### **Oracle Financial Services Customer Screening**

Oracle Financial Services Customer Screening Administration and Configuration Guide

Version 8.0.5.0.0

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## **Chapter 1: Introduction**

This document details the steps required to configure Oracle Financial Services Customer Screening based on your requirements after the application has been installed.

For information on the installation process, refer to the <u>Oracle Financial Services Sanctions</u>
Pack Installation and Configuration Guide.

These instructions assume the reader has a good understanding of Enterprise Case Management (ECM), Financial Services Data Model (FSDM), Oracle Enterprise Data Quality (OEDQ) and knowledge of Sanctions, PEP and EDD screening requirements.

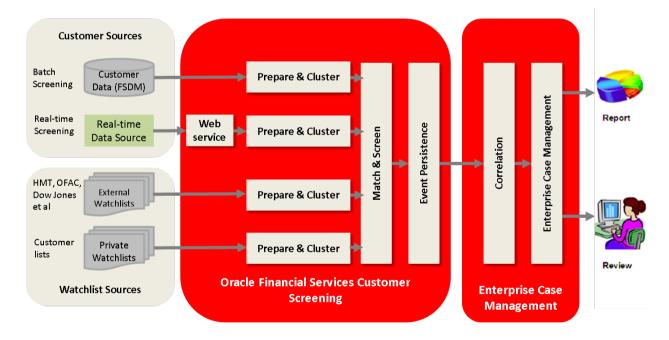
Oracle Financial Services Customer Screening consists of:

- Customer Data in FSDM
- OEDQ functionality for managing watch list data and screening working data
- Enterprise Case Management for Batch Scheduling, Case Types and Workflows.

The standard Customer Screening implementation is customized for specific data, screening, watchlist and operational requirements.

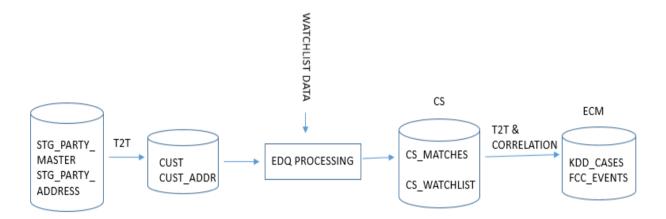
### 1.1 Architecture Overview

The diagram below gives a high level overview of the Oracle Financial Services Customer Screening architecture:



### 1.2 Data Flow

The diagram below describes the data flow from Customer Screening Enterprise Case Management (ECM):



The steps are explained below:

- 1. Data is moved from the stg\_party\_master, stg\_party\_address, stg\_casa, stg\_loan\_contracts, stg\_party\_account\_role\_map, stg\_party\_role\_map, stg\_td\_contracts, stg\_trading\_account, and stg\_party\_other\_names tables to the cust table, cust\_addr table, acct table and other associated customer tables using T2T.
- 2. The watchlist data is downloaded from the watchlist management project in EDQ. This watchlist data is matched with the data in the *cust* and *cust addr* tables in the Customer Screening project.
- 3. The matches are then loaded into the *cs\_matches* table and the corresponding watchlist data is loaded into the *cs\_watchlist* table.
- 4. Data from the *cs\_matches\_hist* table is generated as alerts in the *cs\_alerts* and *cs\_alerts\_matches* tables.

**Note**: The *cs\_matches\_hist* table contains all matches. Each time screening is run, the *cs\_matches* table is compared to the *cs\_matches\_hist* table and any new or changed matches are added to the *cs\_matches\_hist* table and used to create new alerts. Every time you run the customer screening project, data is truncated in the *cs\_matches* table.

5. Data is correlated and loaded into the kdd cases and fcc events tables in ECM.

# **Chapter 2: General Configuration**

The sections in this chapter describe the following general configuration areas for Oracle Financial Services Customer Screening:

- Configuring Watch List Management and Customer Screening;
- Configuring Case Management;
- Scheduling the Screening Job;
- Filtering Watch List Data;
- Risk Scoring;
- Country Prohibition Screening; and
- Validating the Installation.

### 2.1 Configuring Watch List Management and Customer Screening

The Oracle Financial Services Customer Screening distribution contains two Run Profiles for configuring watch list management and customer screening: watchlist-management.properties and customer-screening.properties.

Run Profiles are optional templates that specify a number of 'override' configuration settings for externalized options when a Job is run. They offer a convenient way of saving and reusing a number of configuration overrides, rather than specifying each override as a separate argument.

Run Profiles are used when running jobs using the 'runopsjob' command from the Batch Scheduler.

For further information about Run Profiles and using the Command Line Interface, see the OEDQ online help.

The watchlist-management.properties Run Profile controls:

- which watch lists are downloaded, and the configuration of the download process;
- whether filtering is applied to the watch lists; and
- whether Data Quality Analysis is applied to the watch lists.

Additionally, the **customer-screening.properties** Run Profile controls:

- Real-Time and Batch Screening set up;
- Screening reference ID prefixes and suffixes;
- Watch list routing; and
- configuration of match rules.

**Note**: The properties controlling match rules are not included in the **customer-screening.properties** Run Profile by default. See <u>Configuring Match Rules</u> for further information.

### 2.1.1 Preparing Watch List Data

Oracle Financial Services Customer Screening is pre-configured to handle reference data from the following sources:

- HM Treasury
- OFAC
- EU consolidated list
- UN consolidated list
- World-Check
- Dow Jones Watchlist
- Dow Jones Anti-Corruption List
- Accuity

Additionally, you can optionally supply reference data from your own private watch list using the Private List Interface (PLI).

Values in the **watchlist-management.properties** Run Profile control which lists are used and how they are downloaded, staged, and filtered (or not).

#### Note:

- Watch lists can be downloaded automatically (by setting the appropriate values in the Run Profile) or manually (by navigating to the list provider's web site, downloading the list and saving it to the matching sub-folder in the Landing Area).
- The staging value **must** be set to **Y** the first time a watch list is downloaded. Thereafter, leave it set to Y to refresh the staged data every time a download is performed, or **N** to preserve the pre-existing staged data.
- All downloaded watch lists must be set to filtered or unfiltered.
- The Accuity, Dow Jones, Dow Jones Anti-Corruption and World-Check lists are all provided as paid services. To use one of these watch lists it is necessary to apply to the individual list providers for an account. Please refer to the relevant provider websites for further information.
- The option to download private watch lists is not supplied, as it is assumed that this data will be available in house.

For specific configuration information on each of these watch lists, see Appendix B: Watch List Information.

### **Example - Preparing the Accuity list**

This example describes how to edit the **watchlist-management.properties** Run Profile to allow the download and configuration of the Accuity list. The steps in the example can be applied, with little modification, to other data lists.

### **Download and Staging**

To automatically download the Accuity list, set the following values to Y:

```
phase.ACY\ -\ Download.enabled
phase.ACY\ -\ Stage\ reference\ lists.enabled
```

**Note**: To manually download the Accuity list, leave these values set to N. Navigate to the URL provided in the Accuity Reference Data section, download the list and save it to the config/landingarea/Accuity subfolder.

### **Filtering**

To prepare the Accuity list with filtering, set the following value to Y:

```
phase.ACY\ -\ Prepare\ without\ filtering.enabled
```

To prepare the Accuity list without filtering, set the following values to Y:

```
phase.ACY\ -\ Prepare\ with\ filtering\ (Part\ 1).enabled
phase.ACY\ -\ Prepare\ with\ filtering\ (Part\ 2).enabled
```

For details of how to configure watchlist filtering, See "Filtering Watch List Data".

### **Data Quality Analysis**

To enable Data Quality analysis for the Accuity list, set the following values to Y:

```
phase.DQ\ -\ Stage\ ACY\ reference\ lists.enabled
phase.DQ\ -\ ACY\ reference\ data\ quality\ analysis.enabled
stageddata.DQ\ ACY\ -\ Invalid\ Standard\ Country\ in\ Accuity\
Nationality\ to\ Standard\ Country.visible
stageddata.DQ\ ACY\ -\ Missing\ Source\ in\ Accuity\ Source\ Risk\
Scores\ Reference\ Data.visible
stageddata.DQ\ ACY\ -\ Obsolete\ Source\ in\ Accuity\ Source\ Risk\
Scores\ Reference\ Data.visible
```

#### Enable phases for download and staging

To enable automated download of the Accuity list, the OEDQ server must be connected to the internet.

Enter the username and password combination for the Accuity login in the values ending:

```
ftp://username:password@ftp.financialgo.net/PIDGWL.ZIP
```

If the OEDQ server is connected to the internet via a proxy, set the following properties:

- proxy\_host
- proxy port
- proxy username
- proxy password

#### 2.1.2 Private Watch List Set Up

Oracle Financial Services Customer Screening is pre-configured to work with a number of commercially-available and government-provided watch lists. However, you can also screen against your own private watch lists. On installation, screening is configured to run against a sample private watch list with minimal additional configuration, allowing the installation to be

validated quickly. The sample private watch list is provided in two files - **privateindividuals.csv** and **privateentities.csv**- in the **config/landingarea/Private** folder.

### The OEDQ Config Folder:

Your OEDQ instance's **config** folder might not be named 'config'. The choice of the config folder's name is made when OEDQ is installed - in some cases a name is automatically allocated. OEDQ release 11g and later has both a 'base' and a 'local' config folder. The base config folder is often called '**oedqhome**', and the local config folder is often called '**oedqlocalhome**'. In some cases, dots or underscores may be inserted into these names (for example: 'oedq\_local\_home'). Whenever you see a file path in this document that begins with **config**, this always refers to your OEDQ instance's local config folder.

The first step in screening against your own private watch list is to replace the data in the supplied files with your own data. To do this:

- 1. Transform your private watch list data into the format specified by the Private List Interface (see the Data Interfaces Guide for further information).
- 2. Replace the data in the **private individuals.csv** and **private entities.csv** files with your transformed private watch list data.

Note: The files must be saved in UTF-8 format.

**Note**: To screen against multiple private watch lists, consolidate them into the two files: **privateindividuals.csv** and **privateentities.csv**. These two files can also be used to hold data from external watch lists that Oracle Financial Services Customer Screening is not pre-configured to work with.

The second and final step is to enable the staging and preparation of the private watch list in the watchlist-management.properties Run Profile. To stage your private watch list set the following value to Y:

```
phase.PRIV\ -\ Stage\ reference\ lists.enabled
```

Once you have done this, set the following value to **Y** to prepare the private watch list without filtering:

```
phase.PRIV\ -\ Prepare\ without\ filtering.enabled
```

**Or** set both of the following values to **Y** to prepare the private watch list with filtering:

```
phase.PRIV\ -\ Prepare\ with\ filtering\ (Part\ 1).enabled
phase.PRIV\ -\ Prepare\ with\ filtering\ (Part\ 2).enabled
```

#### 2.1.3 Showing Watch List Staged Data/Snapshots in the Server Console UI

Certain types of staged data and snapshots are hidden in the Server Console UI by default. These are:

- Watch list snapshots
- Intermediate filtered watch list staged data
- Centralized Reference Data staged data/snapshots

To display this data, set the corresponding visibility property value(s) in the relevant Run  $\mathbf{Y}$ .

For example, to make all Accuity watch list snapshots generated during Watchlist Management visible, set the following properties in the watchlist-management.properties Run Profile:

- stageddata.ACY\ Sources.visible = Y
- stageddata.ACY All.visible = Y
- stageddata.ACY\_Sources.visible = Y

### 2.1.4 Configuring Match Rules

Match rules - and also match clusters - can be configured and controlled by adding a property to the customer-screening.properties Run Profile.

For example, to disable the **Exact name only** rule for Batch and Real-Time Sanctions screening, add the following property to the Run Profile:

```
phase.*.process.*.[I0100]\ Exact\ name\ only.san_rule_enabled = false
```

**Note**: Capitalization must be respected and characters must be escaped as required.

The \* character denotes a wildcard, and therefore specifies that the above rule applies to all phases and all processes. If disabling the rule for Batch screening only, the property would read:

```
phase.Batch\ screening.process.*.[I0100]\ Exact\ name\
only.san_rule_enabled = false
```

**Note**: For further details on tuning Match rules, please refer to the Oracle Financial Services Customer Screening Matching Guide.

#### 2.1.5 Real-Time and Batch Screening Set Up

By default, Real-Time and Batch screening is enabled for SAN, PEP and EDD records.

This is controlled by the Real-Time and Batch screening properties in the <code>customer-screening.properties</code> Run Profile. Using these properties, it is possible to enable or disable Real-Time or Batch screening for all records or by record type.

For example, to only run Real-Time screening for PEP and EDD individual and entity records, change the value of the following properties as indicated:

- phase.Start\ Batch\ Screening.enabled = N
- phase.Real-time\ Screening.process.Individual\ Real-time\ Screening.san\_enabled = N
- phase.Real-time\ Screening.process.Entity\ Real-time\ Screening.san\_enabled = N

Ensure all other Real-Time screening properties are set to Y.

### 2.1.6 Outputting Relationships Data to Files

Screening identifies possible relationships (or possible matches if you like) between individuals and entities in your customer data and the individuals and entities on watch lists. These relationships form the basis of the events and cases that you can review in Enterprise Case Management. When you run screening in batch, as well as outputting these relationships to the Customer Screening data layer, you can also output them to .csv files. This can be

useful if, for example, you want to use Oracle Financial Services Customer Screening to identify the relationships, but you want to review them using another system.

To enable the output of relationships data to files, set the following values to **Y** in the Batch Screening Setup section of the customer-screening.properties Run Profile:

```
phase.*.process.*.output_relationships
phase.Export\ Batch\ Relationships.enabled
```

When you run screening with these run profile parameters enabled, two files are created:

- relns-ent-batch.csv (which holds relationship data for entities).
- relns-ind-batch.csv (which holds relationship data for individuals).

The two files are placed in the **config/landingarea/sentryrelns** folder.

### 2.2 Filtering Watch List Data

### 2.2.1 Enabling Watch List Filtering

Watch list data is filtered either during List Management, Screening, or both.

To enable filtering for a specific watch list, set the **Prepare Filtering** phase(s) in the appropriate Run Profile to **Y**, and the **Prepare Without Filtering** phase(s) to **N**.

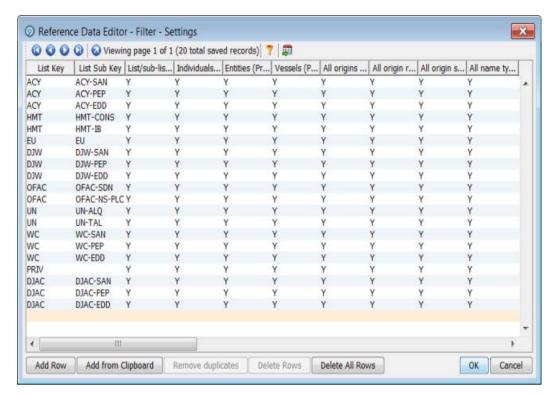
### 2.2.2 Configuring Watch List Filtering

Watchlist filtering is controlled by configuring reference data in the Watchlist projects.

#### Note:

- The reference data sets in Watchlist Management and Watchlist Screening projects are identical. This is to support installations requiring filtering at different stages. For example, a company may wish to perform initial filtering as watch list data is prepared, and then run several screening projects on specific parts of that data (by country, origin, etc.)
- Once data is filtered out, it is not possible to filter it back in. E.g. if all entities are filtered out in Watchlist Management, even if the Watchlist Screening project is configured to include entities, they will not show up in results data.

The top level of filtering is controlled by editing the Filter - Settings reference data:



All the reference data filters are set to **Y** by default, except **Linked Profiles** which is set to **N**. Unless these settings are changed, no actual filtering is performed on watch list data.

In the **Filter - Settings** reference data, a value of **Y** indicates that all records should be included - in other words, no filter should be applied.

Broadly speaking, watch list filtering falls into four categories:

- By list and list sub key.
- By list record origin characteristics.
- By list profile record characteristics.
- By linked profiles.

### Primary and Secondary Filtering, and Linked Records

- Primary filtering These filters are used to return all profiles that match the criteria specified.
- Linked Profiles If this value is set to Y, then all profiles linked to those captured by Primary filters are also captured; an example of use is a filter configured to capture all Sanctions and their related PEPs.
- Secondary filtering These filters are applied to further filter any linked profiles that are returned.

**Note**: Only the World-Check and DJW watch lists can provide Linked Profiles.

### **Setting Multiple Values for Primary and Secondary Filters**

The following filter options require further configuration in additional reference data:

- Origins
- Origin Regions
- Origin Statuses
- Primary and Secondary Name Qualities
- Primary and Secondary Name Types
- Primary and Secondary PEP Classifications

To filter using one or more of these options, set the relevant value in the **Filter - Settings** reference data to **N**, and then make further changes to the corresponding reference data.

The effect of setting a value in the **Filter - Settings** reference data to **N** is that only records that match values set in the corresponding reference data will be included. For example, if you set the value of **All name qualities (Primary)?** to **N** in **Filter - Settings**, then, in the **Filter - Primary Name Qualities** reference data you could determine which name qualities should be included for each watch list. For instance, if you include a row for High quality names in the EU watch list, but you do not include rows for medium and low quality names for this watch list, then only records with high quality names will be included for this watch list.

Some of these reference data sets will be prepopulated with rows, to be edited or removed as required. These rows contain data (generally, but not always) supplied by each watch list provider, and are all contained within the Watchlist Management project.

E.g. to view all possible keywords for World-Check data, open the **WC Keyword** reference data in the Watchlist Management project. See the following example for further details.

### 2.2.3 Example - Filtering World Check Data

This example describes configuring filtering on the World-Check Sanctions list in the Watchlist Management project, and setting further filters in the Watchlist Screening project. Specifically:

- enabling filtering in the Run Profiles;
- configuring the Primary filters in the Watchlist Management project to return only active records for sanctioned individuals (not entities) originating from the EU list;
- enabling the filtering of Linked Profiles in the Watchlist Management project;
   and
- configuring the Secondary filters in the Watchlist Screening project to further filter out all Linked Profiles of deceased individuals.

#### **Setting filtering options in the Run Profiles**

In the **watchlist-management.properties** Run Profile, set the World-Check filtering phases as follows:

- phase.WC\ -\ Prepare\ without\ filtering.enabled = N
- phase.WC\ -\ Prepare\ with\ filtering\ (Part\ 1).enabled = Y
- phase.WC\ -\ Prepare\ with\ filtering\ (Part\ 2).enabled = Y

In the **customer-screening.properties** Run Profile, set the World-Check filtering phases as follows:

- phase.WC\ -\ Load\ without\ filtering.enabled = N
- phase.WC\ -\ Load\ with\ filtering\ (Part\ 1).enabled = Y
- phase.WC\ -\ Load\ with\ filtering\ (Part\ 2).enabled = Y

### Setting Primary Filters and Linked Profiles in the Watchlist Management project

- 1. In Director, open the Watchlist Management project and expand the Reference Data node.
- 2. Locate the **Filter Settings** reference data, and double-click to open it.
- 3. Ensure the List/sub-list (Primary?) value in the WC-SAN row is set to Y.
- 4. Set the Entities (Primary)? value in the WC-SAN row to N.
- 5. Set the Inactive (Primary)? value in the WC-SAN row to N.
- 6. Set the All Origins (Primary)? value in the WC-SAN row to N.
- 7. Ensure all other values in the WC-SAN row are set to Y.
- 8. Click **OK** to close the reference data and save changes.
- 9. Locate the **Filter Origins** reference data and double-click to open it.
- 10. Add a new row with the following values:
  - a. List Key WC
  - b. List Sub Key WC-SAN
  - c. Origin EU
- 11. Change the **Linked Profiles?** value in the **WC-SAN** row to **Y**.
- 12. Click **OK** to close the **Filter Settings** reference data and save changes.

### Setting Secondary Filters in the Watchlist Screening project

- 1. Open the Watchlist Screening project, and expand the reference data link.
- 2. Locate the Filter Settings reference data file, and double-click to open it.
- 3. Set the **Deceased (Secondary)?** value in the **WC-SAN** row to **N**.
- 4. Click **OK** to close the reference data and save changes.

### 2.2.4 Screening All Data Using Sanctions Rules

By default, watch list records are routed to the different screening processes depending on their record type (i.e. SAN, PEP or EDD). This allows different rules, and hence different levels of rigor, to be applied to the list data according to risk appetite.

However, if you want to use the same screening logic for all list records, and do not want the overhead of maintaining separate rulesets, the system can be configured to reroute all list records to the SAN screening processes. To do this, set the **phase.\*.process.\*.Screen\ all\ as\ SAN?** value in the **customer-screening.properties** Run Profile to **Y**.

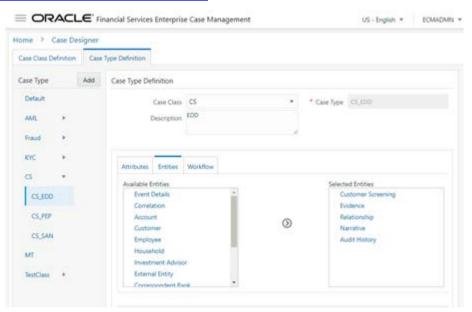
### 2.3 Configuring Case Management

Oracle Financial Services Customer Screening uses the Enterprise Case Management application to investigate and manage cases and alerts generated by the matching processes.

The following sections describe the default case types and workflows provided with Oracle Financial Services Enterprise Case Management, but all of these can be edited to suit your requirements. For full instructions on editing workflows and case sources, please refer to the Oracle Financial Services Enterprise Case Management Admin Guide.

#### 2.3.1 Case Class in ECM

For Oracle Financial Services Customer Screening Application, a new case class called 'CS' has been added in the Oracle Financial Services Enterprise Case Management Application. To add further new case classes, follow the steps in *Adding Case Class* in the <u>Oracle Financial Services Enterprise Case Management Admin Guide</u>.



### 2.3.2 Case Types under Case Class

Three case types are created for the CS case class. They are:

- CS EDD: Enhanced Due Diligence (EDD)
- CS PEP: Politically Exposed Person (PEP)
- CS SAN: Sanctions (SAN)

For each Case Type, default Entities (Tabs) have been mapped. If additional Entities (Tabs) are required, follow the steps in *Adding Optional Entities to the Case Type* in <u>Oracle Financial</u>
Services Enterprise Case Management Admin Guide.

### 2.3.3 Creating Workflow for Case Type

For each of the aforementioned Case Types, a workflow is also mapped. To create a workflow, see the section *Creating a Business Process* in <u>OFSAAI User Guide</u>.

Two workflows are provided by default, one for Sanctions Cases and the other which is used for both Politically Exposed Persons and Enhanced Due Diligence cases. For more information, see <u>Workflow Diagrams</u>.

### 2.3.4 Searching Customer Screening related Cases in Oracle Financial Services ECM

Once the Oracle Financial Services Customer Screening batch is run, events are correlated into cases based on watchlist record type, so there may be up to three open cases for a customer, one for Sanctions, one for Politically Exposed Persons and one for Enhanced Due diligence events. Correlation rules may be changed if required. The Related Cases Tab will have links to other cases for the given customer.

For Search and Advanced Search procedures, see the section *Searching Cases* in <u>Oracle</u> Financial Services Enterprise Case Management User Guide.

### 2.3.5 Taking Action on Customer Screening related Cases in Oracle Financial Services ECM

The Workflow Actions for Customer Screening Cases depend on the Case Type, User and Status. To take action on a case, follow the steps in *Using Take Action Window* in <u>Oracle Financial Services Enterprise Case Management User Guide</u>.

The following figure shows a sample of an EDD Workflow which has a 'Pending Review' status and logged-in user as Supervisor.



### 2.3.4 Match Persistence and Flag Keys

Customer Screening screens all customer records against all required watchlist records on a daily basis. This allows new events to be created due to changes in either the customer or the watchlist data. Where there is no change to the customer or the watchlist record and the match is identical to a previously generated relationship no new event is created.

Many attributes can change on a customer or watchlist record but not all should trigger a new event to be reviewed. A flag key is a set of fields in the data which are considered significant when evaluating a match to present a new event to Case Management.

**Note**: If a new alias name of a list record is added that matches the customer record this will be presented as a new event.

An example of a potential flag key field is date of birth; some potential matches may be eliminated on the grounds that the date of birth is too different between the customer and watch list records. Therefore, if the date of birth information on either list changes, it is likely that any potential matches which depend on it should be re-reviewed. An example of a field

which should not be included in the flag key is account balance. This contains a value which is likely to change rapidly but which does not have any impact on the match decisions.

Flag keys are set in individual match processes and then a hash value is generated which is used for comparison.

**Note**: The order of fields in the flag key is important; changing the order will treat the relationship as a new match.

### 2.4 Scheduling the Customer Screening Run Job

To execute a Customer Screening Run job, follow these steps:

- 1. Navigate to FCI\_DB\_HOME/bin.
- 2. Execute EDQInsert.sh by passing infodom. This step is used to register the EDQ server details. Enter the EDQ server IP, Port number, user name and password details.

For example, ./EDQInsert.sh SANCTIONSINFO

```
$ ./EDQInsert.sh SANCTIONINFO
Started finding Jars
Ended finding Jars
Classpath Created
Calling EDQ Main Method
Inside EDQ insert method
Enter EDQ Server IP:
10.184.154.34
Enter EDQ Server Director Port:
8090
Enter EDQ Server User Name:
weblogic
Enter EDQ Password:
Encrypting password
configurationPath::/scratch/ofsaadb/SANCTIONSFICHOME
FIC_HOME:/scratch/ofsaadb/SANCTIONSFICHOME
FIC_HOME:/scratch/ofsaadb/SANCTIONSFICHOME/
```

- 3. Copy the EDQ run profile to FIC\_DB\_HOME/conf folder. Name should be exactly same as customer-screening.properties.
- 4. Load the stage table data for customer related tables. It is mandatory for Customer and Customer Address.
- 5. Fire the **CS\_Data\_Load\_Alert\_Generation** run.

Once the job is run, all data in the CUST table is lost. If you want to avoid losing data, follow these steps:

- 1. Login as CSADMN.
- 2. Click Run Rule Framework in the LHS menu.
- 3. Click Run in the RHS menu.
- 4. Select the checkbox for CS Data Load Event Generation.
- 5. Click Edit.
- 6. In the Selector menu, click **Job**. The Job window appears.

- 7. Select the checkbox for Truncate Tables.
- 8. Click . The Parameters window appears.
- 9. Change the parameter value to "N".
- 10. Click **OK** to close the Parameters window.
- 11. Click **OK** to close the Job window.
- 12. Click NEXT.
- 13. Click SAVE.

### 2.5 Risk Scoring

Oracle Financial Services Customer Screening includes a mechanism for estimating the relative risk of doing business with a given entity or individual. A risk score is calculated for each individual or entity on each watch list, based on various attributes such as country of residence, operating country, associated regime and so on. For a full description of the risk scores and weightings supplied as defaults with Oracle Financial Services Customer Screening, please refer to <a href="Appendix D: Risk scoring reference data">Appendix D: Risk scoring reference data</a>.

The risk element score values and weightings supplied with Oracle Financial Services Customer Screening are general defaults only. They should be evaluated and tuned by a risk and compliance expert with knowledge of your business requirements and the relevant legislation.

### 2.5.1 Adjusting the Risk Scoring Mechanism

Oracle Financial Services Customer Screening calculates a risk score and a PEP risk score for every alert created by the screening processes. The risk score is a relative measure, out of a maximum of 100, of the risk posed by the identified individual or entity. The PEP risk score identifies the relative riskiness of the individual or entity when considered as a PEP, and as such does not apply to sanctions. This may be quite different to the non-PEP risk score. Therefore, the same algorithms are used to derive the risk score and PEP risk score, but the underlying scores and weightings on which the calculations are based are different.

**Note:** The remainder of this section will use the phrase 'risk scores' exclusively. However, the methods and algorithms described apply equally to PEP risk scores.

The overall risk score of a potential match is calculated as a weighted average of the risk scores calculated for the watch list and customer data records which are involved in the match. In turn, both the watch list risk score and customer data risk score are calculated as a weighted average of the risk scores of contributing risk elements. A risk element is a data field, such as country of operation or occupation, which can be assigned a risk score based on its value.

The risk scoring calculation can be customized by adjusting:

- the scores associated with the values of the risk elements; or
- the relative weightings of the risk elements; or
- the relative weight of the watch list risk score and the customer data risk score.

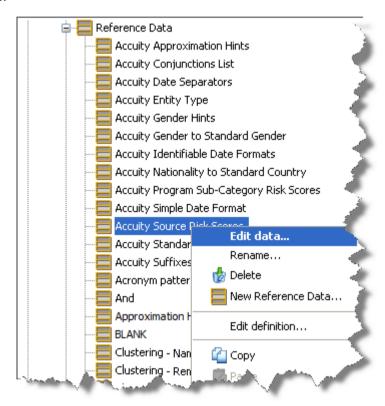
The reference data tables which must be adjusted to fine-tune the risk scoring mechanism depend on which watch lists you are using in your screening processes.

Alternatively, Oracle Financial Services Customer Screening may be integrated with a third party source of watchlist risk scores which can be used to completely replace the in-process risk score calculation.

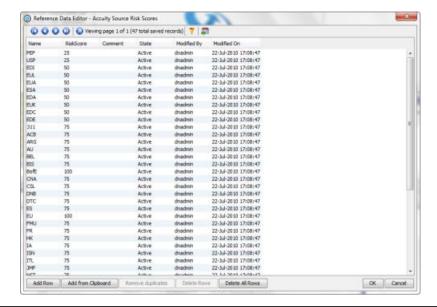
### **Adjusting the Risk Element Scores**

Risk element scores are adjusted by editing reference data directly. The elements that are considered when calculating a risk score for a record depend on the fields that are present in the watch list (or customer) record.

To edit the risk element values, open the Watchlist Management project, double click on the reference data item in the Project Browser, or right-click on the reference data item and select **Edit data...**:



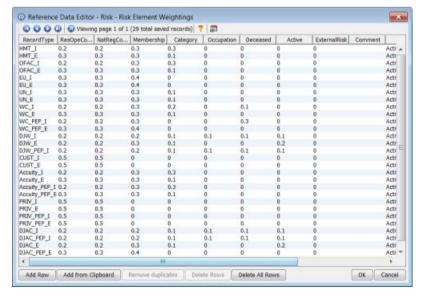
The risk score can then be edited directly in the **Reference Data Editor**:



**Note:** If you edit the risk scores you must re-run the Download, Prepare, Filter and Export All Lists job (in the Watchlist Management project), and then run the MAIN job (in the Watchlist Screening project). Until this is done, the new risk scores will not be reflected in the generated matches.

### **Adjusting the Risk Element Weightings**

Risk element weightings are controlled in a set of reference data named Risk Element Weightings. This reference data set specifies, for each type of record, which fields in that record contribute to the risk score calculation, and to what degree:



Record types are specified as a combination of the originating watch list and a suffix specifying whether the record represents and individual (\_I), or an entity (\_E). Working records have a record type of CUST\_I or CUST\_E, respectively.

The **ResOpeCountries** column specifies the weighting for the **Residential Country** field for individuals, or the **Operating Country** field for entities. The **NatRegCountries** column specifies

the weighting for the **Nationality Country** field for individuals, or the **Registrations Country** field for entities.

This reference data, which is in the Watchlist Management project, can be edited as described above. The higher the weighting number, the more the corresponding element will contribute to the final score. The weighting scores for each row type should add up to 1.

The overall risk score calculation for a record containing n elements is therefore as follows:

```
Risk Score = Elw1 + E2w2 + ... + Enwn
```

Where the risk element score for element x is represented by  $\mathbb{E}_x$ , the weighting for element x is represented by  $\mathbb{W}_x$ , and

```
(w1 + w2 + ... + wn = 1).
```

Note that if no data is present for a given element, it is not assumed to have a risk score of zero, but instead will not be included in the risk score calculation.

# **Chapter 3: Preparing Customer Data for Screening**

### 3.1 Real-Time Screening

Real-time screening can be deployed in conjunction with a back-office batch screening approach, allowing the business to screen individuals and entities at the point of data acquisition and on an ongoing basis.

For real-time screening, users enter data to be screened by in a system integrated with Customer Screening web services.

#### NOTE:

- Real-time screening can only be performed when the real-time screening job is running.
- If you need to cancel either of the real-time screening processes for any reason other than as part of a scheduled job, it is important that you select the Shutdown web services option in the Cancel dialog:



### 3.2 Batch Screening from Financial Services Data Model (FSDM)

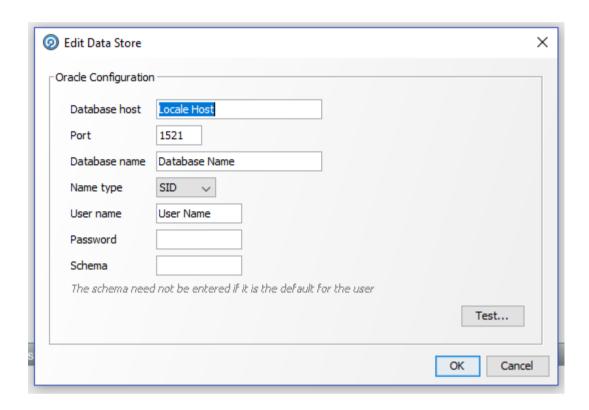
### **Staging Database Connection Details**

In order to be able to run the Customer Screening jobs using FSDM as source of customer data, you need to tell EDQ about the connection details of the staging database into which FSDM will place the Customer Information to be screened.

Database parameters have to be set in Data Stores.

To do this:

1. Open the director and select the 'Customer-Screening' project. In Data stores, open 'FSDM Batch Data'. Edit and enter the data base details.



### The OEDQ Config Folder:

Your OEDQ instance's config folder might not be named 'config'. The choice of the config folder's name is made when OEDQ is installed - in some cases a name is automatically allocated. OEDQ release 11g and later has both a 'base' and a 'local' config folder. The base config folder is often called 'oedqhome', and the local config folder is often called 'oedqlocalhome'. In some cases, dots or underscores may be inserted into these names (for example: 'oedq\_local\_home'). Whenever you see a file path in this document that begins with config, this always refers to your OEDQ instance's local config folder.

2. Amend the parameter values so that they reflect the connection details of your staging database. For example, in the top line, replace hostname with the name or IP address of the machine that hosts your staging database.

**Note**: It is not necessary to enter the schema if the user you input is the schema owner.

The parameters can be passed as externalized values in the runopsjob command

### 3.3 FSDM System Name

The FSDM Integration section of the **customer-screening.properties** Run Profile also contains the following parameter:

```
phase.*.process.*.FSDM_system_name = FSDM
```

You can optionally amend this parameter's value to a value of your choice. Whatever value you associate with this parameter will be presented to reviewers as the List Sub Key in Enterprise Case Management.

### 3.4 FSDM Data Preparation

There is a FSDM specific data preparation process which needs to be run prior to the standard Customer Entities Preparation and Customer Individuals Preparation Process. This process performs a number of transformations:

- Splits records into individuals and entities based on Customer Type Code
- Creates additional rows of data for aliases
- Creates name attributes compatible with CDI
- Derives gender and year of birth for individuals

**Note**: The FSDM Data Preparation job is built on expected population of data in FSDM. This needs to be validated for each specific implementation and the process adapted if needs be.

### 3.4.1 Analyzing Customer Data Quality

Oracle Financial Services Customer Screening is supplied with a process which checks the appropriateness of data in FSDM for screening. This process can be run independently of the screening process, and identifies potential issues with the customer data quality which may affect the efficiency of screening.

### 3.4.2 Running the Data Quality Analysis

To analyze your working customer data:

- 1. Ensure that your working data has been loaded into FSDM and the customer-screening project has the correct database parameters.
- 2. Run the Analyze FSDM Customer Data Quality job.

**Note**: The **Analyze FSDM Customer Data Quality** job needs to be run with the FSDM version in the **customer-screening.properties** Run Profile to pick up the parameters.

The job checks your customer data for any quality issues that may have a negative impact on the screening process. The results of the quality analysis are written as staged data and can be viewed using the Server Console UI.

### 3.4.3 Data Quality Errors

The error codes and the associated messages that can be raised by the customer data quality analysis are listed in the CDI Error Codes reference data. Each error message is assigned an error severity, from 1 to 4, which corresponds to the likely impact the issue will have on screening efficiency. The error severities are as follows:

Severity code	Description
1	Severe data error which prevents screening.
2	Invalid data which will limit the effectiveness of screening.
3	Missing data which will limit the effectiveness of screening.
4	Invalid data which has no effect on screening. Errors in this category will not affect the output of the match processor, but may cause issues when manually evaluating any potential matches that are raised.

Please refer to the Oracle Financial Services Customer Screening Customer Data Interface Guide for a more complete description of the data quality checks and potential validation errors.

Any rows in your customer data which cause a severity 1 error message to be raised will also be rejected by the screening process. These rows lack data in the core attributes used by the screening process, and so cannot be processed meaningfully.

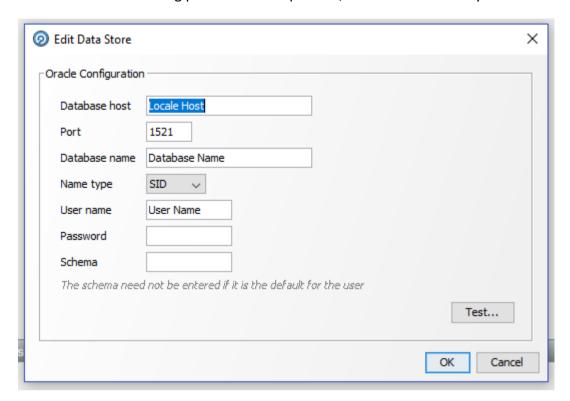
The screening processes will output rows which cannot be screened into the CUST\_Individuals\_Invalid staged data or the CUST\_Entities\_Invalid staged data, as appropriate. The error codes associated with each row will also be written to the database.

#### 3.4.4 ETL Database Connection Details

After screening has run relationships (matches) and watchlist records are exported to the Customer Screening database for further processing and publishing to ECM.

Database parameters are set in 'ECM Matches Output' under the Data stores in Customer-Screening project.

Ensure that the following parameters are present, and add them if they are not:



**Note**: It is not necessary to enter the schema if the user you input is the schema owner.

The parameters can be passed as externalized values in the runopsjob command

### 3.4.5 Batch Screening Job

To source the data from FSDM and run the FSDM data preparation process, the main batch screening job phase needs to be disabled and the the FSDM version enabled in customer-screening.properties Run Profile

```
# Globally turns on/off batch screening types
phase.Batch\ Screening.enabled = N
phase.Batch\ Screening\ FSDM.enabled = Y

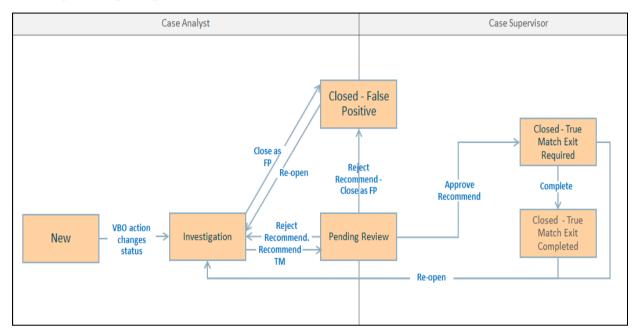
To export the data to the Customer Screening database these job phases also need to be enabled.

phase.ECM\ Export\ Matches.enabled = Y
phase.ECM\ Export\ Watchlist.enabled = Y
```

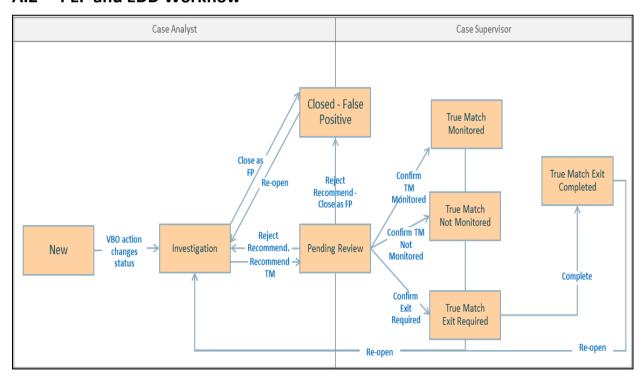
# **Appendix A: Workflow Diagrams**

The following diagrams represent the workflow:

### A.1 SAN Workflow



### A.2 PEP and EDD Workflow



# **Appendix B: Pre-Configured Watch List Information**

This appendix contains details of each of the pre-configured watch lists that can be used by Oracle Financial Services Customer Screening:

- HM Treasury
- OFAC
- EU consolidated list
- UN consolidated list
- World-Check
- <u>Dow Jones Watchlist</u>
- <u>Down Jones Anti-Corruption List</u>
- Accuity

### **B.1** HM Treasury Reference Data

The HM Treasury publishes a sanctions list that can be used for screening in Oracle Financial Services Customer Screening. The sanctions list provides "...a consolidated list of targets listed by the United Nations, European Union and United Kingdom under legislation relating to current financial sanctions regimes".

The HM Treasury website provides more details about the list at:

https://www.gov.uk/government/publications/financial-sanctions-consolidated-list-of-targets.

Oracle Financial Services Customer Screening uses the list in a semi-colon delimited form. It can be downloaded from:

http://hmt-sanctions.s3.amazonaws.com/sanctionsconlist.csv.

#### **B.2** OFAC Reference Data

The US Treasury website states that: "The US Treasury's Office of Foreign Assets Control (OFAC) administers and enforces economic and trade sanctions based on US foreign policy and national security goals against targeted foreign countries, terrorists, international narcotics traffickers, and those engaged in activities related to the proliferation of weapons of mass destruction." More details on the OFAC list can be found on the US Treasury website, at:

http://www.treasury.gov/ofac/

Oracle Financial Services Customer Screening supports two lists that are produced by OFAC:

- The OFAC Specially Designated Nationals (SDN) list, which is available for download in three separate parts from the following links:
  - https://www.treasury.gov/ofac/downloads/sdn.csv
  - https://www.treasury.gov/ofac/downloads/add.csv
  - https://www.treasury.gov/ofac/downloads/alt.csv
- The OFAC Consolidated Sanctions List, which can be downloaded in three separate parts from the following links:
  - https://www.treasury.gov/ofac/downloads/consolidated/cons prim.csv
  - https://www.treasury.gov/ofac/downloads/consolidated/cons add.csv
  - https://www.treasury.gov/ofac/downloads/consolidated/cons\_alt.csv

### **B.3** EU Reference Data

The European Union applies sanctions or restrictive measures in pursuit of the specific objectives of the Common Foreign and Security Policy (CFSP) as set out in Article 11 of the Treaty on European Union.

The European Commission offers a consolidated list containing the names and identification details of all persons, groups and entities targeted by these financial restrictions. See the European Commission website for more details:

http://eeas.europa.eu/cfsp/sanctions/index en.htm

The consolidated list can be downloaded from the following link:

http://ec.europa.eu/external relations/cfsp/sanctions/list/version4/global/global.xml

### **B.4** UN Reference Data

The United Nations consolidated list includes all individuals and entities subject to sanctions measures imposed by the Security Council.

Details are here: <a href="https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list">https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list</a>

Download link is:

https://www.un.org/sc/suborg/sites/www.un.org.sc.suborg/files/consolidated.xml

### **B.5** World-Check Reference Data

World-Check provides a subscription based service, offering a consolidated list of PEPs (Politically Exposed Persons) and entities and individuals appearing on the HM Treasury, OFAC, and other world lists. Three levels of subscription are provided: Standard, Premium and Premium+. Some features of the World-Check lists are only available to users with a higher subscription level.

To download the World-Check Premium+ feed, set values in the **WC Setup** section of the watchlist-management.properties Run Profile as follows:

```
phase.WC\ -\ Download.enabled = Y
phase.WC\ -\ Download\ native\ aliases.enabled = Y
phase.WC\ -\ Stage\ reference\ lists.enabled = Y
phase.*.snapshot.*.use_native_aliases = 1
```

To download the Standard or Premium feeds, set values in the **WC Setup** section of the watchlist-management.properties **Run Profile as follows**:

```
phase.WC\ -\ Download.enabled = Y
phase.WC\ -\ Download\ native\ aliases.enabled = N
phase.WC\ -\ Stage\ reference\ lists.enabled = Y
phase.*.snapshot.*.use_native_aliases = 0
```

See the World-Check website for more details:

https://risk.thomsonreuters.com/en/products/third-party-risk/world-check-know-your-customer.html

Note: If your instance of Oracle Financial Services Customer Screening uses the WebLogic application server, and you are screening against the World-Check watch list, then, in order to download the World-Check reference data successfully, you must add the following to the 'Server Start' arguments of your EDQ managed server:

```
-DUseSunHttpHandler=true
```

This is only required if you are using the WebLogic application server **and** screening against the World-Check watch list.

### **B.6** Dow Jones Watchlist Reference Data

Dow Jones provide a subscription based service offering a consolidated list of PEPs (Politically Exposed Persons) and entities and individuals appearing on the various sanctions lists. See the Dow Jones website for more details:

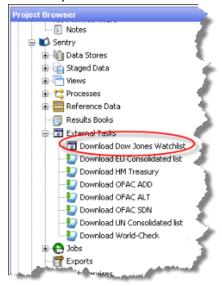
### http://www.dowjones.com/products/risk-compliance/

The Dow Jones Watchlist automated download task uses one of two script files that are provided with Oracle Financial Services Customer Screening to provide further configuration of the download process. These script files are:

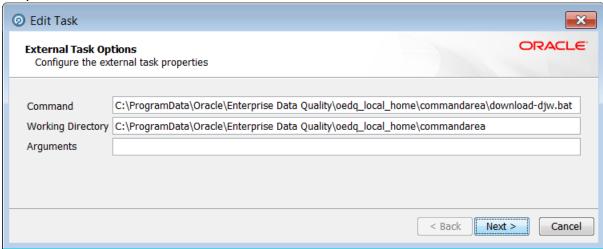
- download-djw.sh (for use on Unix platforms)
- download-djw.bat (for use on Windows platforms)

The script files are invoked by the automated task and will download the data files and copy them to the appropriate sub-folder of the OEDQ landing area. The script files must be modified to provide the appropriate download URL and any required proxy server details for your Internet connection, as detailed in the following procedure:

1. Open the **External Tasks** node for your List Management project in the project browser, and double click on the **Download Dow Jones Watchlist** task.



2. Configure the external task to call the batch or shell file, as appropriate, that is in use for your installation:



- 3. Configure your PATH system variable to include the path to your Java installation. The external file invokes Java directly, so the PATH must be configured appropriately.
- 4. Finally, edit your batch or script file to include your Dow Jones authentication information and any proxy server configuration details that are applicable.

### **B.7** Dow Jones Anti-Corruption List Reference Data

Dow Jones provide a subscription based service containing data to help you assess, investigate and monitor third-party risk with regard to anti-corruption compliance regulation. See the Dow Jones website for more details:

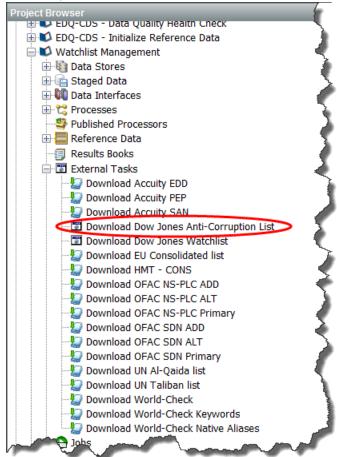
http://www.dowjones.com/products/risk-compliance/

The Dow Jones Anti-Corruption List automated download task uses one of two script files that are provided with Oracle Financial Services Customer Screening to provide further configuration of the download process. These script files are:

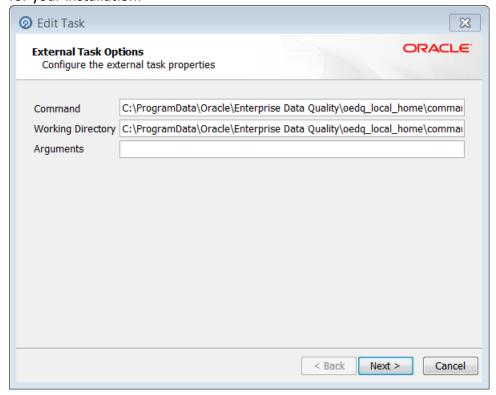
- download-djac.sh (for use on Unix platforms)
- download-djac.bat (for use on Windows platforms)

The script files are invoked by the automated task and will download the data files and copy them to the appropriate sub-folder of the OEDQ landing area. The script files must be modified to provide the appropriate download URL and any required proxy server details for your Internet connection, as detailed in the following procedure:

1. Open the **External Tasks** node for your Watchlist Management project in the project browser, and double click on the **Download Dow Jones Anti-Corruption List** task.



2. Configure the external task to call the batch or shell file, as appropriate, that is in use for your installation:



- 3. Configure your PATH system variable to include the path to your Java installation. The external file invokes Java directly, so the PATH must be configured appropriately.
- 4. Finally, edit your batch or script file to include your Dow Jones Anti-Corruption List authentication information and any proxy server configuration details that are applicable.

### **B.8** Accuity Reference Data

The Accuity Global Watchlist is a subscription based service. The Accuity website states:

Accuity's proprietary collection of watch list screening databases is an aggregation of specially designated individuals and entities compiled from dozens of regulatory and enhanced due diligence lists from around the world. Global WatchList provides the ideal framework for your customer screening and interdiction filtering processes.

Accuity provide their aggregated data as a set of three lists, as follows:

- The Regulatory Due Diligence (RDD) Lists, covering sanctioned entities and individuals. Optionally, the Accuity Group File can be used in conjunction with this list (see <u>section UNRESOLVED CROSS REFERENCE "Using the Accuity Group File"</u>);
- Enhanced Due Diligence (EDD) Lists, covering entities and individuals who are not part of the regulatory sanctions lists, but whose activity it may be desirable to monitor;

• The Politically Exposed Persons (PEPs) Due Diligence Database, covering PEPs.

Any or all of the lists can be downloaded and used separately or in conjunction with each other. Please refer to the Accuity website for further details:

http://www.accuity.com/compliance/

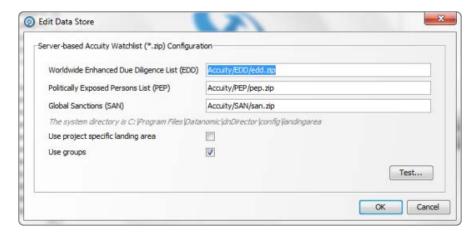
### **Using the Accuity Group File**

The Accuity Global Watchlist is created by aggregating many other lists. As such, any given individual or entity may be represented in the list by multiple entries.

The group file, **GROUP.XML**, provides a way to work with a data set of this type in Oracle Financial Services Customer Screening. Records which all represent the same individual or entity are collected into groups, and each group is assigned a unique group ID. The group ID is used, with a prefix indicating the fact that this is a group ID, in place of the original record identifier in Case Management. Records which are not included in a group use their original Accuity record ID, with a different prefix to indicate that they are single records.

**Note**: The group file only applies to sanctions screening. That is, only entities and individuals on the Regulatory Due Diligence (RDD) Lists are included in the group file.

The group file allows case generation to be centered around real-world individuals, rather than separate watch list records. Groups are used by default. To change this, open the Accuity Data Store in the Watchlist Management project, and deselect the **Use groups** option:



If you choose to use the group file but it is not present in your downloaded data, an error will be generated.

### New Alerts Resulting from Use of the Group File

Using the group file causes the original list ID for an entry to be replaced with the appropriate group ID. The list ID is used in the alert key, so changes to the list ID will result in new alerts being raised for existing, known relationships. There are two main scenarios in which this may occur:

• Individuals or entities are moved into, out of or between groups by Accuity, new alerts will be generated for existing relationships.

**Note:** Use of the group file may result in new alerts being raised for existing relationships if the group file structure is changed by Accuity. There is at present no way to circumvent this issue

• The **Use Groups** setting is changed after cases and alerts have already been generated.

**WARNING**: The setting for the **Use Groups** option should be selected during the implementation phase of the project. Once screening has started, it should not be changed unless absolutely necessary. Changing this setting is likely to result in existing alerts being re-raised with a new alert ID.

## **Appendix C: Screening Non-Latin Character Sets**

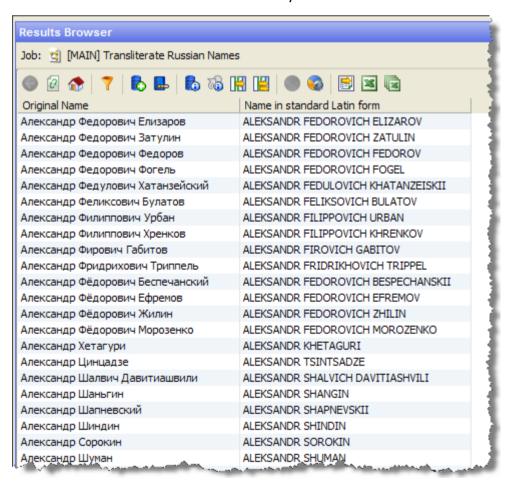
The reference data sources supported by Oracle Financial Services Customer Screening are all provided in the Latin character set, and some in original scripts as well (See "Screening Non-Latin Character Sets"). The screening processes can be used with non-Latin data if required. In addition, Oracle can provide linguistic name matching and culture derivation by integration with IBM's Global Name Recognition product.

Non-Latin working data can be screened against the existing supported Latin reference data sources by performing transliteration of the working data from the non-Latin character set to the Latin character set.

Non-Latin working data can be screened against non-Latin reference data without any changes to the product although certain fuzzy text matching algorithms may not be as effective in the non-Latin character set. Text will be processed on a left-to-right basis.

**Note:** It may be necessary to install additional language packs in order to display non-Latin data.

The screenshot below shows the transliteration of Cyrillic to the Latin character set:



### **Original Script Matching**

To match original script data against reference data:

- Prepare customer data such that non-Latin names are populated in the Original Script Name fields of the Customer Data interface; and
- Enable Original Script Name match rules and clusters.

For further details on preparing customer data and enable match rules, see the Customer Data Interface and Matching Guides.

**Note:** Changes will be required to the FSDM Customer Preparation process to support this.

# Appendix D: Risk scoring reference data

This appendix lists the reference data tables supplied with Oracle Financial Services Customer Screening which contain data used to calculate risk scores and PEP risk scores. You can find these reference data tables in the Watchlist Management project.

#### D.1 General

The following reference data table contains risk score values used by multiple screening processes:

• Risk - ISO 3166-1 Country to Risk Score (used by the lookup Risk - ISO 3166-1-alpha-2 code to Risk Score) is used to derive a risk score from a country code.

### **D.2** Country Prohibitions

The following reference data tables contain risk score values used in country prohibition screening processes:

- Country Prohibitions Entities
- Country Prohibitions Individuals

### D.3 Dow Jones Watchlist

The following reference data tables contain risk score values used when calculating risk scores for the Dow Jones Watchlist records:

- DJW Occupation Category
- DJW List Provider Risk Scores
- DJW SI Category Description
- DJW SI Category

### D.4 Dow Jones Anti-Corruption List

The following reference data tables contain risk score values used when calculating risk scores for the Dow Jones Watchlist records:

- DJAC Occupation Category
- DJAC List Provider Risk Scores
- DJAC SI Category Description

### **D.5** EU Reference Data

There are no reference data tables containing risk score values used only for calculating risk scores for the EU reference data records.

### **D.6 HM Treasury Reference Data**

The following reference data table contains risk score values used when calculating risk scores for the HM Treasury Reference Data records:

• HMT Regime

### D.7 OFAC Reference Data

The following reference data table contains risk score values used when calculating risk scores for the OFAC Reference Data records:

• OFAC SDN Program

### **D.8** UN Reference Data

The following reference data table contains risk score values used when calculating risk scores for the UN Reference Data records:

UN List Type

### D.9 World-Check Reference Data

The following reference data tables contain risk score values used when calculating risk scores for the World-Check Watchlist records:

- WC Category
- WC Keyword (used by the lookup WC Keyword Risk Score Lookup)

### **D.10** Accuity Reference Data

The following reference data tables contain risk score values used when calculating risk scores for the Accuity Reference Data records:

- Accuity Program Sub-Category Risk Scores
- Accuity Source Risk Scores

### **D.11 Risk Element Weightings**

The following reference data table contains the weightings used when calculating a record risk score from the various contributing elements:

• Risk - Risk Element Weighting