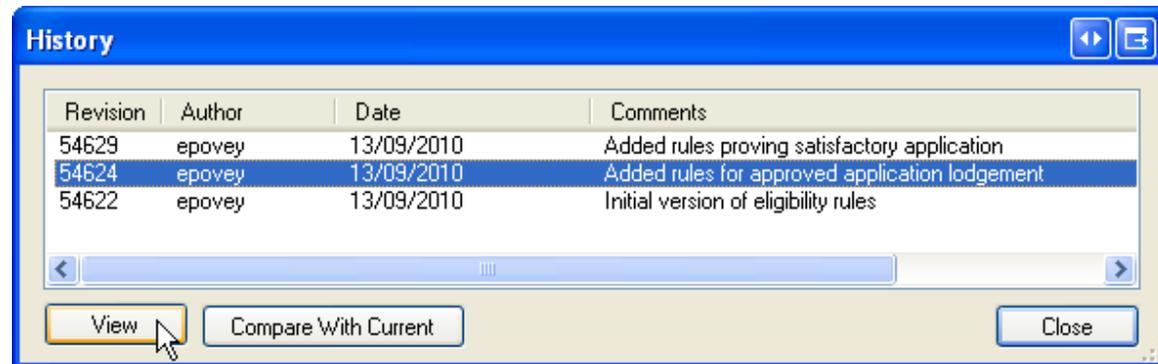
- Easily check screen layout, for any target language
- Set data relationships more quickly
- Create new test cases when debugging
- Easily understand how individual rules work
- Quickly resume temporal debugging
- Debug interview projects on network drives

Improved Team Authoring

Zero-config *subversion* support

Use subversion without additional third party software:

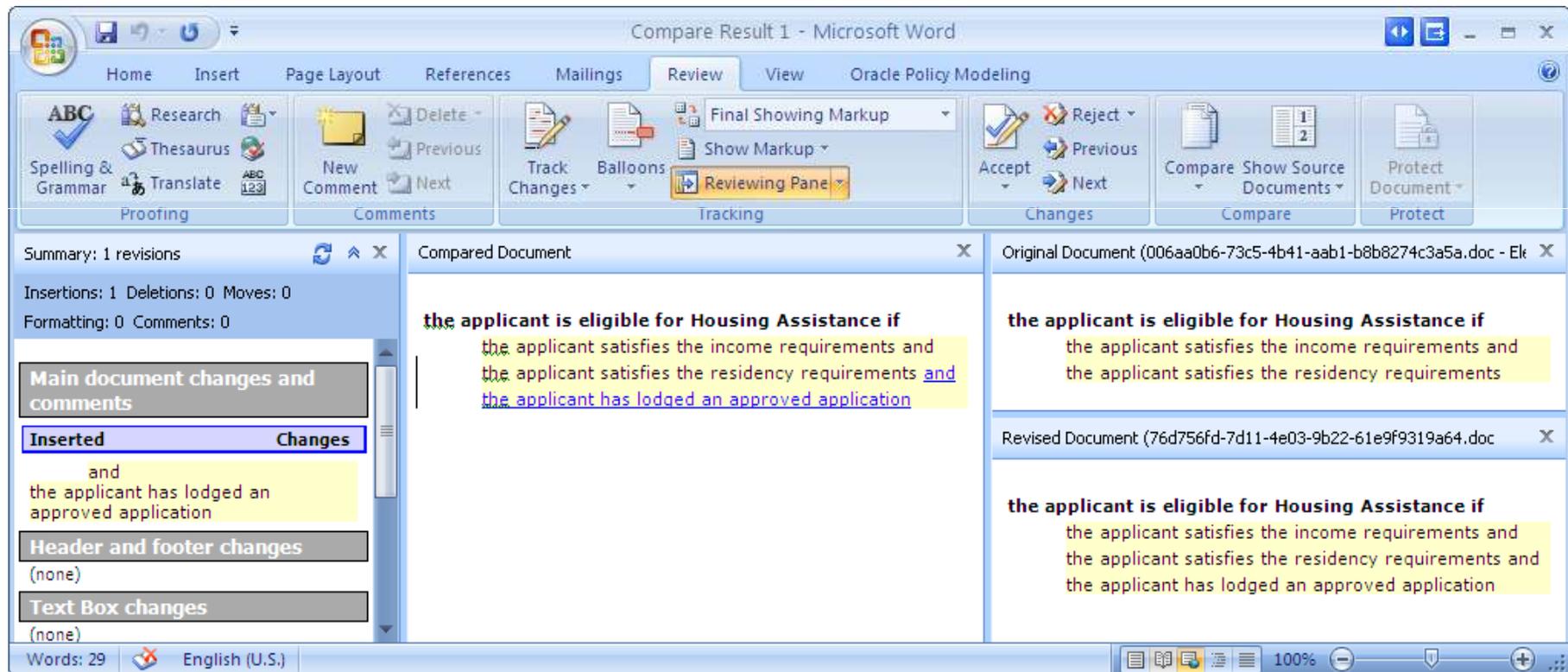
- Add projects directly to subversion
- Open existing projects directly from subversion
- View project file change history
- View historical versions
- Compare previous versions with current version
- Uses subversion client found on the program path



Improved Team Authoring

Highlight changes between Word document versions

- Use Microsoft Word's reviewing features to compare versions retrieved from subversion

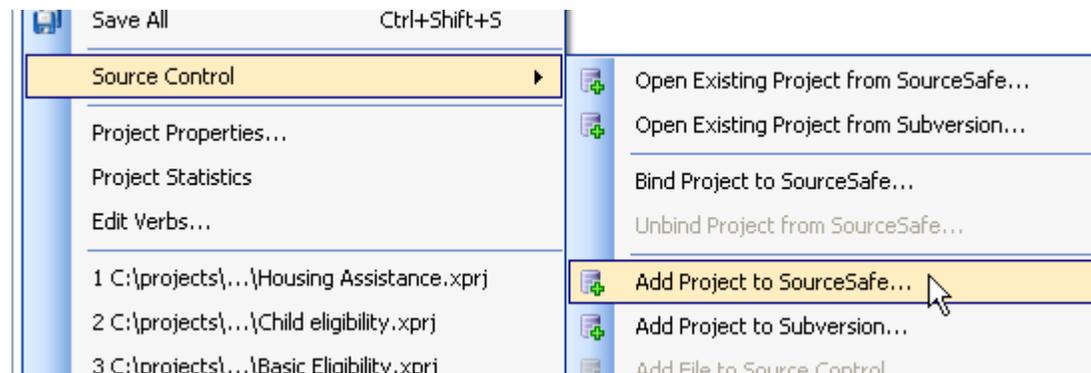


Improved Team Authoring

Support for multiple versioning providers

Use different versioning providers for different projects

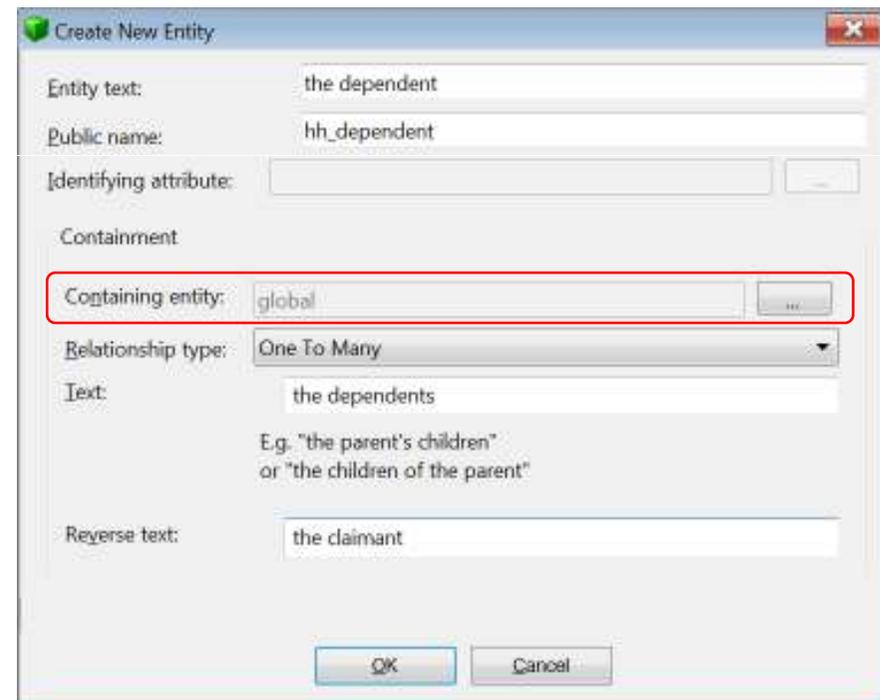
- Choose from all available source control providers
- One provider per project
- Providers shown by name
- Automatic subversion binding
- Bind other providers manually as needed



Intuitive Relationship Model

New *containment* concept for all entities

- Every entity is now *contained* by exactly one other entity
- When defining an entity, the containing entity is selected
 - One-to-one or one-to-many relationship only
- Other (non-containing) relationships added as needed
- *Singleton entity* concept has been removed
 - Create one-to-one entity from the global entity instead
- This approach makes rule writing, debugging, data integration and entity collection logic simpler in many cases (see later slides)

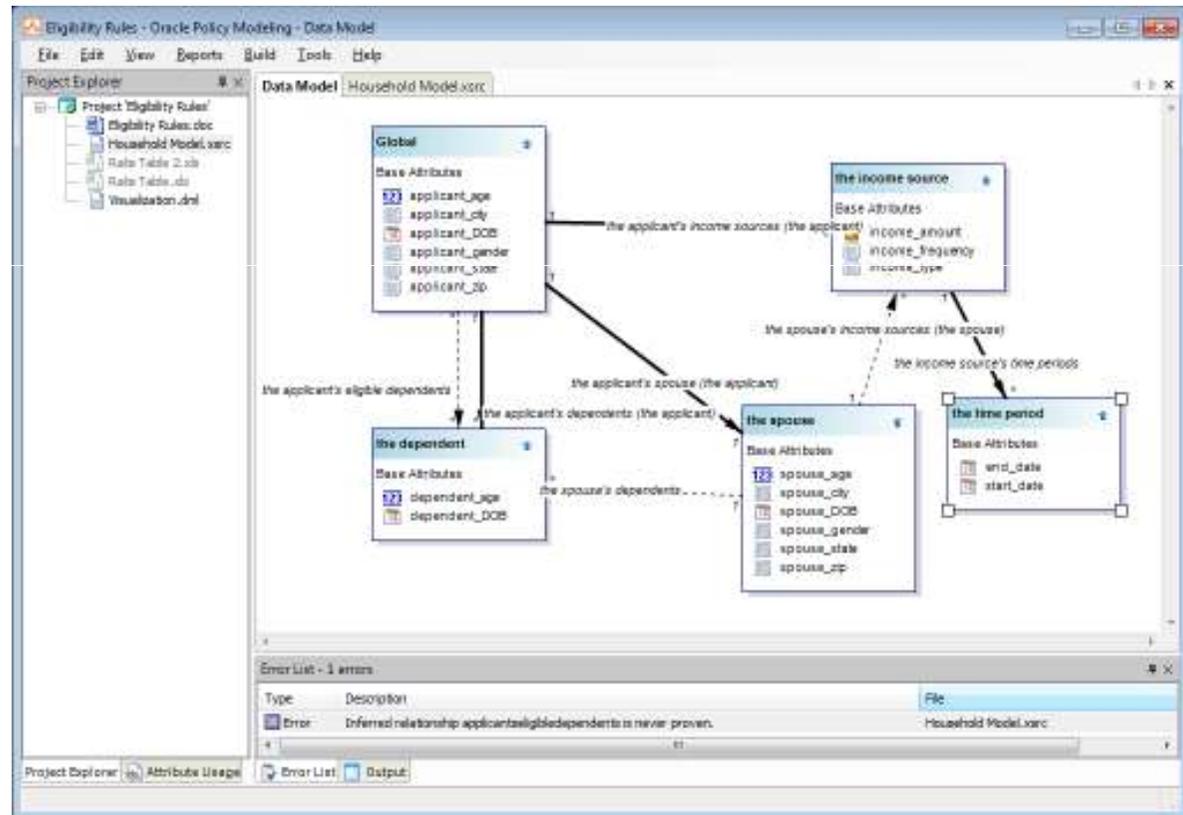


The screenshot shows the 'Create New Entity' dialog box. The 'Entity text' field contains 'the dependent' and the 'Public name' field contains 'hh_dependent'. The 'Identifying attribute' field is empty. The 'Containment' section is expanded, showing the 'Containing entity' field set to 'global' and the 'Relationship type' dropdown set to 'One To Many'. The 'Text' field contains 'the dependents' and the 'Reverse text' field contains 'the claimant'. The dialog also includes 'OK' and 'Cancel' buttons at the bottom.

Intuitive Relationship Model

Visualize data model hierarchy and relationships

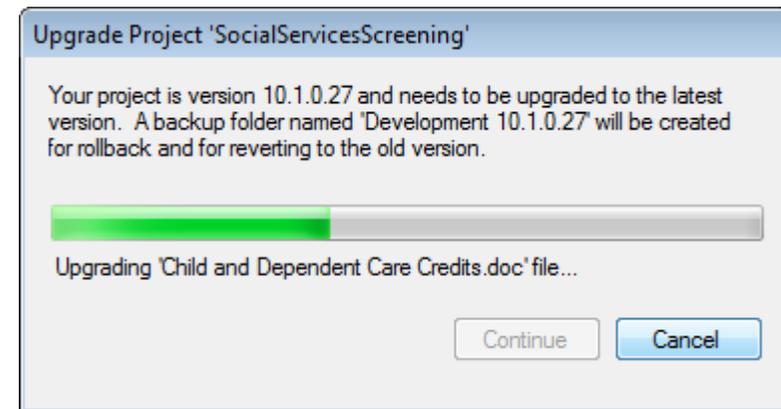
- Relationship cardinality
 - 1 or * on each end of line
- Containment relationships
 - Bold solid line
- Inferred relationships
 - Dotted line
- Other relationships
 - Dashed line
- Reverse relationship text
 - In parentheses



Intuitive Relationship Model

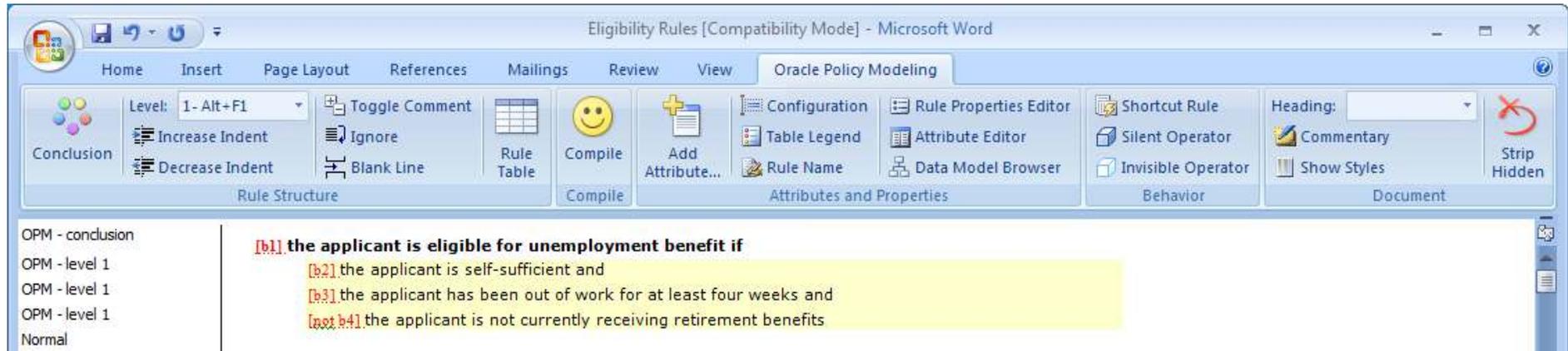
Easily use projects from previous versions

- Projects from earlier versions upgrade automatically
 - Version detected on open
 - Backup folder created
 - Automatic containment relationship created for every entity
 - Singleton entities converted to 1:1 entities off the global
 - All rule documents are recompiled
- After upgrade: check all behavior is as expected
 - Inspect automatic data model - tweak if needed
 - Run all regression test cases



Simpler Rule Modeling

Be more productive in Word and Excel 2007



New *Oracle Policy Modeling* ribbons:

- Prominent access to most common functions:
 - E.g. Conclusion style, Rule Table, Compile, Add Attribute...
- New *Show Styles* command quickly displays Word style margin
- Logical grouping helps users discover related functions



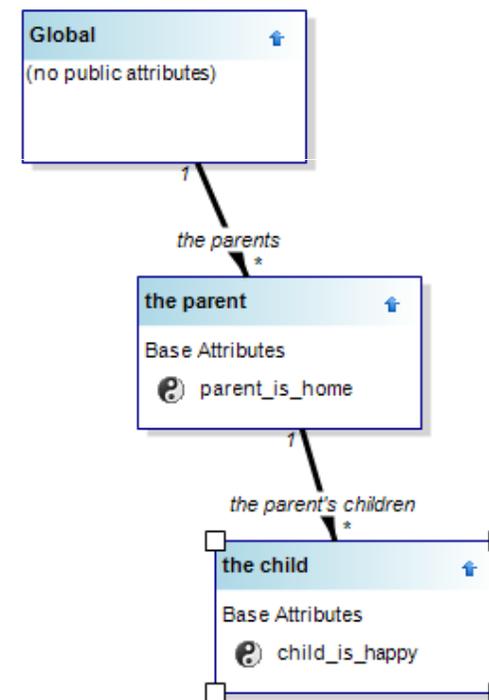
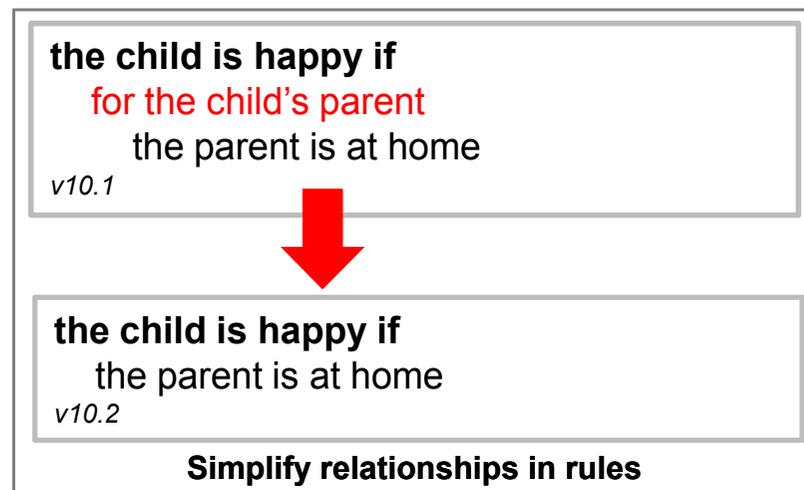
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For more information: OPM Help Topic *Write rules in Word*

Simpler Rule Modeling

Simplify rules about households

- Rules that refer to parent attributes just work
- Less training required – can avoid the “for” operator
- Works for any attribute up the containment chain



Simpler Rule Modeling

Use Excel for rules about households

Rule authors that prefer Excel can now use it for more types of rules:

- There is a single target entity for each rule table
- Condition columns can now:
 1. Be named for any attribute on the target entity
 2. Be named for any entity attribute up the containment chain from the target entity
 3. Contain expressions that use entity functions
 - Note: Inferred relationships are not supported
- All conclusions must be for the target entity (no change from 10.1)

This allows, for example, conclusions about a household to be made using information about different household properties or members

condition	child_at_home	parent_employed	child_eligible
the household meets the basic eligibility criteria	TRUE	FALSE	TRUE
the household category = "urban"		TRUE	
the household category = "regional"	FALSE		
For(the child's parent, Exists(the parent's children, the child is disabled))			FALSE

Simpler Rule Modeling

Write Excel rule tables that give answers with missing data

- Often, the order of conditions in a rule table is not important
- In 10.1, missing data for a higher rule would prevent lower rules being triggered until that data was supplied
- In 10.2, when conclusion cells are merged, this logic will automatically short-circuit, and behave as expected
- To preserve 10.1 behavior, conclusion cells must not be merged

claimant state	claimant is student	claimant age	claimant disabled	claim_valid
			TRUE	TRUE
		< 16		TRUE
FL	TRUE			TRUE
TX		< 18		TRUE
MA	FALSE	< 21		TRUE
	TRUE	< 25		TRUE
CA		< 25		TRUE
			else	FALSE

Input: claimant_age = 15

Output: claim_valid = unknown

Input: claimant_state = FL and claimant_student = TRUE

Output: claim_valid = unknown

Input: claimant_disabled = FALSE and claimant_age = 15

Output: claim_valid = TRUE

claimant state	claimant is student	claimant age	claimant disabled	claim_valid
			TRUE	TRUE
		< 16		
FL	TRUE			
TX		< 18		
MA	FALSE	< 21		
	TRUE	< 25		
CA		< 25		
			else	FALSE

Input: claimant_age = 15

Output: claim_valid = TRUE

Input: claimant_state = FL and claimant_student = TRUE

Output: claim_valid = TRUE

Input: claimant_disabled = FALSE and claimant_age = 15

Output: claim_valid = TRUE

Simpler Rule Modeling

Find duplicates in collections

- Sometimes we need to find a specific entity that matches another in a collection in some way. For example:
 - Same birth date – to identify multiple births
 - Same SSN – to identify data entry errors
 - Same product family – to apply a bundling discount rate
- A new *entity identity operator* is available to simplify these rules
- Both **is** and **is not** are supported

the child is a multiple birth child if

for at least one of the parent's children (the sibling)

the sibling's date of birth = the child's date of birth and

the sibling **is not** the child

the person has a conflicting unique id if

for at least one of the people (the other person)

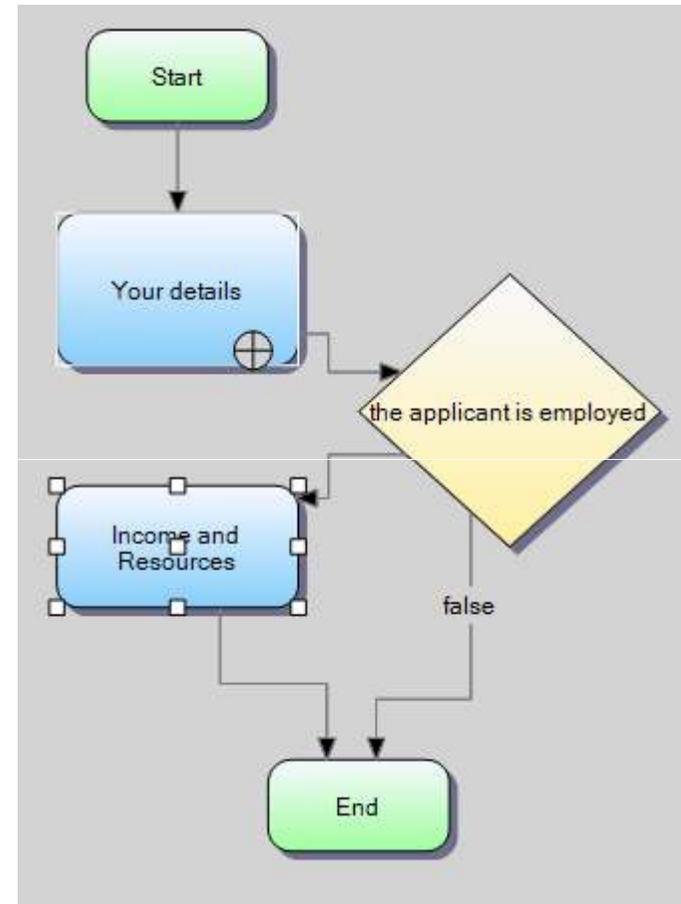
the other person's unique id = the person's unique id and

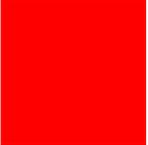
the other person **is not** the person

Simpler Rule Modeling

Screenflow authoring is now accessible

- New keyboard shortcuts are provided for all actions in the flow design user experience
- For example:
 - Ctrl + arrow to move a cursor
 - Space to select an element
 - F2 to edit a condition
 - C to create a new connector





Advanced Rule Enhancements

Validate codes and easily find matching text

- Where unique identifiers, codes or composite text values are being entered by a user or passed from other systems, new string functions make it easier to inspect and validate them

New Function	Natural Language Example
Contains	the dealer is responsible for the market program if the marketing program coverage code contains the dealer code
EndsWith	the provider code is a new-style provider code if the provider code ends with “N”
IsNumber	the post code is a valid Australian post code if
Length	the post code is a number and the length of the post code = 4
StartsWith	the account is a valid pension account if the account number starts with the pension account prefix code

Advanced Rule Enhancements

Simplify rules for interview and screen flow control

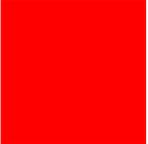
- It is sometimes useful to know if a data value is already available
- The new *currently known* operator does exactly that
 - Like the existing *unknown* operator, it does not seek an answer by asking other questions – it just returns *true* if a value is already available, and *false* otherwise
- For consistency *currently unknown* now replaces *unknown*
 - The *unknown* operator is still provided for backward compatibility
- The *known* operator is unchanged: it forces a question search
 - It is good to use for summary screen goals, for example

```
[b2] the SSN entry screen should not be displayed if
    [notunknown p5] the applicant's SSN is currently known or
    [b4] the applicant is exempt from providing an SSN

[b5] the family members screen should be displayed if
    [unknown b6] it is currently unknown whether or not the applicant has dependents

[b3] the loan determination is complete if
    [known b1] it is known whether or not the applicant is eligible for the special loan and
    [known p6] the maximum eligible loan amount is known
```

Note: currently known and unknown are best used sparingly. An interview is often easier to maintain if the system is allowed to automatically determine the screens to be displayed.



Advanced Rule Enhancements

Set missing information using any known data

- Shortcut rules are used to set the value of base level attributes based on information that is already known. For example:

shortcut rule

the applicant is not pregnant if

the applicant's gender = "M"

- Setting the value in the other direction may also be needed:

shortcut rule

the applicant's gender = "F" if

the applicant is pregnant

- In 10.1 having both these rules would cause an error
- However, shortcut rule loops like this are permitted in 10.2
 - Remember: Shortcut rules are ignored if the value they would set is already known

Advanced Rule Enhancements

Model recurring time period or other cascading rule logic

- Account balance calculations start with the previous period's balance
- It would be nice to model this with an entity instance for each period
- For example:

```
the balance = the previous month's balance +  
InstanceSum( the transactions, the transaction amount )
```

- Here “the previous month” is a self-referential relationship on “the month” entity
- In 10.1 this rule loop using “the balance” attribute was not permitted!
- In 10.2, the *rule_loop* configuration line allows this rule to compile
- Rule_loop should be used with caution!
 - The loop must be grounded in some actual data
 - E.g. data or a rule must explicitly provide the first month's balance
- It is also useful where an abstract data model for “a person” entity has been used with a self-referential relationship. For example:

```
rule_loop
```

```
the person is a citizen if
```

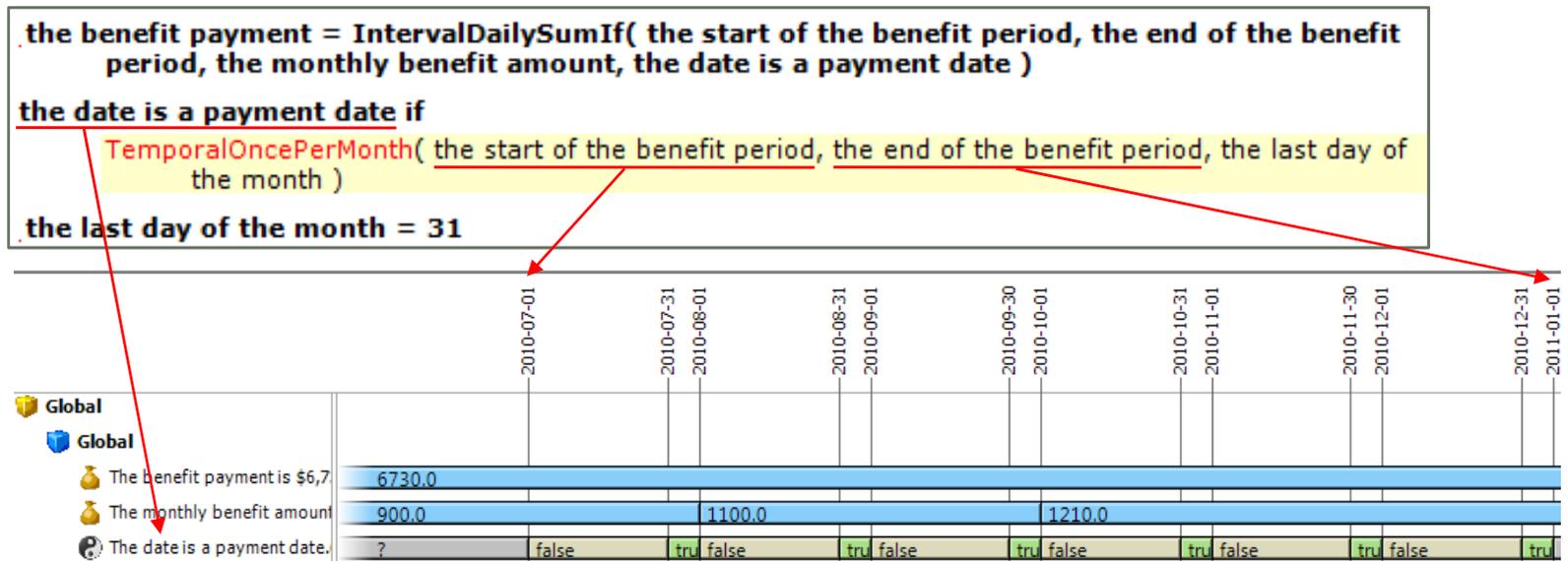
```
the person was born in the country or  
at least one of the person's parents is a citizen
```

Advanced Rule Enhancements

Simpler totaling for values that can change monthly

- Roll up monthly values into a total for a year or other period
- Choose any day in each month; if past end of month, last day is used
- New function in 10.2: **TemporalOncePerMonth**

Example:



Advanced Rule Enhancements

Use the week days in a period to determine payment amounts

- Sum up values for each week day within a time period
- Pro-rate based on the number of week days in a month

New function in 10.2: **TemporalIsWeekday**

Examples:

the total payment = `IntervalDailySumIf(the start date, the end date, the daily rate, the day is a weekday)`
 the day is a weekday if `TemporalIsWeekday(the start date, the end date)`

	2010-10-09	2010-10-11	2010-10-16	2010-10-18	2010-10-23	2010-10-25	2010-10-30	2010-11-01
Global								
The total payment is \$1,050	1050.0							
The day is a weekday.({unc	?	tru	false	true	false	true	false	true
The daily rate is \$50.00.	50.0							

the number of weekdays in the month = `IntervalDailySumIf(the start of the month, the start of the next month, 1, TemporalIsWeekday(the start date, the end date))`
 the start of the month = `AddMonths(the start date, TemporalMonthsSince(the start date, the end date))`
 the start of the next month = `AddMonths(the start date, 1 + TemporalMonthsSince(the start date, the end date))`

	2010-04-01	2010-05-01	2010-06-01
Global			
Global			
123 The number of weekdays in	21.0	20.0	23.0

Advanced Rule Enhancements

Transparently extend the rule functions available

- Make new rule functions available to policy modelers
- Pass and return any data type, including temporal values

Example 1 – Function to provide a random number

```
the random number = RandomNumber()
```

Example 2 – Calculate monthly subtotals for temporal values

```
the monthly payment amount = TemporalTotalByMonth( the start date, the end date, the daily payment amount )
```

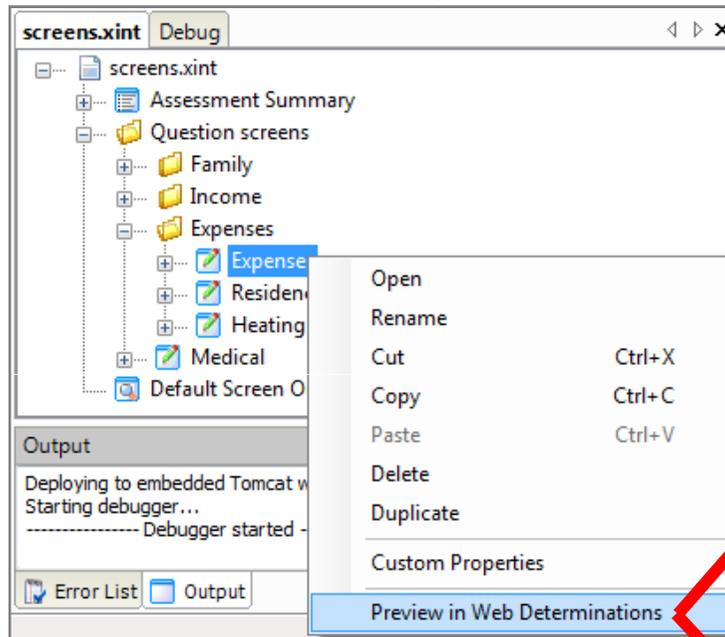
Green indicates non-temporal attribute. Blue indicates temporal attribute.

- Add *extensions* to project to expose new functions to rule authors
- Are automatically packaged with the rulebase when the project is built
- Implemented by Java .jar files, .NET DLL assemblies or both

Faster Rule Debugging

Easily check screen layout, for any target language

- Without entering data on preceding screens, quickly preview any interview screen using current Web Determinations templates and a screen definition



- Preview in any language for which a translation file has been added to the project



Faster Rule Debugging

Set data relationships more quickly when debugging

- All entity instances are created through containment relationships
- Containment relationships are not set – they are implied by the hierarchy

The screenshot displays two panels from the Oracle OPM debugging interface. The top panel shows a tree view of a 'Global' model with a hierarchy: 'the carers' (containing 'Betty'), 'the carer's spouse' (containing 'Henry'), 'the primary carer's children' (containing 'Sally', 'Bobby', 'Gene'), and 'the non-primary carer's children'. The 'the primary carer's children' node is selected. To the right, a control panel indicates 'This is a containment relationship. Target instances can only be created or deleted.' It has radio buttons for 'Unknown' and 'Known' (selected), and a 'Flip to reverse relationship' link. Below this is a list of checked instances: Sally, Bobby, and Gene. Buttons for 'Add Instance', 'Delete Instance', and 'View Decision' are visible.

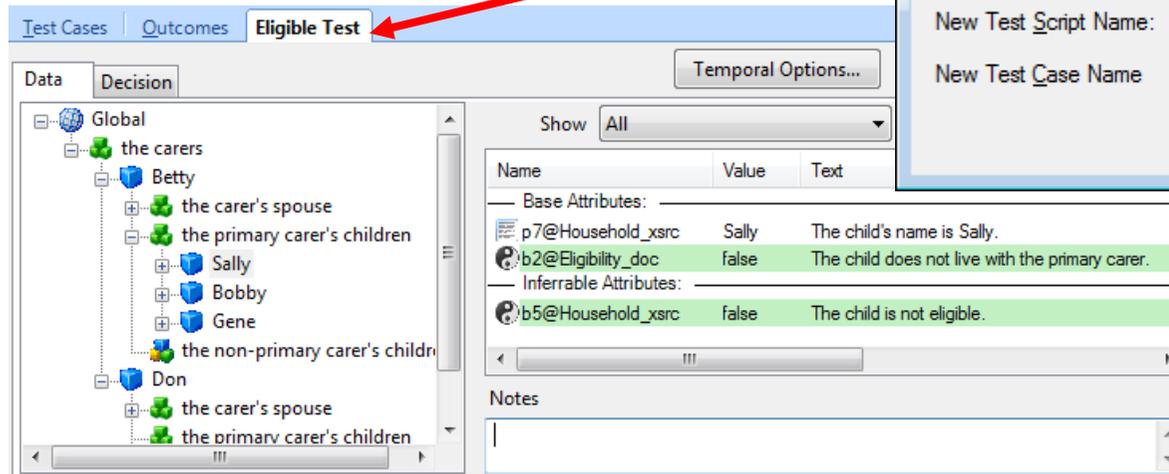
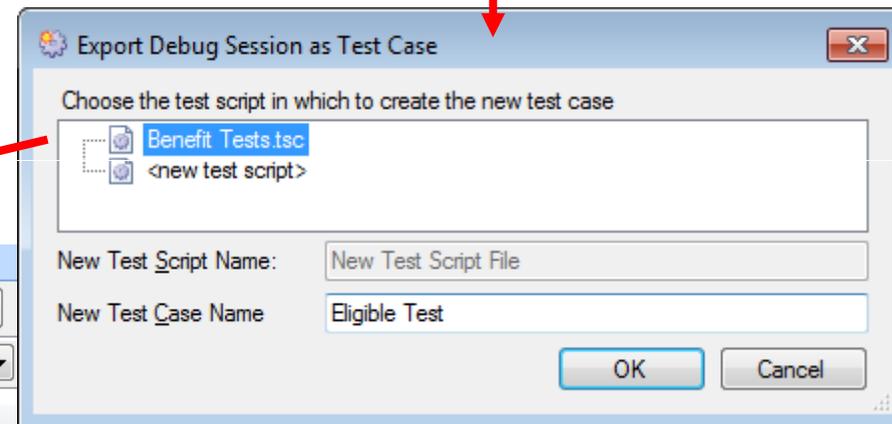
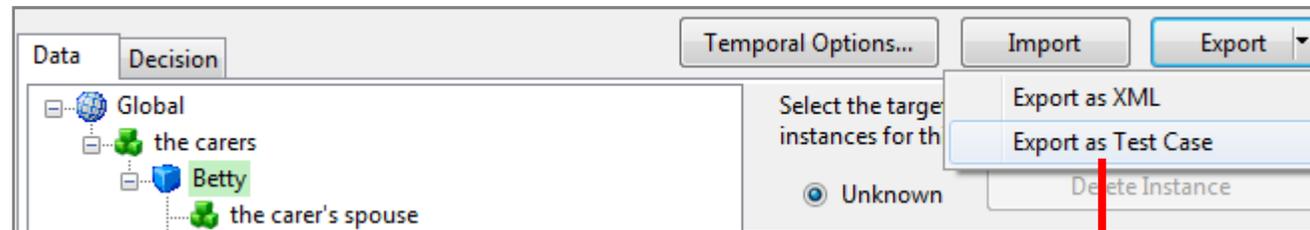
The bottom panel shows the same tree view, but with 'the non-primary carer's children' selected. The control panel now says 'Select the target instances for this relationship.' It has radio buttons for 'Unknown' and 'Known' (selected), and a 'Flip to reverse relationship' link. Below this is a list of checked instances: Sally, Bobby, and Gene, with 'Gene' highlighted in blue.

- Other relationships are defined by selecting from existing entity instances

Faster Rule Debugging

Create new test cases when debugging

- Easily promote debug sessions into new regression tester test cases



Faster Rule Debugging

Quickly resume temporal debugging

- The temporal visualization now retains the list of attributes
- This list will be shown when the visualization is next shown
- Attributes removed from the rulebase will not appear
- The visualization state is saved with the project's user settings

	2010-09-15	2010-10-01
Global	false	true
Global	500.0	1000.0
It is the case that all household members have an income source of Supplemental Security Income	400.0	440.0
The monthly income from wages and salary is {\$500.00, \$1,000.00 from 9/15/10}	1300.0	1800.0
The monthly child support is {\$400.00, \$440.00 from 10/1/10}	400.0	
The monthly gross earned income is {\$1,300.00, \$1,800.00 from 9/15/10}	400.0	
The monthly income from tips is \$400.00		
The monthly income from self-employment is \$400.00		

Faster Rule Debugging

Easily understand how individual rules work

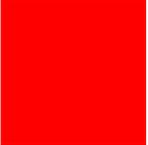
The screenshot shows the Oracle OPM Decision view interface. At the top, there are tabs for 'Data' and 'Decision', and buttons for 'Temporal Options...', 'Import', and 'Export'. Below these are several checkboxes: 'Relevant only' (checked), 'Base only' (unchecked), 'Show silent and invisible' (unchecked), and 'Show rule' (checked and highlighted with a red box). A red arrow points from the 'Show rule' checkbox to a tree view of rules. The tree view shows a hierarchy of rules, with 'Is the claim valid?' selected and highlighted with a red box. A red arrow points from this selected rule to the main logic view below. The logic view shows the following rule structure:

```
b2@ClaimRules_xls(unknown): the claim is valid
true
  either
    b3@ClaimRules_xls(unknown): the claimant is disabled or
    p2@ClaimRules_xls(17): the claimant's age < 16 or
    all
      p1@ClaimRules_xls(MA): the claimant's state = "FL" and
      b1@ClaimRules_xls(unknown): the claimant is a student
    or
    all
      p1@ClaimRules_xls(MA): the claimant's state = "TX" and
      p2@ClaimRules_xls(17): the claimant's age < 18
    or
    all
      p1@ClaimRules_xls(MA): the claimant's state = "MA" and
      either
        all
          ~b1@ClaimRules_xls(unknown): the claimant is not a student and
```

Benefits

- See where intermediate values are applied through rule logic
- Introspect rules with lots of conditions such as Word or Excel tables
- See combined rule fragment logic

How: New **Show rule** check-box in the Decision view when debugging



Faster Rule Debugging

Debug interview projects located on network drives

- If projects are located on slow/network locations, the built in TomCat instance may time out when starting
- A new option allows the timeout duration, in seconds, to be set

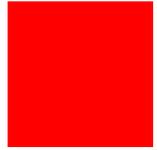
File:

c:\documents and settings\\application data\Oracle Corporation\Oracle Policy Modeling\registry.xml

Setting:

```
<section name="TomcatOptionPage">  
  <entry name="TomcatStartupTimeout">default</entry>  
</section>
```

Note: In most cases, it is recommended to locate project files on local drives and use source control for team-based file versioning and sharing. Adopting this approach makes this setting unnecessary.



Agenda

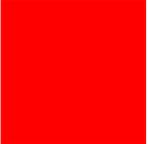
Policy Modeling Productivity

➔ *Enhanced Global Readiness*

Richly Embeddable Interviews

Flexible and High Performance

Integration



Enhanced Global Readiness - Overview

1. Translation Lifecycle Support

- Easily provide translators with all text needing translation
- Debug rules and interviews in any language
- Check for untranslated text before release

2. Improved Region Handling

- Choose regional formatting independently from rule language
- Numeric constants in rules now support thousands separators
- Transparent time zone behavior at runtime

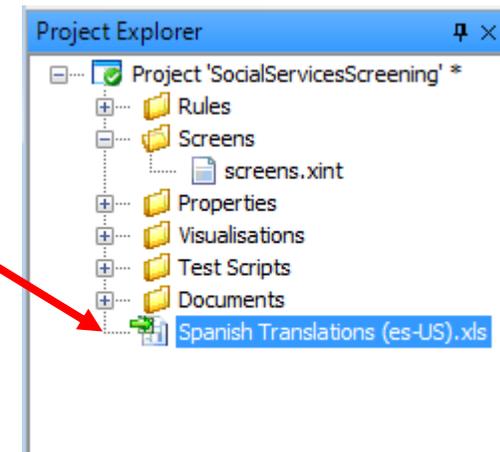
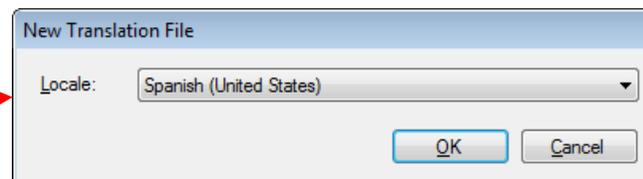
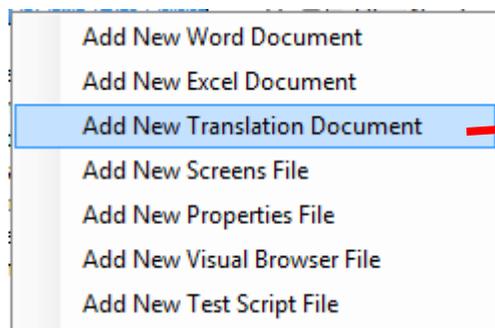
3. Broader Language Support

- Develop interactive guidance more quickly in more languages
- Improved authoring experience for non-English languages
- Mix automatic and authored screens in any language

Translation Lifecycle Support

Easily provide translators with all text needing translation

- Provide translators with a single file, one for each language
- Translation files are Excel documents in Policy Modeling projects
- The file includes:
 - All boolean statement and variable sentence forms (question, positive, negative, possible)
 - All screen labels and input validation messages
 - All metadata (male, female, true, false)
 - All event text (errors and warnings)
- Rows are automatically added when new translations are needed
 - Note: Existing translations are not automatically removed



Translation Lifecycle Support

Easily provide translators with all text needing translation – cntd.

The screenshot displays two overlapping Excel windows. The background window, titled 'Spanish Translations (es-US).xls [Compatibility Mode] - Microsoft Excel', shows a table with 5 columns (A-E) and 7 rows. The text in the table is as follows:

	A	B	C	D	E
1	the applicant is blind or permanently disabled	%app_name?% es ciego o incapacitado de forma permanente	%app_name?% no es ciego o incapacitado de forma permanente	¿El %app_name?% es ciego o con discapacidad permanente	%app_name?% podría ser ciegos o discapacitados permanentemente.
2	the household includes a household member who is aged 60 years or older or who is disabled or blind	La familia incluye un miembro del hogar que es de 60 años o mayores de esa edad o que está incapacitado o ciego	El hogar no incluir a un miembro del hogar que es de 60	Does the household include a household member who is aged 60 years or older or who is disabled or blind?	The household might include a household member who is aged 60 years or older or who is disabled or blind.
3	the household's monthly food stamp net income is equal to or below 100% of the poverty level	The household's monthly food stamp net income is equal to or below of the poverty level.			
4	the household lives in NYC	The household lives in NYC.			
5	the household may be eligible for Food Stamps	The household may be eligible for Food Stamps.			
6	the applicant is aged 60 years or older	%app_name?% is aged 60 years or older.			
7	the total gross income minus monthly child support is less than or equal to 130% of the poverty level for the household size	The total gross income minus monthly child support is less than or equal to 130% of the poverty level for the household size.			

The foreground window, also titled 'Spanish Translations (es-US).xls [Compatibility Mode] - Microsoft Excel', shows a smaller table with 2 columns (A-B) and 7 rows. The text in the table is as follows:

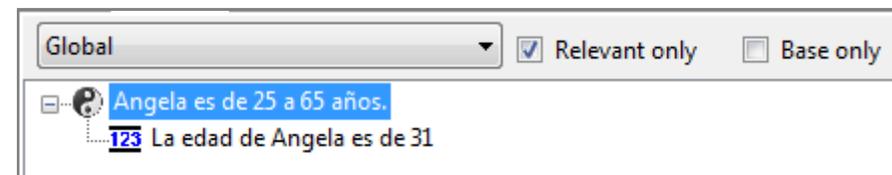
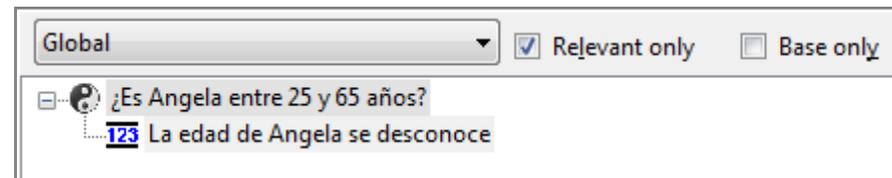
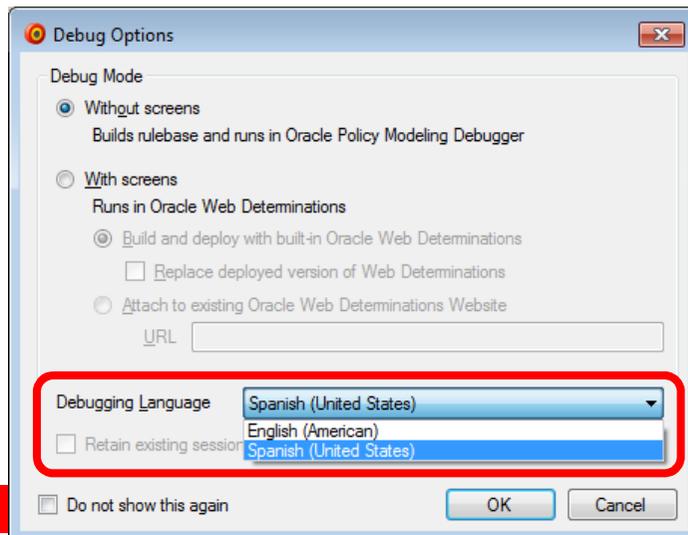
	A	B
1	Medical	Medical
2	Is there a household member who...	Is there a household member who...
3	Is pregnant?	Is pregnant?
4	Suffers from an acute medical condition which is exacerbated by extreme heat?	Suffers from an acute medical condition which is exacerbated by extreme heat?
5	Assessment Summary	Assessment Summary
6	Welcome to myBenefits!	Welcome to myBenefits!
7	Summary	Summary

At the bottom of the foreground window, the navigation bar shows several tabs: 'Statements (3rd Person)', 'Variables (3rd Person)', 'Screens', 'Metadata', and 'Events'. The 'Screens' tab is highlighted with a red box. The 'Statements (3rd Person)' tab is also highlighted with a red box.

Translation Lifecycle Support

Debug rules and interviews in any language

- Choose which language to use when debugging in Policy Modeling
 - a. The language used for all rules in the project
 - b. One of the languages for which a translation file has been added
- When debugging without screens
 - See all statements and variable descriptions in the selected language
 - This allows, for example, testing of variable substitutions
- When debugging with screens
 - Uses the Web Determinations template for the selected language
 - All screen text is displayed using translations for the selected language
 - All decision reports and are displayed in the selected language



Translation Lifecycle Support

Check for untranslated text before release

- New report that lists any text for which translations have not been provided
- Looks across all languages in all current Excel translation sheets

Untranslated Text	
Generated 10/28/2010 10:14:35 AM	
Spanish Translations (es-US).xls	
Spanish (United States)	
Event Text: You can only be married to one person.	
Event Text: You have indicated that you are married to someone of the same gender. You cannot be legally married to someone of the same gender.	
Event Text: If you do not pay heating costs separately from rent, you must indicate whether your pay rent which includes heating costs.	
Metadata: Female	
Metadata: Male	
Screen Medical	
Text:	
Screen Is there a household member who...	
Text:	
Screen Is pregnant?	
Text:	
Screen Suffers from an acute medical condition which is exacerbated by extreme heat?	
Text:	

Improved Region Handling

Choose regional formatting independently of rule language

- When writing rules, use a selected region for all numeric values
 - For example, write rules in English, but use European formatting for currency values
- Select both rule language and target region at the time a project is created

New Project

Project Name:
Loan Origination

Rule Language:
English (British)

Region:
Switzerland (German)

This will determine the numeric, date and currency formatting used in rule documents, and in Web Determinations.

Select a folder that will contain the project files.

Project Folder:
c:\projects\Loan Origination

Create default folder structure

[b1] the applicant is eligible for the special loan if
[p1 > 35'000] the applicant's salary in Euros > 35'000 and
[p2 < 0.8] the applicant's loan to value ratio < 0.8 and
[p4 < 9'999'999.99] the loan amount < 9'999'999.99

Note: Thousands separators are now also supported in numeric constants in rule documents, improving readability for large numbers

Improved Region Handling

Transparent time zone behavior at runtime

- Time zones are now handled more transparently
- Determinations Server behavior is as follows:
 1. GetServerInfo now includes the time zone and locale of the server
 2. All time values must be supplied in the server time zone
 3. If a time value has no time zone, the server time zone is used
 4. If a different time zone is specified in a time value, an error is raised

```
<soapenv:Envelope xmlns:soapenv=http://schemas.xmlsoap.org/soap/envelope/
xmlns:typ="http://oracle.com/determinations/server/10.2/server/types">
  <soapenv:Header/>
  <soapenv:Body>
    <typ:get-server-info-request/>
  </soapenv:Body>
</soapenv:Envelope>
```

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:i18n="http://www.w3.org/2005/09/ws-i18n"
xmlns:typ="http://oracle.com/determinations/server/10.2/server/types">
  <SOAP-ENV:Header>
    <i18n:international>
      <i18n:locale>en_US</i18n:locale>
      <i18n:tz>GMT+1100</i18n:tz>
    </i18n:international>
  </SOAP-ENV:Header>
  <SOAP-ENV:Body>
    <typ:get-server-info-response>
      <typ:determinations-server-version>10.2.0.85</typ:determinations-server-version>
      <typ:determinations-engine-version>10.2.0.85</typ:determinations-engine-version>
      <typ:interview-engine-version>10.2.0.85</typ:interview-engine-version>
      <typ:determinations-engine-timezone>Eastern Standard Time (New South Wales)</typ:determinations-engine-timezone>
    </typ:get-server-info-response>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Broader Language Support

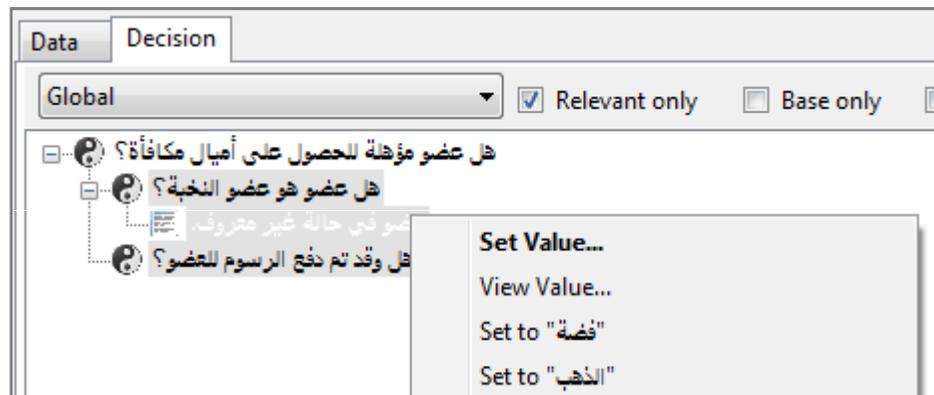
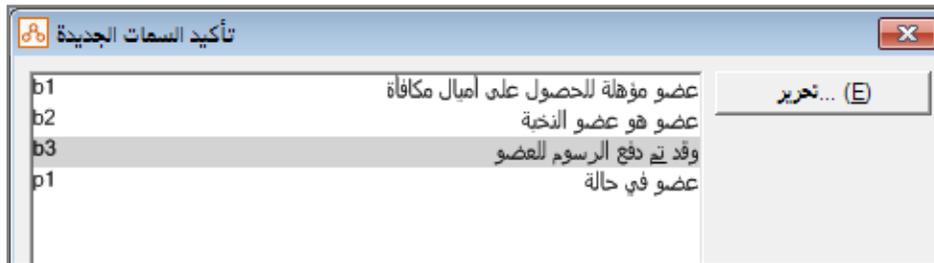
Develop interactive guidance quickly in more languages

- Syntactic language parsers are now available for 6 new languages:
 - Arabic, Chinese (Traditional), Finnish, German, Hebrew and Turkish
- Passive verb support has been added for both Chinese parsers
 - 该车被人开 (the car was driven)
 - 被 = the passive particle
- Now included with OPM:
 - 14 syntactic parsers
 - 9 non-syntactic (RLS) parsers

Arabic
Chinese (Simplified)
Chinese (Traditional)
Czech (RLS)
Danish
Dutch
English (American)
English (British)
Finnish
French
German
Hebrew
Italian (RLS)
Japanese (RLS)
Korean (RLS)
Polish (RLS)
Portuguese (Brazilian) (RLS)
Portuguese (European) (RLS)
Russian (RLS)
Spanish
Swedish
Thai (RLS)
Turkish

Broader Language Support

Improved authoring experience for non-English languages



- More complete translations in Word and Excel for RLS languages
- Right-to-left strings now display correctly throughout Policy Modeling
- Office 2007 experience translated into all languages

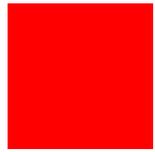


Broader Language Support

Mix automatic and authored screens in any language

- The OPA interview engine can define an *automatic screen*
- This happens when no specific screen has a required piece of information
- Automatic screens are often avoided in final deployed interviews, but can be very useful:
 - When demonstrating an interview to build a business case
 - If there a large number of infrequently needed data elements
 - For a rapid release internal-only decision assistance tool
 - When making a quick update to an interview to deal with a temporary rule change
- All text on automatic screens is **now shown in the current interview language**



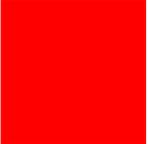


Agenda

Policy Modeling Productivity
Enhanced Global Readiness

➔ *Richly Embeddable Interviews*

Flexible and High Performance
Integration



Richly Embeddable Interviews - Overview

1. More Intuitive Interviews for End Users

- Data validation messages that are easier to understand
- Use preferred terms and names when collecting data

2. Faster Integration with Existing Case Data

- Investigate family member benefits independently
- Easily collect more family members if at first none is provided
- Use known information to control data collection behavior
- Improved automatic collection of related information

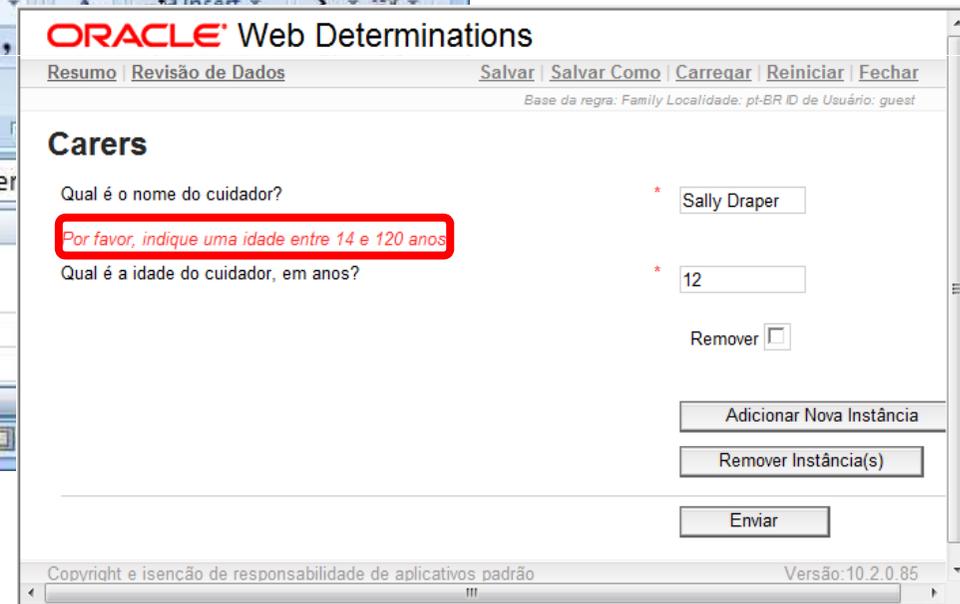
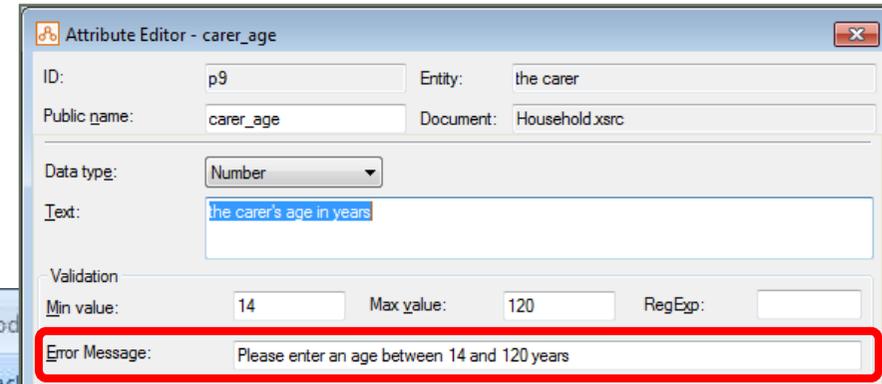
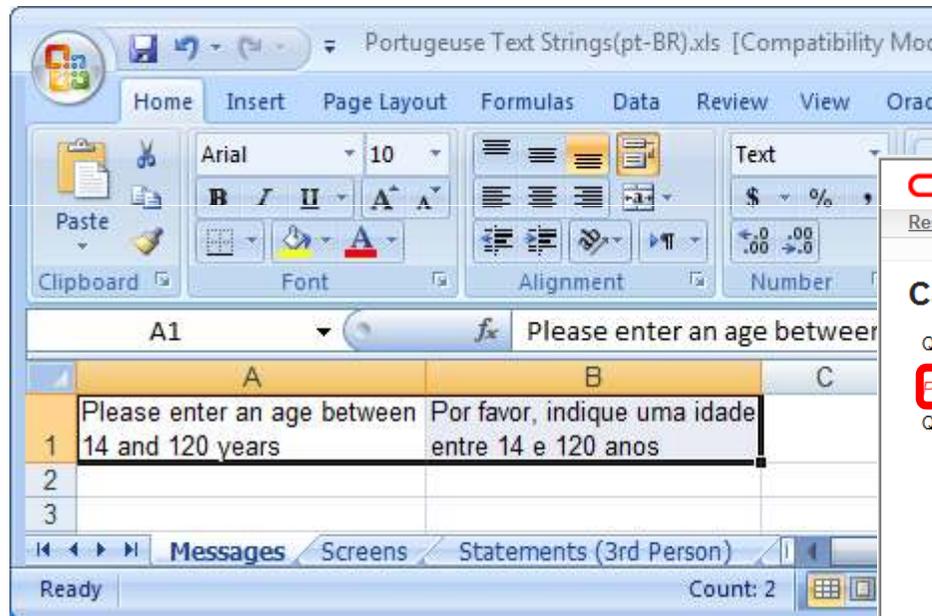
3. Interview Integration Enhancements

- Connect client applications with interviews via web services
- Advanced control for embedding Web Determinations

More Intuitive Interviews for End Users

Data validation messages that are easier to understand

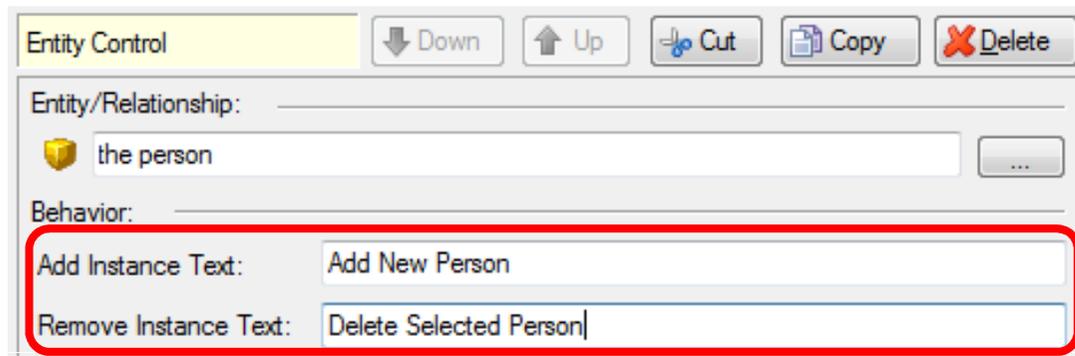
- Input validation messages can now be configured by screen authors
- These message are also automatically included in translation files



More Intuitive Interviews for End Users

Use preferred terms and names when collecting data

- The button text for entity collection screens is now set by screen authors
- These strings are automatically included in translation files



- Text substitution in screen labels now works up the containment chain
 - Support's the parent entity, the parent's parent entity etc.
 - For example, this allows
 - Is this child currently living with %the_carer???*
 - to be displayed as
 - Is this child currently living with Betty Draper?*
 - Or, using 2nd person substitution, as
 - Is this child currently living with you?*

Faster Integration with Existing Case Data

Investigate family member benefits independently

- If case data contains several family members, each may now be investigated independently
- Similarly, if family member details are collected during an interview, the detailed eligibility of each family member may now be shown at the end of the interview
- This is possible as attributes of entities can now be used as goals for interviews

The screenshot displays the ORACLE Data Review interface. At the top, there is a navigation pane with a tree view showing 'Carers' and 'Children' folders. A 'Back' button is visible. The main content area is divided into two panels. The left panel, titled 'Assessment Summary', contains a list of items under the 'Carers' heading, with two entries: 'The child might be eligible. [Why?]' and 'The child might be eligible. [Why?]', both highlighted with red boxes. The right panel, titled 'ORACLE Web Determinations', also shows an 'Assessment Summary' with two entries: 'Sally is an eligible child. [Why?]' and 'Bobby might be an eligible child. [Why?]', both highlighted with red boxes. Above the right panel, a 'Relationship:' dropdown menu is set to 'the primary carer's children' and is also highlighted with a red box. The interface includes standard application controls like 'Down', 'Up', 'Cut', 'Copy', and 'Delete' buttons. The footer shows 'Standard application copyright and disclaimer' and 'Version:10.2.0.85'.

Faster Integration with Existing Case Data

Easily collect more family members if at first none are provided

- Sometimes, no family members are known. This can be because:
 - The case data currently has no family members
 - The user enters no family members on their first time through an interview
 - It is now easy to revisit these known empty relationships to add more data:
 - A link is show on the data review screen for each known empty relationship
- Note:** This link will not appear if the relationship is currently unknown (i.e. not collected)

ORACLE Web Determinations

[Resumo](#) [Salvar](#) [Salvar Como](#) [Carregar](#) [Reiniciar](#) [Fechar](#)

Base da regra: Family Localidade: pt-BR ID de Usuário: guest

Data Review

- ☐ [Carers](#)
Qual é o nome do cuidador? asdf
Qual é a idade do cuidador, em anos? 31
- ☐ [Children](#)
Nenhum.

“None” →

Copyright e isenção de responsabilidade de aplicativos padrão Versão: 10.2.0.85

Faster Integration with Existing Case Data

Use known information to control data collection behavior

- Attributes from the entity being collected can now control:
 - Visibility
 - Default
 - Mandatory
 - Read-only
- This allows pre-seeded data to easily control these behaviors, per entity instance
- When integrated with Siebel cases, or with other data, this allows interviews to more easily populate only missing data, show existing data as read-only, etc.

Children - Question Screen

Screen Title: Children Public Name:

Screen Entity: the carer Determine Automatically

Screen Attribute: <no screen attribute>

Collect Entity Instances on this screen

the child

- the_child: What
- b2@Eligibility_dc
- p8@Household_

Attribute Input Control

Attribute: the child's SSN

Appearance:

Question Text Free Form Text

What is the child's SSN?

Is HTML CSS Class: CSS Style:

Input Type: Default

Dynamic Default Value:

Attribute:

Value:

No. of Lines: 1

Default Value:

Visibility:

Attribute: the child's SSN has been provided previously

Default State: Visible (if attribute is unknown or uncertain)

Common

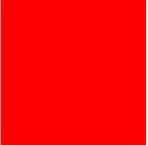
Faster Integration with Existing Case Data

Improved automatic collection of related information

- All entities are now related through the hierarchical containment data model
- This ensures the interview engine can always work out how to collect all the data needed to reach a decision
- It also ensures that inferred relationships are always set once the entities on each end have been collected
- Overall this makes it easier to write interviews that automatically collect missing family members or other entity instances, and avoids goal exhaustion

Children

What is the child's name?	<input type="text" value="Sally"/>	<input type="text" value="Bobby"/>
Does the child live with Betty Draper?	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Uncertain	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Uncertain
What is the child's SSN?	<input type="text"/>	<input type="text"/>
	Remove <input type="checkbox"/>	Remove <input type="checkbox"/>
		<input type="button" value="Add"/> <input type="button" value="Remove"/>

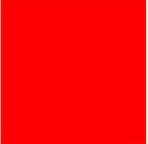


Interview Integration Enhancements

Connect client applications with interviews via web services

- In 10.0, Determinations Server interview capabilities were limited:
 - GetScreen, ListScreens and screen-if-unknown assess requests
- In 10.2, the new Interview Web Service matches the Interview API
- This is beneficial for:
 - Customers migrating from 9.x, and wanting to take advantage of new features
 - Sharing interview definitions across multiple custom client applications
 - Centrally managing a highly scalable custom interview application

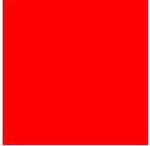
Open Session	Get Screen	Load Case
Close Session	Get Decision Report	List Cases
Investigate	Get Document	Set Screen
List Goals	Get User Set Data	
List Screens	Save Case	



Interview Integration Enhancements

Advanced control for embedding Web Determinations

- Web Determinations may be embedded in a portlet or other web application
- In those instances, it may be beneficial to, for example:
 - Access the URL, to retrieve a custom identifier that will be used to load session data
 - Write to the response header, to control session values interpreted by the browser
- By default, Web Determinations discards all unrecognized URL parameters, and completely controls the response header
- However, in 10.2, two new events can be captured, allowing a Web Determinations plug-in to read and write the relevant web server contexts:
 - OnRequestEvent
 - `Http[Servlet]Request`, `SessionContext`
 - OnWriteResponseEvent
 - `Http[Servlet]Response`, `Response`, `WebDeterminationsServletContext`



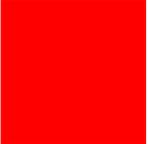
Agenda

Policy Modeling Productivity

Enhanced Global Readiness

Richly Embeddable Interviews

➔ *Flexible and High Performance
Integration*



Flexible and High-Performance Integration - Overview

1. Fully Tailorable Determination Services

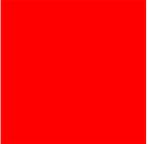
- Load data or modify Determinations Server results
- Integrate with legacy systems or meet other requirements

2. Performance and Compatibility Enhancements

- Incrementally update client applications when upgrade to 10.2
- Simplified integration and debugging with hierarchical data model
- Further enhanced scalability and throughput

3. New Certified Platforms

- Runtime certified on Oracle VM, Sun Web Server 7.0, IBM LPAR, .NET 4.0
- OPM certified for Windows 7 x64, Office 2010, MS VSTFS 2010



Fully Tailorable Determination Services

Load data or modify Determinations Server results

Altering the behavior of Determinations Server can be useful. E.g.:

- If common reference data is needed on every call
- Load data on demand only for more complex cases
- Define entity instances in the response based on determined results
- Combine external data into the response

In 10.2, four new Assess Events are provided:

OnMapDataEventHandler	OnAfterThinkEventHandler
OnBeforeThinkEventHandler	OnReturnResultEventHandler

Used appropriately handling these events can:

- Reduce data passed through the web service
- Increase performance
- Simplify the solution design



Fully Tailorable Determination Services

Integrate with legacy systems or meet other requirements

For some scenarios, a completely custom service may be needed. E.g.:

- Add new service methods
- Change how data or decision reports are organized
- Utilize a custom message format

The **Custom Service Plug-In** architecture is designed to meet these needs:

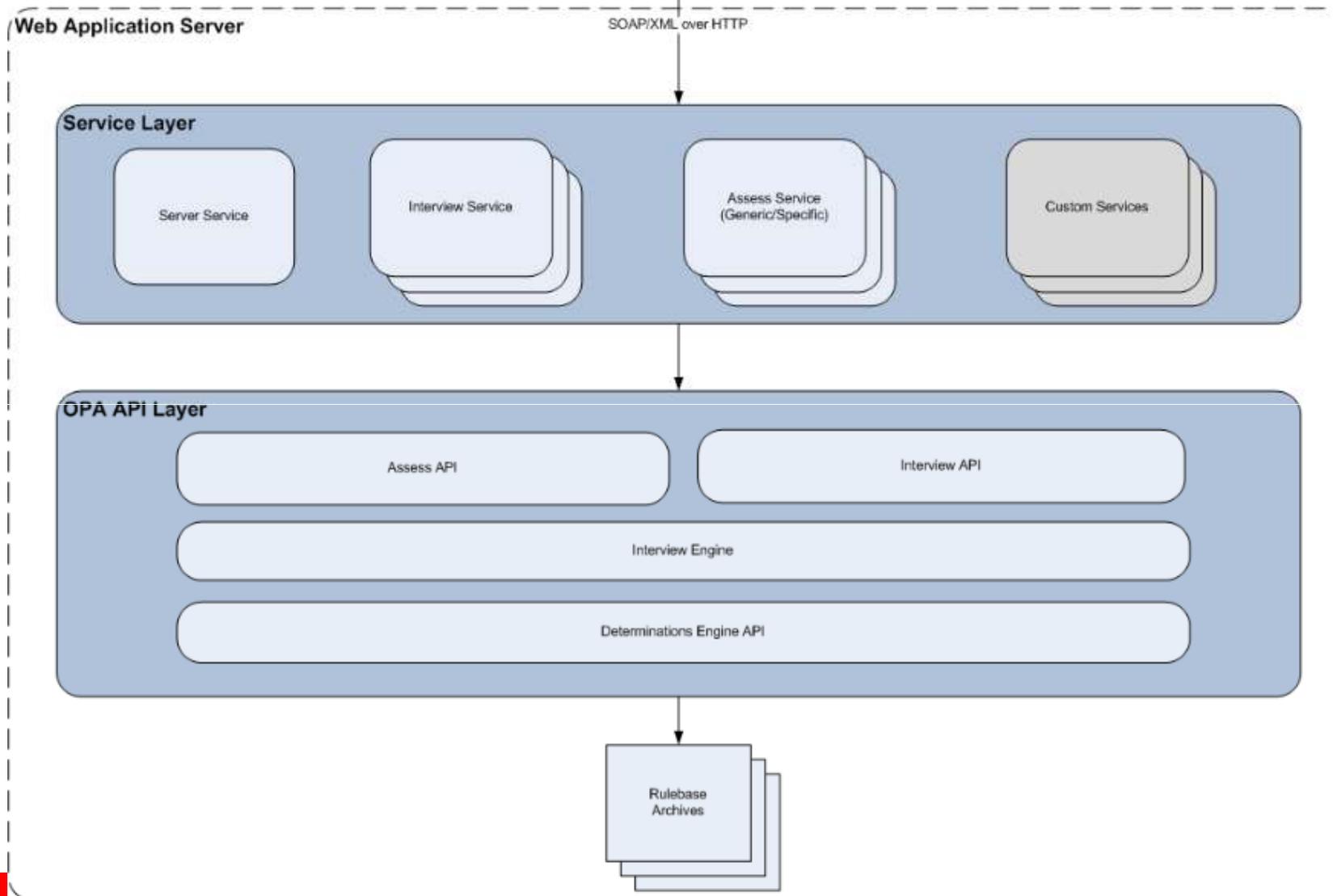
- Custom service plug-ins are developed in Java or .NET.
- Developed using the new Determinations Server Assess API
- Then registered in Determinations Server
- More than one can be registered at a time

This approach can be particularly useful, for example when:

- Integrating with a legacy system that requires a certain format
- Serving multiple custom applications from a single Determinations Server
- Providing decision reports in a specific pre-processed form

Fully Tailorable Determination Services

Integrate with legacy systems or meet other requirements



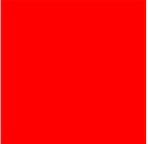
For more information: OPA Runtime API zip file <help/api/determinations-server-java-doc.zip>

Performance and Compatibility Enhancements

Simplified integration and debugging with hierarchical data model

- Data passed to and returned from Determinations Server now follows the hierarchical *containment* data model of 10.2 rulebase projects
- This reduces the amount of reference information needed to be constructed and passed in, simplifying the construction and debugging of requests

```
7      <typ:global-instance>
8          <typ:eligible_low_income_allowance outcome-style="value-only"/>
9          <typ:eligible_teenage_allowance outcome-style="value-only"/>
10         <typ:claimant_income>
11             <typ:number-val>13000</typ:number-val>
12         </typ:claimant_income>
13         <typ:claimant_public_housing_client>
14             <typ:boolean-val>true</typ:boolean-val>
15         </typ:claimant_public_housing_client>
16         <typ:list-child>
17             <typ:child id="child1">
18                 <typ:child_age>
19                     <typ:number-val>16</typ:number-val>
20                 </typ:child_age>
21             </typ:child>
22             <typ:child id="child2">
23                 <typ:child_age>
24                     <typ:number-val>8</typ:number-val>
25                 </typ:child_age>
26             </typ:child>
27         </typ:list-child>
28     </typ:global-instance>
```



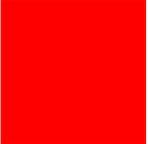
Performance and Compatibility Enhancements

Incrementally update client applications when upgrade to 10.2

- A new backward compatibility layer in Determinations Server allows applications designed for 10.0 to continue to work with 10.2
- The new 10.2 and previous 10.0 service definitions are both supported, with some limitations:
 - The rulebase must be compiled and deployed using OPM 10.2
 - GetScreen, ListScreens, and screen-if-unknown are not supported
- By default the new 10.2 service definitions are used. To interact with a 10.0 service definition, use its URL, as provided by the ListRulebases method:

```
<typ:service name="odsAssessServiceSpecific10">  
  http://localhost:8080/det-server-102/assess/soap/specific/10.0/SuperSimple?wsdl  
</typ:service>  
<typ:service name="odsAssessServiceGeneric10">  
  http://localhost:8080/det-server-102/assess/soap/generic/10.0/SuperSimple?wsdl  
</typ:service>
```

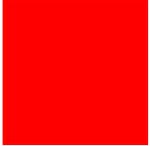
- This approach allows existing applications to be upgraded as time permits to the new 10.2 service, while new applications can use it immediately



Performance and Compatibility Enhancements

Further enhanced scalability and throughput

- The handling of relationships between entities has been optimized
 - This is most noticeable with hundreds or thousands of related instances
- Compared to 10.0, Determinations Server 10.2 also:
 - Is significantly faster at processing requests and responses
 - Uses less memory to do so
- Initial performance tests indicate that throughput increase of approximately 20% can be expected
 - More complete benchmark results will be made available when ready



Performance and Compatibility Enhancements

Next-generation desktop-ready, and more platform support

- Support for the latest Microsoft software releases
 - Office 2010
 - Windows 7 (x64)
 - Microsoft Team Foundation Server 2010 (for optional version control)
- This ensures that as latest corporate desktop standards are rolled out, Oracle Policy Modeling can be used by all users
- Oracle Policy Automation runtime is also supported on many new platforms, ensuring broad compatibility with Enterprise architectures
 - New Virtualization: Oracle VM, IBM LPAR
 - New Web Servers: Sun Web Server 7.0
 - New Runtime Environments: .NET 4.0