

SAS Anti-Money Laundering Solution

Military Bank Vietnam

28th May 2020



AGENDA



01

Introduction and Platform

02

SAS Name Screening & Demo

03

SAS Transaction Monitoring & Demo

04

SAS KYC / CDD & Demo

05

SAS Real-time Screening & Demo

06

Conclusion & Next Steps

Fraud & Financial Crimes Presence

Financial Services

1st AML Client: 2002

+250 global AML clients

Provide AML hosted services to world's largest retailer

16 of Top 20 Global banks are fraud and/or AML clients

Customers in 47 countries

30% Market Presence among Global 250

25 net new AML in 2019

(*measured by total assets)

Market Presence – AML



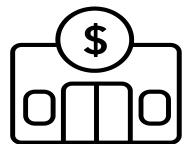
\$3.27 bn



16/20 global FIs



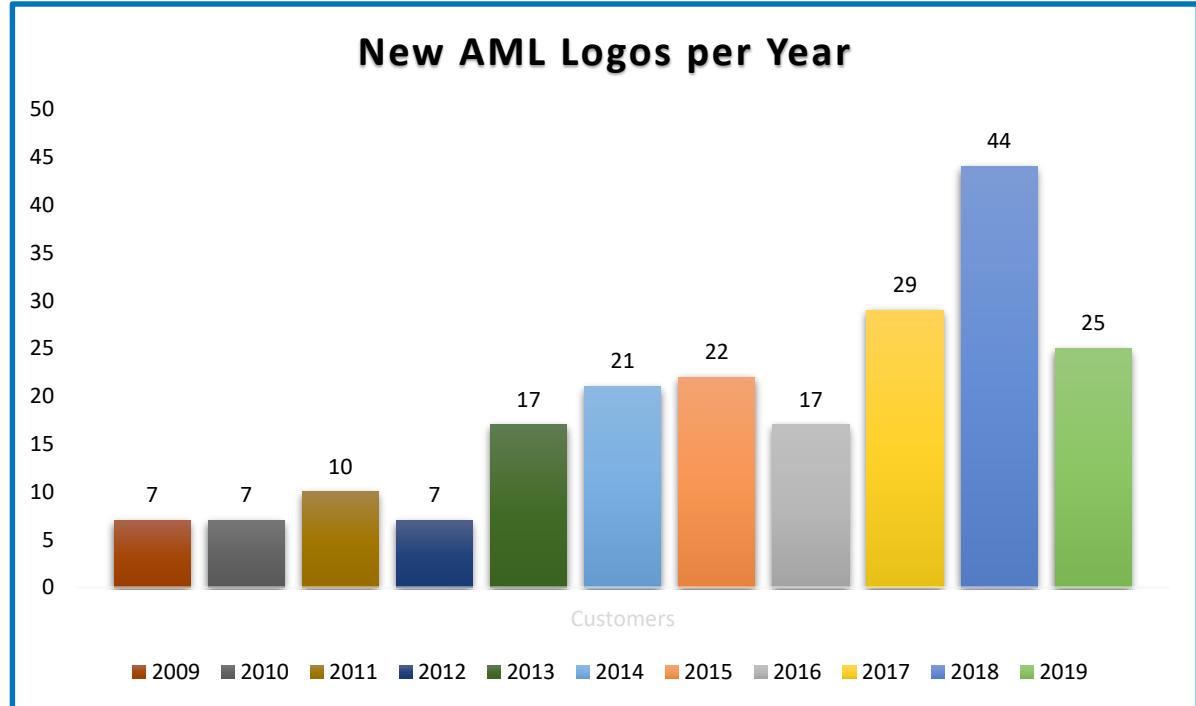
~30 US *fin crime* clients



~325 fin crime clients



\$1bn investment in AI



What Market Analysts Say

about competition in the Data - Analytics - AML - Fraud domains



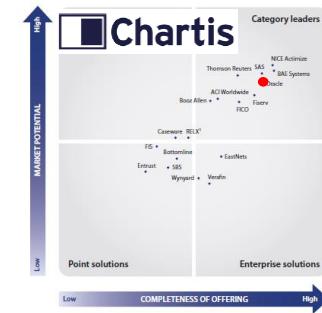
[Enterprise Fraud Management](#)



[Big Data Predictive Analytics](#)



[Advanced Analytics](#)



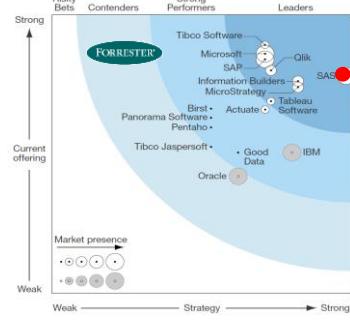
[AML – Transaction Monitoring](#)



[Data Integration](#)



[Data Quality](#)



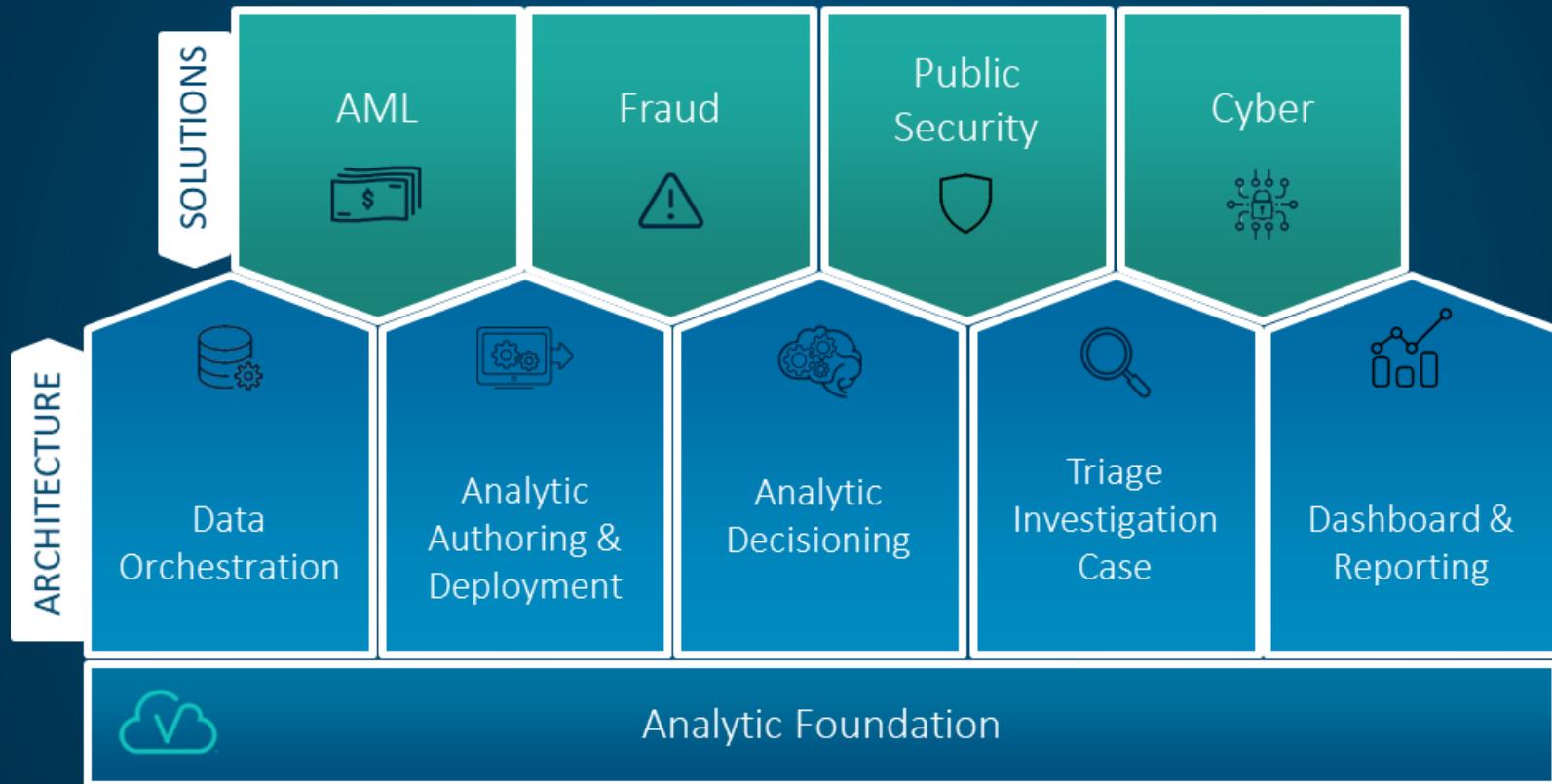
[Agile BI](#)



[Enterprise BI](#)

Our competitors in AML & Fraud do not appear in these Data & Analytics quadrants

F&SI Analytic Architecture



Financial Crimes Functional Components

SAS® Visual Investigator | Investigate and Search Data

Home Alerts Tasks Management Search Applications My Cases My Alarms My Notifications My Tasks Networks SSN Watchlist

Banking Fraud (External) All Active Alerts Assignment Disposition

Total Score	Model ID	Alert ID	Actionable Entity Label	Forename	Surname	Queue	Datetime Created	Datetime Updated	
1,499	WAOA-225078244526	47912928483	application	WOAO-225078244526	Financial Resources	Application Fra...	Oct 17, 2019	Oct 17, 2019	
1,462	WAOA-225078244526	36886773429	application	WOAO-225078244526	Marietta	Marthe	Application Fra...	Oct 17, 2019	Oct 17, 2019
1,458	WAOA-225078244526	38073896255	application	WOAO-22484940626	Melissa	Humm	Application Fra...	Oct 17, 2019	Oct 17, 2019

Items per page: 100

Summary
ID: 47912928483 Application: WAOA-225078244526 Forename: Financial Surname: Resources High Score: 1,499 Current Score: 1,398 Alert status: Active Queue: queue_2168754

Overall Risk Score
Initial score: 1,499 Current score: 1,398 High score: 1,499 Analytical Model & Business Rule Risk Factors The overall risk score of the submitted.

Risk Score History
Score: 1398

Device Location
Map showing a location in Glendale, AZ.

Network
Graph visualization showing connections between entities.

SAS® Visual Investigator | Investigate and Search Data

Home Alerts Tasks Management Search My Cases My Alarms My Notifications My Tasks Networks SSN Watchlist

Assignment Disposition Alerts Worklist Worklist Issues +

Network View

Node Legend: Acquire Trends Acquire Stored Acquisitions Business Customers Case Credit Card Address Individual Customers Transactions

Tools: Offset Inspector

Alert Information: Alert ID: 4473931462 Acquisitive entry name: 4473858377 Acquisitive entry type: accounts_zoned Acquisitive entry ID: 4000325126 Status: 483 Cause: BankingFraud Status: Active Product: Last updated by: vining Last updated date: 20/10/2019 18:03

SAS® Visual Investigator | Investigate and Search Data - Case

Home Alerts Tasks Management Search Case 5

Details Search Setting Max Lk: 1000000000 Tools: Object Inspector

Network View

Alert Summary Application Details Application Risk Score Application Risk Score Details Alert Audit History Alert Closure Notes Customer Details Contact Details Workspace +

Party Account Number: IN Mechanism Description: CASHERS Transaction Type: CHECK Transaction Amount: 9705.85 Transaction Date: 4/10/2019 9:13:00AM Beneficiary Bank ID: CHARTER BANK OF AMERICA Beneficiary Bank City: CHARTER BANK OF AMERICA

Party Account Number: OUT Mechanism Description: BUSINESS CHECK Transaction Type: CHECK Transaction Amount: 1324 Transaction Date: 6/12/2019 9:12:00AM Beneficiary Bank ID: CHARTER BANK OF AMERICA Beneficiary Bank City: CHARTER BANK OF AMERICA

Party Account Number: OUT Mechanism Description: BUSINESS CHECK Transaction Type: CHECK Transaction Amount: 31190 Transaction Date: 6/12/2019 9:12:00AM Beneficiary Bank ID: CHARTER BANK OF AMERICA Beneficiary Bank City: CHARTER BANK OF AMERICA

Overall Risk Score: 1499

Risk Score History
Created date/time: Oct 17, 2019 12:17:42 PM Score: 1,499 Last updated by: vining Last updated date: Oct 17, 2019 12:17:03 PM 1,404

The overall risk score of the submitted application is a combination of analytical model and business rules.

Rule ID	Rule Name	Rule Score	Rule Trigger Reason
50119	Network risk score	34	High risk network due to fraudulent activities and associated entities.
50114	Historical fraud match	49	Previous fraudulent applications by applicant.
50113	Similar names found on network	50	An individual has given very similar names on previous applications, which could be a sign of data manipulation.
50112	Similar dates of birth provided	74	An individual has given very similar dates of birth on previous applications, which could be a sign of data manipulation.
50111	Similar addresses provided	78	An individual has given very similar addresses on previous applications, which could be a sign of data manipulation.
50110	Shared email address	79	Applicant's email address is being used by multiple individuals.

SAS® Visual Investigator | Investigate and Search Data - Alert

Home Alerts Tasks Management Search Applications My Cases My Alarms My Notifications My Tasks Networks SSN Watchlist | 32751702344

Assignment Disposition Alerts Worklist Worklist Issues +

Alert Summary Application Details Application Risk Score Application Risk Score Details Alert Audit History Alert Closure Notes Customer Details Contact Details Workspace +

Overall Risk Score
Initial score: 1,404 Current score: 1,499 High score: 1,499 Model ID: NAMNSU866100 Model Name: Application Fraud Propensity Model Score: 999 Model Reason: Predictive fraud propensity model score has been calculated

Risk Score Breakdown
Model ID: NAMNSU866100 Model Name: Application Fraud Propensity Model Score: 999 Model Reason: Predictive fraud propensity model score has been calculated

Risk Score History
Created date/time: Oct 17, 2019 12:17:42 PM Score: 1,499 Last updated by: vining Last updated date: Oct 17, 2019 12:17:03 PM 1,404

The overall risk score of the submitted application is a combination of analytical model and business rules.

Rule ID	Rule Name	Rule Score	Rule Trigger Reason
50119	Network risk score	34	High risk network due to fraudulent activities and associated entities.
50114	Historical fraud match	49	Previous fraudulent applications by applicant.
50113	Similar names found on network	50	An individual has given very similar names on previous applications, which could be a sign of data manipulation.
50112	Similar dates of birth provided	74	An individual has given very similar dates of birth on previous applications, which could be a sign of data manipulation.
50111	Similar addresses provided	78	An individual has given very similar addresses on previous applications, which could be a sign of data manipulation.
50110	Shared email address	79	Applicant's email address is being used by multiple individuals.



Introduction

SAS compliance Capabilities

Scenarios and risk factors
Scenario administration
Segmentation model
Anomaly detection

Interactive web-based reporting
Dashboards and visualization
Regulatory/operational reporting

Aggregate customer alert views
Alert prioritization
Configurable workflows
Advanced search capabilities

Transaction Monitoring

Customer Risk Rating/
Due Diligence

Financial Crimes Analytics

*Ongoing data exploration
and simulation supporting
all capabilities*

Reporting

AML & CTF
Investigation

Transaction Screening

Customer Screening

Flexible risk scoring model
COB/CDD/ODD/EDD
Triggering events
Risk rating overrides

Watchlist matching
Delta screening
Real-time/Near real-time/Batch

Payment/financial message screening
Real-time block or release transactions
Structured/unstructured data

Compliance

End to End SAS Approach

SAS Visual Investigator

Customer
Screening

Transaction
Monitoring

Sanction
Screening

KYC
Onboarding

Customer
Due Diligence

SAS Foundation Platform Viya

SAS Approach

Methodology - End to End



Data

- Structured & unstructured data sources
- Batch or real time processing
- Data cleansing
- Data integration
- Variable extraction & sentiment analysis with text mining
- Entity resolution



Detection

- Business rules
- Anomaly detection
- Advanced predictive models
- Watch lists
- Profiling
- Hybrid technology
- Social network analysis and network-level analytics (if appropriate)



Investigation

- Automated alert generation
- Advanced ranking technology
- Custom alert queues
- Alert qualification and triage
- Powerful user interface with single and holistic views
- Documentation & traceability



Reporting

- Dedicated dashboards, easy to use web-based interface
- Workflow analysis
- Creation of SARs (where appropriate)
- Full business intelligence reporting capability
- System and case management integration



- Pro-active dynamic data exploration
- Advanced query of integrated data
- Self-administered
- Detection performance analysis
- New modus operandi discovery



Discovery

- Accelerated design and constant improvement of the detection logic
- Alert suppression & routing rules
- Simulation and testing of new risk assessment methodologies



Solution Flexibility

- Front End & Back End flexibility

Notes: With SAS Solution Flexibility, the bank can create different forms/pages (i.e EDD form) on the display and content, design your own workflow, etc., This is important when the bank grows in the future.

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML



SAS® Visual Investigator - Investigate and Search Data

Home Alerts Tasks Management Search OFAC Watchlist Watchlist Exposure Whitelist Onboarding

A

Reporting

[Customer Due Diligence](#) [Transaction Screening](#) [Transaction Monitoring](#)

Alert Summary

	Count	Median Age
▶ Transaction Monitoring	12	4 weeks
▶ Customer Risk Scoring	33	4 weeks
▶ Message Monitoring	9	4 weeks
▶ Customer Onboarding	9	2 weeks

Personal Metrics

September 4, 2019

No actions

Average time worked per alert

0 minutes

New Document

[Case](#) [Customer White List](#)

[Onboard Customer](#)

Discovery

Search

Search

Party Search
Forename:
Surname:
Search **Reset**

Account Search
Account Number:
Iban:
Search **Reset**

Address Search
Address 1:
Country:
Search **Reset**

Recently Viewed

No recently viewed objects

The AML main interface that can be configured on the display and content.



Individuals Organisations

657 Total

Label	WL Name	WL Entity Mc85	WL Entity Name	WL Entity Type	WL Identification Id	
SILVA MARIA DE CAMPOS	WCHK	8_3&BM@4\$\$\$\$\$\$47WM\$\$\$\$\$B	SILVA MARIA DE CAMPOS	INDIVIDUAL		
GILSON DOS SANTOS	WCHK	4&B~@4\$\$\$\$\$\$\$F7W4@B\$\$\$\$\$	GILSON DOS SANTOS	INDIVIDUAL		
MARIA APARECIDA VIEGAS	WCHK	V7_F&4\$\$\$\$\$\$\$B&Y7&\$\$\$\$\$&	MARIA APARECIDA VIEGAS	INDIVIDUAL		
CLEIA CRISTINA MOREIRA DA CONCE	WCHK	8&3@B4_73&\$\$\$\$3W_7&\$\$\$\$\$3	CLEIA CRISTINA MOREIRA DA CON...	INDIVIDUAL		
MARCILENE LEITE DA SILVA	WCHK	8&47WM&\$\$\$\$\$\$\$B&Y47W_B\$\$\$W	MARCILENE LEITE DA SILVA	INDIVIDUAL		
JOSE AUGUSTO DIAS	WCHK	87&4\$\$\$\$\$\$\$\$C@4\$\$\$\$\$\$\$&	JOSE AUGUSTO DIAS	INDIVIDUAL		
AGMO SALOMAO VICENTE DA CUNH	WCHK	8&3#B&\$\$\$\$\$\$\$FB@\$\$\$\$\$4	AGMO SALOMAO VICENTE DA CUN...	INDIVIDUAL		
WEUDES OLIVEIRA MONIZ	WCHK	B@B74\$\$\$\$\$\$\$\$L_#8\$\$\$\$\$\$@	WEUDES OLIVEIRA MONIZ	INDIVIDUAL		
BIANCA MAIA DA SILVA	WCHK	8&47WM&\$\$\$\$\$\$\$M7&B3&\$\$\$\$\$B	BIANCA MAIA DA SILVA	INDIVIDUAL		
FERNANDO MANOEL DA SILVA	WCHK	8&47WM&\$\$\$\$\$\$\$G_YB&P8@\$\$\$B	FERNANDO MANOEL DA SILVA	INDIVIDUAL		
MARCELO GOSSI DOS REIS	WCHK	8@4Y74\$\$\$\$\$\$\$B&Y4_W@\$\$\$F	MARCELO GOSSI DOS REIS	INDIVIDUAL		
MARILEIDE DA SILVA	WCHK	8&47WM&\$\$\$\$\$\$\$B&Y7W78\$\$\$\$	MARILEIDE DA SILVA	INDIVIDUAL		
....						

Watchlist Entry

Entity Watch List Key
44WL Entity Type
INDIVIDUALWL Name
WCHKWL Entity Mc85
8_3&BM@4\$\$\$\$\$\$47WM\$\$\$\$\$BWL Entity Name
SILVA MARIA DE CAMPOS

WL Identification Id

Data Objects Relationships Pages Workflows Alerts Permissions Properties Import Jobs | **account_details ***

1

Page Properties Preview

Controls Data Clipboard (0)

Filter

▼ Controls

- Alert Activity
- Alert Lineage
- Check Box
- Child-Object Viewer
- Currency
- Date-Time
- Drop-down List
- Entity Scorecard
- Grid
- Hyperlink
- Iframe
- Image
- Image Carousel
- Map

Details

Summary Customer Swift

Account Record

Open Date
Mailing City Name
Close Date
Primary Branch Name
Mailing State Name

Page Builder allows the customization to the page interface.

Workflow Properties

Events

End

Gateways

- Exclusive Gateway
- Parallel Gateway

Services

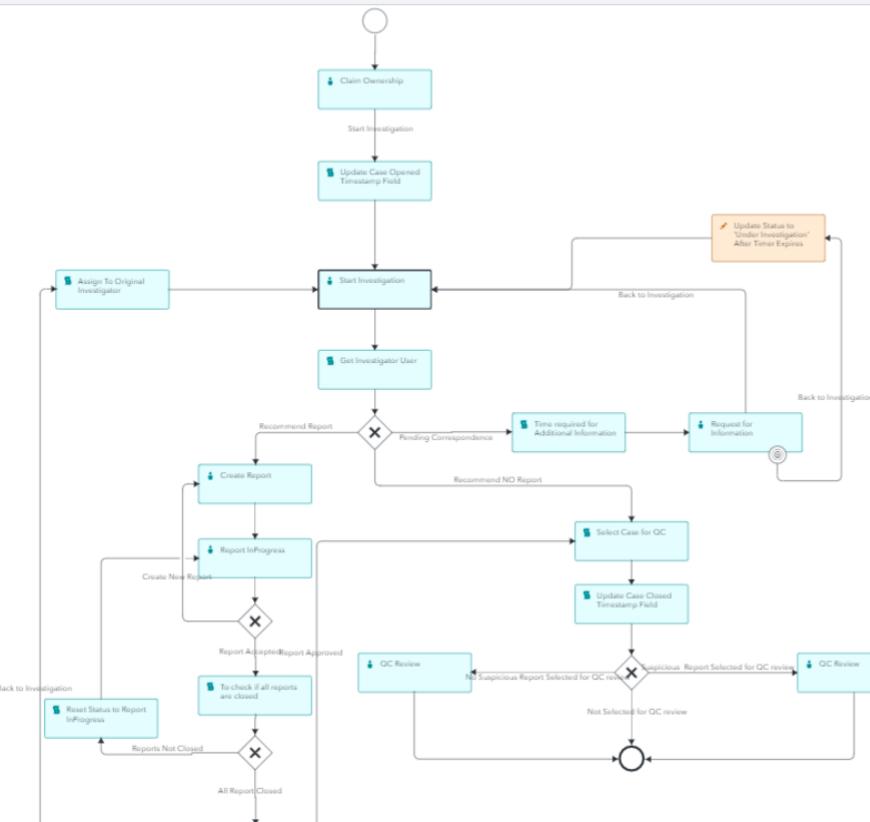
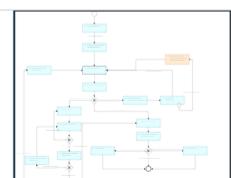
REST Service

Write Service

Tasks

Script Task

User Task



User Task

Settings *

Name: *

Start Investigation

Description:

Participants *

 Users and groups Workflow variable

AML Investigator

Write acting user to variable:

CaseOwner

Auto-claim for user from variable:

CaseOwner

Actions *



Initiate Report

No Report

Request for In...

Properties:

Button label: *

Initiate Report

Write to the workflow variable:



Variable

wf_case_status

Value

wf_primary_status

Example of a workflow that can be designed according to the use case.



SAS AML

On Boarding / Name Screening

Customer Name Screening

Supported Lists



	Watch List Name	Watch List Provider
1	Specially Designated Nationals List	US Treasury - Office of Foreign Assets Control (OFAC)
2	Consolidated list of persons, groups and entities subject to EU financial sanctions	European Union, Common Foreign and Security Policy
3	Consolidated List of Financial Sanctions Targets	U.K. HM Treasury
4	The Consolidated List	United Nations Security Council
5	Consolidated List	Australian Department of Foreign Affairs and Trade
6	Designated Terrorist Entities	National Bureau of Criminal Intelligence, New Zealand Police
7	Terrorism Financing Lists of Names	Office of the Superintendent of Financial Institutions Canada
8	World-Check Data-Files	Thomson Reuters
9	Dow Jones Watch list	Dow Jones
10	World Compliance	Lexis Nexis



LexisNexis®



Detection Engine

Customer Name Screening - Scenario Strategies

Detection
Approaches

Terrorist on
Watch List

PEP on Watch
List

Resident on
Watch List

Custom List

20+ Scenario
Rules
Templates
for
Combination

Name Match
only

Name and
Address Match

Exact Matching

First name vs
Last Name
Match

Name Match
and YOB Match

Name and Tax
Id Match

Fuzzy Matching

Full Address vs
Partial Address

Name Match
and DOB Match

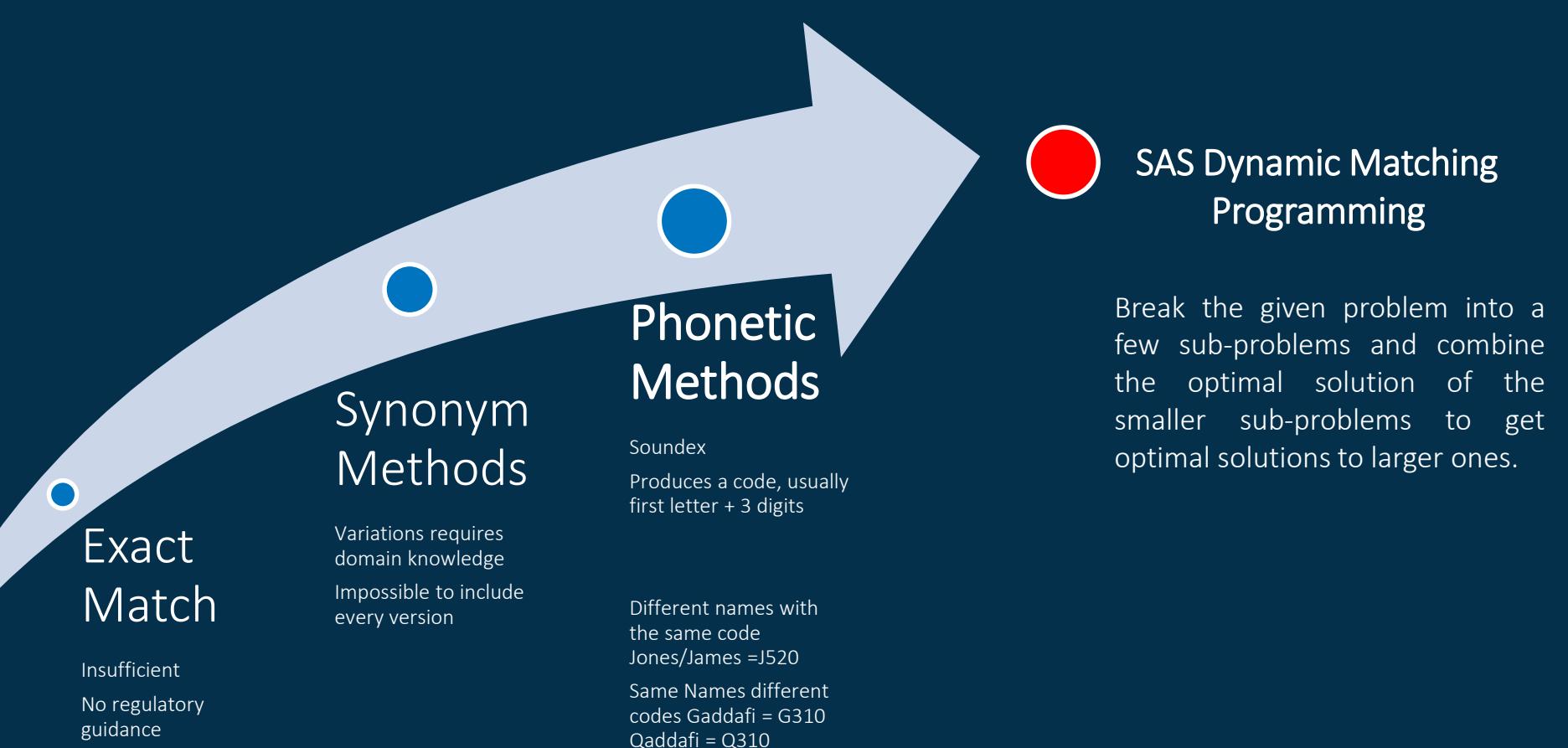
Name and
Residence
country Match

City Match

Sorted Names
Match

And more...

Watch List Methodology Over Time



Match Code Analytics

Longest Common Substring

Match Code Positions for Name Tokens

	Family Name Token	Given Name Token	Middle Name Token
95 sensitivity:	1	1	2
90 sensitivity:	-----5-----	0-----5-----	0-----5-----
85 sensitivity:	xxxxxxxxxxxxxx	yyyyyyyyyyyy	zzzzzzzzzz
80 sensitivity:	xxxxxxxxxx	\$\$\$\$\$\$\$\$	yyyyyyyy
75 sensitivity:	xxxxxxx	\$\$\$\$\$	yyyy
70 sensitivity:	xxxxxx	\$\$\$\$\$	yy
65 sensitivity:	xxxxx	\$\$\$\$\$	yy
60 sensitivity:	xxxx	\$\$\$\$\$	yy
55 sensitivity:	xxx	\$\$\$\$\$	yy
50 sensitivity	xx	\$\$\$\$\$	yy

Phonetic analysis (phonetics) is used to generate match codes. During match code generation, phonetic rules are applied to reduce an input string.

The goal is to create phonetic rules that produce the same output string for input strings with similar pronunciations or spellings.

Example: Using phonetic rules, SCHMIDT and SHMITT are reduced to SHMIT.

Proven Technology

- Faster, smarter than the usual algorithms used in the industry (Damerau-Levenshtein)
- Less False positives - Improved alert quality
- Enterprise-wide regulatory compliance for sanctions and PEP

Fuzzy Matching



DQ = DM + Brain

How Matching Works ?

Match code generation process:

- Data is parsed into its components (Given Name, Family Name, ...)
- Ambiguities and noise words are removed (e.g. 'the')
- Transformations are made (e.g. 'Jonathon' → 'John')
- Phonetics are applied (e.g. 'PH' → 'F')
- Based on the sensitivity selection, the following occurs:
 - Relevant components are determined
 - Only a certain number of characters of the transformed relevant components are used

Name	Match Code (95% Sensitivity)	Match Code (90% Sensitivity)	Match Code (85% Sensitivity)
John Q Smith	4B7~2\$\$\$\$\$\$\$\$\$C@B\$\$\$\$\$\$\$\$\$Q	4B7~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$\$Q	4B&~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$\$
Johnny Smith	4B7~2\$\$\$\$\$\$\$\$\$C@B7\$\$\$\$\$\$\$\$	4B7~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$	4B&~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$
Jonathan Smythe	4BR~2\$\$\$\$\$\$\$\$\$C@B&~2&B\$\$\$	4BR~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$	4B&~2\$\$\$\$\$\$\$\$\$C@P\$\$\$\$\$\$\$\$

SAS Match Codes

Matching Example Names

Different variations of same name, same match code – 75% sensitivity

Name	Match Code
James D. Goodnight	PHDF8B~\$\$\$\$\$87B\$\$\$
Jim Goodnight	PHDF8B~\$\$\$\$\$87B\$\$\$
JAMES GOODNIGHT	PHDF8B~\$\$\$\$\$87B\$\$\$
Dr. James Goodnight	PHDF8B~\$\$\$\$\$87B\$\$\$
Jimmy Goodnight	PHDF8B~\$\$\$\$\$87B\$\$\$

SAS Match Codes

Matching Example – Addresses

System standardizes address format, then builds match codes for comparison.

Match code for an address is a series of concatenated match codes for street name, city, state, country, etc.

If needed, individual component match codes of an address match code can be compared.

Address	Match Code
100 NORTH CHATHAM STREET, CARY, NORTH CAROLINA, 27511 United States	#B~4~4\$\$&42942BW3Y\$\$\$\$\$Z00PY~2J\$\$\$\$\$\$\$\$
100 N. Chatham St., cary, NC, 27511 usa	#B~4~4\$\$&42942BW3Y\$\$\$\$\$Z00PY~2J\$\$\$\$\$\$\$\$

ADDITIONAL EXPLANATION

SAS Quality Knowledge Base (QKB)

- SAS AML leverages on SAS QKB (Quality Knowledge Base) during data cleansing, data matching and during customer name screening.
- QKB is a collection of files which store data and logic that define data cleansing operations such as parsing, standardization and generating match codes to facilitate fuzzy matching.
- SAS solution allows the ability to update the out-of-the-box QKB definitions or create your own data types and definitions to suit the organization.

ADDITIONAL EXPLANATION

Fuzzy Matching

- Fuzzy matching is an essential data / programming technique used particularly when the matching variables between data sets are unreliable. Example is to use fuzzy matching as a technique to obtain a single trusted customer record by matching a combination of variables such as FirstName-LastName; LastName-Identity Number; FirstName-Address, etc.
- SAS provides a number of powerful functions including SOUNDEX (phonetic matching) algorithm, COMPARE (evaluates 2 strings and returns the left most character if they are different or a zero if they are the same), SPEDIS (determines the likelihood of 2 words matching, measure the propensity of 2 strings matching), COMPGED (returns the generalized edit distance between 2 strings) and COMPLEV (returns the Levenshtein edit distance between 2 strings) functions to help make fuzzy matching more effective to use.

ADDITIONAL EXPLANATION

Fuzzy Matching

- Example of fuzzy matching for names

Cluster	Full_Name	NRIC_passport	Nationality	Full_Name_MatchCode	NRIC_passport_MatchCode	Current_addr_MatchCode
Cluster 1: 5 Records						
1	MOHD HUSSAIN BIN SARFARAZ	E0347740	2	4&YM&Y&4\$\$\$\$\$B&8\$\$\$\$\$ _OKSII0\$\$	\$\$\$\$\$\$\$\$\$H006D\$\$\$\$	
1	MOHAMAD HUSSAIN SARFARAZ	E0347740	2	4&YM&Y&4\$\$\$\$\$B&8&B&B\$\$ _OKSII0\$\$	\$\$\$\$\$\$\$\$\$H006D\$\$\$\$	
1	HUSSAIN SARFARAZ	E0347740	2	4&YM&Y&4\$\$\$\$\$B&8\$\$\$\$\$ _OKSII0\$\$	\$\$\$\$\$\$\$\$\$H006D\$\$\$\$	
1	MOHD HUSSAIN SARFARAZ	E0347740	2	4&YM&Y&4\$\$\$\$\$B&8\$\$\$\$\$ _OKSII0\$\$	\$\$\$\$\$\$\$\$\$H006D\$\$\$\$	
1	HUSSAIN SARFARAZ	E0347740	2	4&YM&Y&4\$\$\$\$\$B&8&B&B\$\$ _OKSII0\$\$	\$\$\$\$\$\$\$\$\$H006D\$\$\$\$	
Cluster 2: 1 Records						
Cluster 3: 1 Records						
Cluster 4: 1 Records						
Cluster 5: 1 Records						
Cluster 6: 1 Records						
Cluster 7: 1 Records						
Cluster 8: 1 Records						
Cluster 9: 1 Records						
Cluster 10: 1 Records						
Cluster 11: 1 Records						
Cluster 12: 5 Records						
12	GOH YIN MAY ,MICHELLE	8.71E+11	1	B&7\$\$\$\$\$B712\$\$\$\$\$ D.IZ_+ZZ\$	\$\$\$\$\$\$\$\$\$S6\$\$\$\$\$	
12	MICHELLE GOH	8.71E+11	1	F@\$\$\$\$\$B712\$\$\$\$\$ D.IZ_+ZZ\$	\$\$\$\$\$\$\$\$\$S6\$\$\$\$\$	
12	MICHELLE GOH YIN MEI	8.71E+11	1	B&7\$\$\$\$\$B712\$\$\$\$\$ D.IZ_+ZZ\$	\$\$\$\$\$\$\$\$\$S6\$\$\$\$\$	
12	GOH YING MEI	8.71E+11	1	B&7\$\$\$\$\$F\$\$\$\$\$ D.IZ_+ZZ\$	\$\$\$\$\$\$\$\$\$S6\$\$\$\$\$	
12	GOH YIN MEI	8.71E+11	1	B&7\$\$\$\$\$F\$\$\$\$\$ D.IZ_+ZZ\$	\$\$\$\$\$\$\$\$\$S6\$\$\$\$\$	
Cluster 13: 1 Records						
Cluster 14: 2 Records						
Cluster 15: 1 Records						
< Cluster 16: 1 Records >						
Cluster Field Name: Cluster_ID						

Customer Screening



- Review of name screening alerts
 - Queues
 - Investigation

Notes:

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML

Customer Screening		Dispositions						2 alerts		
Score	ID alert	Party Number	Party First Name	Party Last Name	Party DoB	Party Type Descr...	Alert Datetime	Alert Status
385	35204350050	10662493	MANSSOR	ARBABSIAR	06/03/1955	INDIVIDUAL	Mar 24, 2019 4:26...	ACTIVE		
370	42481048894	10260667	BLANQA MARGER...	CAZARESS SALAS...	18/09/1956	INDIVIDUAL	Mar 24, 2019 4:30...	ACTIVE		

Scorecard

385

May 8, 2019 2:00:00 AM

10662493 MANSSOR ARBABSIAR

- | | |
|---|-----|
| NAME match found on OFAC (Sensitivity: 85) | 85 |
| DoB match found on OFAC (Sensitivity: 85) | 30 |
| ADDRESS match found on OFAC (Sensitivity: 80) | 100 |
| CITY match found on OFAC (Sensitivity: 85) | 85 |
| STATE match found on OFAC (Sensitivity: 85) | 85 |

Party Information

First Name
MANSSOR

Last Name
ARBABSIAR

Date of Birth
06/03/1955

Address
805 CISCO VALLEY CV

City
ROUND ROK

State
TX

Watch List Information

First Name
MANSSOR

Last Name
ARBABSIAR

Date of Birth
06/03/1955

Address
805 CISCO VALLEY CV

City
ROUND ROCK

State
TX 78664

Watch List Name
OFAC

Entity Watch List Number
12929-20506-0



3 Comments

0 Attachments

[Alert Details](#) [Party Information](#) [Triggers](#) [Scoring History](#) [Alert History](#) [Workspace-1](#) [Customer Screening](#) [Workspace-2](#) [+](#)[Customer Information](#) [Contact Information](#) [Account Information](#) [Alerts](#)

Party Name

MANSSOR ARBABSIAR

Email Address

MANSSOR.ARBABSIAR@AML.COM

Phone Number

9702652024



Street Address 1

805 CISCO VALLEY CV

Street City Name

Round ROK

Street State Name

TX

806 Cisco Valley Dr

Round Rock, Texas

[View on Google Maps](#)

SAS® Visual Investigator - Alert

Home Alerts Tasks Management Search Cases | ⚠ 35204350050

Dispositions | 3 Comments 0 Attachments

Alert Details Party Information Triggers Scoring History Alert History Workspace-1 Customer Screening Workspace-2 +

Customer Information Contact Information Account Information Alerts

Account (1)

	Account Number	Account Open Date	Account Primary Branch Name	Account Status Desc	Dormant Ind
☰	03-0000180329	May 17, 2002	1022975 BRANCH	DORMANT	Y

SAS® Visual Investigator - Alert

Home Alerts Tasks Management Search Cases | ⚠ 35204350050

Dispositions | 3 Comments 0 Attachments

Alert Details Party Information Triggers Scoring History Alert History Workspace-1 Customer Screening Workspace-2 +

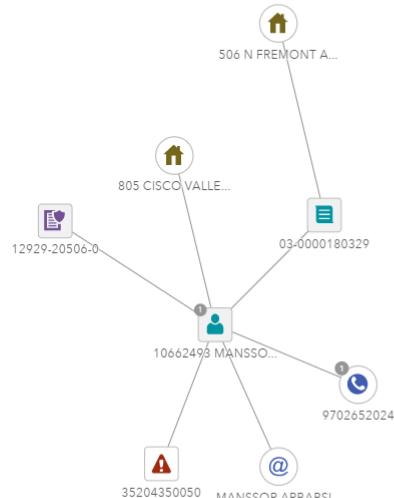
Customer Information Contact Information Account Information Alerts

Alert (1)

Actionable e...	Alert ID	Alert status	Alert type	Alert-trigger t...	Datetime crea...	Disposition	Disposition d...	Score
⚠	10662493	35204350050	Active	S1_CS	Total Score: 385	May 2, 2018 5:1...	{"linkedObjectl...	385

Example of Account Information and all alerts tied to the customer entity.



[Home](#) [Alerts](#) [Tasks](#) [Management](#) [Search](#) [Cases](#) [35204350050](#) | [3 Comments](#)[0 Attachments](#)[Alert Details](#) [Party Information](#) [Triggers](#) [Scoring History](#) [Alert History](#) [Workspace-1](#) [Customer Screening](#) [Workspace-2](#) Network View | | [Select](#) [Object](#) [Expand](#) | 

Node Legend

- Account
- Address
- Alert
- Customer
- Email
- Entity Watch List
- Telephone

Tools Selection

Total Items Selected: 0

- All Types
- Account
- Address
- Alert
- Customer
- Email
- Entity Watch List
- Telephone

Label:

[Select](#)

- Deselect all
- Invert selection
- Select nodes with one link
- Select detached nodes

This is an example of the investigation interface of a suspicious alert.

DEMO #3

- Customer Screening



- Rule Builder :
 - Review of name screening rules creation

Notes:

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML

SAS® Visual Investigator - Author Scenarios

Projects Tests | SAS Daily Transaction S... X

New ▾

SAS10001
SAS10002
SAS10003
SAS10004
SAS10005
SAS10006
SAS10007
SAS10009
SAS10014
SAS10015
SAS10016
SAS10018
SAS10025
SAS10026
SAS10027

Properties User-Defined Parameters Expressions Aggregations Rule

Identification

Name: *
SAS10006

Description:
Large Total Cash Transactions

Tags: [Manage tags](#)
Cash Activity

Active

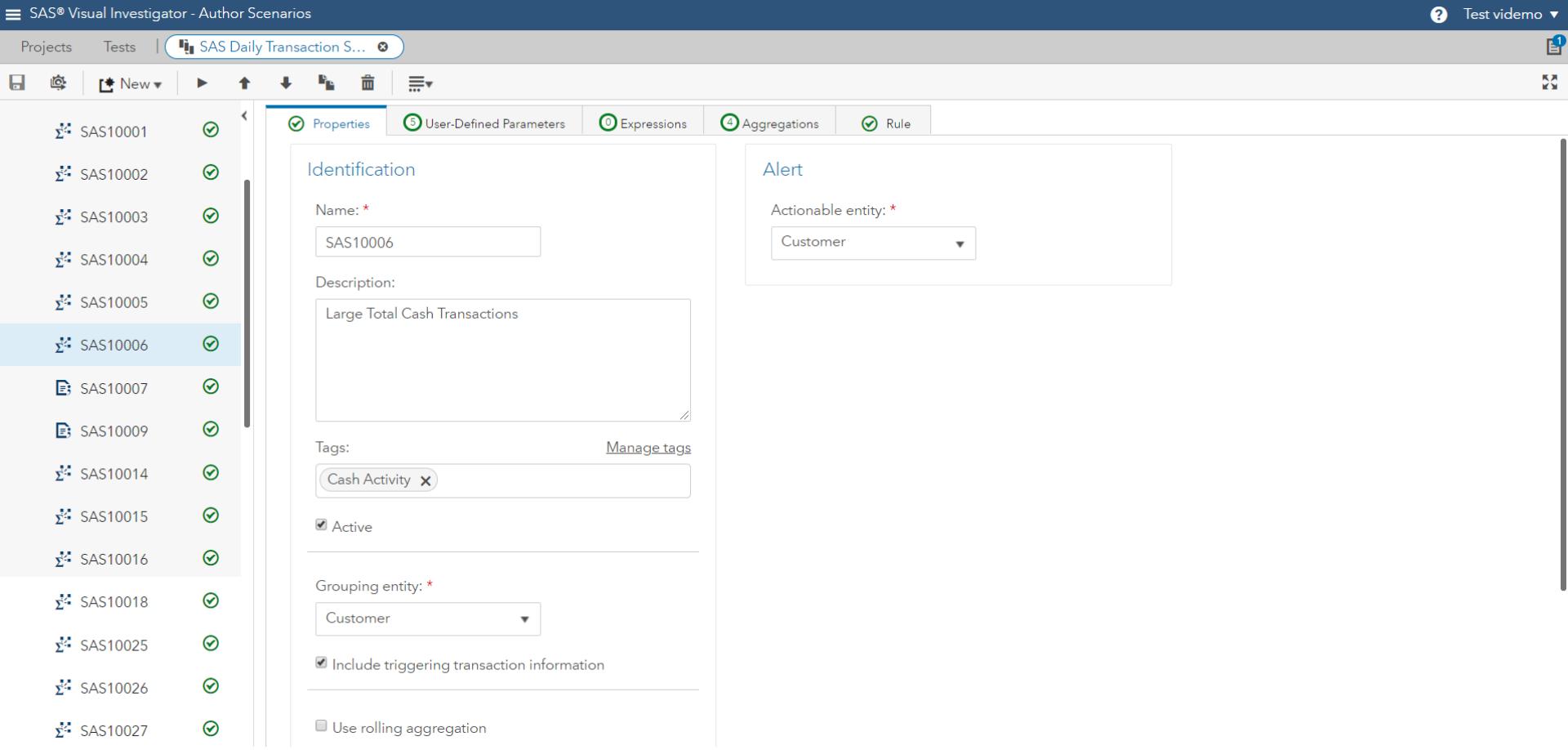
Grouping entity: *
Customer

Include triggering transaction information

Use rolling aggregation

Alert

Actionable entity: *
Customer



Scenario Builder interface for creating and maintaining AML rules.



SAS® Visual Investigator - Author Scenarios

Projects Tests | SAS Daily Transaction S... X

New ▾

SAS10001
SAS10002
SAS10003
SAS10004
SAS10005
SAS10006
SAS10007
SAS10009
SAS10014
SAS10015
SAS10016
SAS10018
SAS10025
SAS10026
SAS10027

Properties User-Defined Parameters Expressions Aggregations Rule

New Up Down Delete

ID	Label	Type	Default
single_trans_threshold	Maximum single amount of a valid...	Numeric	10000
amount_today_threshold	Minimum aggregate amount of va...	String	2000
trans_amount_threshold	Minimum aggregate amount of va...	Numeric	20000
lookback_days	Number of days in the interval	List Numeric	5
score	Score	Numeric	50

Scenario Builder interface for creating and maintaining AML rules.





SAS AML

Transaction Monitoring

SAS Anti-Money Laundering

Transaction monitoring

Packaged Data Management

Standard Library of Scenarios

'Open box' Scenario Manager and Simulation

Alert Generating Process

Integrated alert and case management

Automated regulatory filing

Compliance Analytics

MI Reporting

Network Analysis - Workspace

Drag and Drop Screen Config

The screenshot displays the SAS Anti-Money Laundering Transaction monitoring interface. At the top, there's a navigation bar with links: Home, Alerts, Tasks, Management, Search, Cases, Inquiries, Regulatory Reports, and E-Files. Below the navigation is a main dashboard area with several sections:

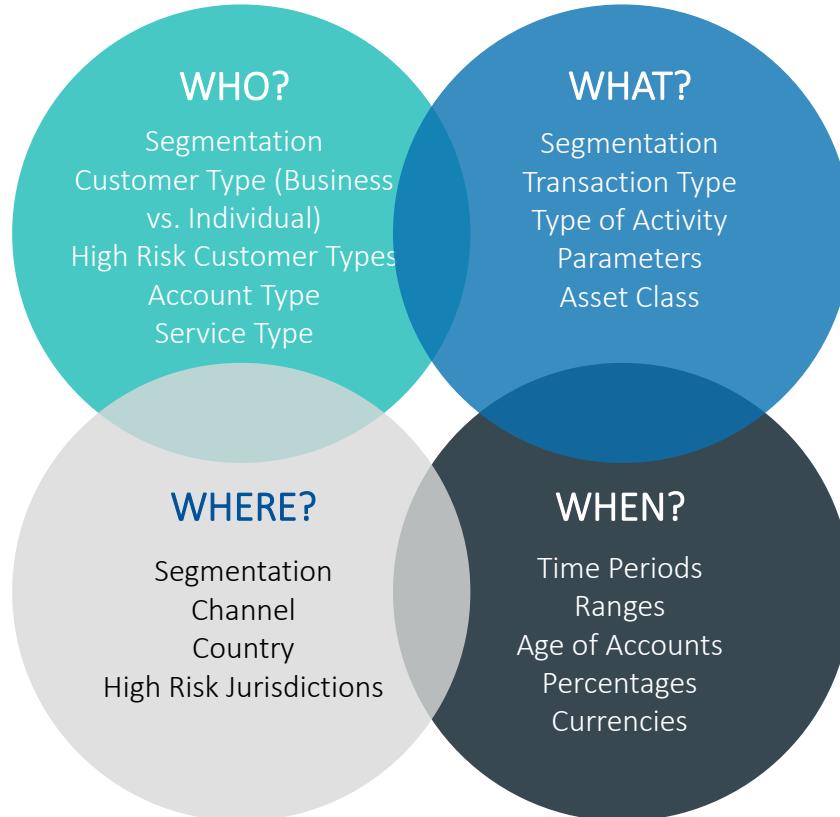
- Alert Summary:** Shows a count of 114 alerts and a median age of 4 weeks.
- Personal Metrics:** Displays "April 20, 2020" and "Average time worked per alert" (0 minutes).
- My Tasks:** A table showing no claimed tasks.
- Create New Object:** Buttons for Manual Party (highlighted in orange), Inquiry, Case (highlighted in yellow), and CRR Lookup.
- Search:** A search bar and links for Advanced Search and Recently Viewed.
- Alert Summary (list):** A table showing alert counts and median ages for various categories:

Category	Count	Median Age
Transaction Monitoring	12	24 weeks
Customer Screening	4	12 weeks
Customer Risk Scoring	33	24 weeks
Message Monitoring	9	24 weeks
Customer Onboarding	5	8 weeks

* Version Dependent

Detection Engine

Detection Dimensions



Scenarios are “White Box” and transparent to the users (80+ Templates)

Alerts **aggregated** at the customer level for comprehensive view and operational efficiency

Detection Engine

Transaction Monitoring - Scenario Strategies

Detection
Approaches

Business
Rules

Anomaly
Detection

Status
Changes

Peer Group
Monitoring

60+
Scenario
Templates

Wire Activity

Cash Activity

Link Analysis

Correspondent
Banking

Risk List Entities

Velocity

Cheque Activity

Loan Activity

Structuring

Unexpected
Transactions

Unusual
Aggregate
Behavior

Trade Finance

And more...

Dynamic User Interface

Alert and Case Management

Entity Triage and Aggregated Views on Alerts

Predictive Models – AML Scores

List prioritisation and management

Advanced Search Capabilities

Predefined User Interface – Workflows

Supports Multiple Languages

Attach + search in documents

Strong security and audit model

Flexibility on Customizations

Case Management and SAR reporting

The screenshot displays a dynamic user interface for alert and case management. At the top, a navigation bar includes Home, Alerts, Tasks, Management, Search, Cases, Inquiries, Regulatory Reports, and E-Files. Below the navigation is a table titled 'Transaction Monitoring' with columns for Score, Event Count, Name, Entity ID, Entity Type, Alert ID, Queue ID, Assignment Unit, and Status Date/Time. The table lists 10 items from a total of 1,147 items. To the right of the table are four panels: 'Information' (Alert ID: 1514936441, Score: 200, Queue: tm_alert_queue), 'Status' (Status: ACTIVE, Productivity: 100%), 'Details' (Last assigned date: Mar 26, 2020 12:38:48, Last assigned to: JIM COOK), and 'Scorecard' (Last updated date: 2020-03-26T04:58:15Z, Last updated by: sas.alert). Below these panels is a 'Network' diagram showing connections between entities like SWIFT 103, BANK MONEYSEG, and various users.

AML – Scenario Administrator

Open Box Scenario Creation

User Interface
dedicated to Scenarios
Maintenance

Centralized scenario
administration allow
adjustment and
duplication

Ability to run
simulations on
scenarios and
previewing details on
potentials hits

The screenshot displays the SAS AML - Scenario Administrator interface. On the left, a tree view shows data sources: TM_TRANSACTIONS (7) and CUSTOMER (7). Under CUSTOMER (7), several scenarios are listed: Large Cash Deposits, Cash Accumulation, Large Total Cash Transactions, Recent Currency Transaction Report, High-Risk Currencies, Funnel Account, and Large Total Cash Transactions by Risk.

On the right, a detailed view of the "Large Total Cash Transactions" scenario is shown. The top navigation bar includes Properties, User-Defined Parameters (10), Expressions (0), Aggregations (4), and Rules (1). The "Aggregations (4)" tab is selected, showing four defined metrics:

- total_amount_today**: Column to aggregate: currency_amount, Metric: Sum, Lookback (Day): 1, Offset: 0.
- total_amount**
- max_amount**
- num_days**

Below the aggregation rules, there is a section titled "Include rows that match:" which lists various conditions using AND operators and dropdown menus for account_type_desc, IN, acc_type_list, currency_based_account_ind, IN, currency_acct_ind, primary_medium_desc, IN, tran_type_list, transaction_cdi_code, IN, tran_cdi_list, and status_desc, IN, tran_status.

Pre Configured Scenarios

Easy and Comprehensive Tuning

Alerts Generated based
on weighted and scored
field

Properties User-Defined Parameters (3) Expressions (0) Aggregations (1) Rules (1)

Identification

Name: * Politically Exposed Person (PEP) Indicator

Description: Politically Exposed Person (PEP) Indicator

Tags: Watch List Interaction [Manage tags](#)

Active

Details

Grouping entity: * Customer

Indicate which records caused the scenario to fire ⚠

Use rolling aggregation

Date and time key: transaction_dttm

Lookback unit: Day

Rule methodology:

Form-based

Decision table

Scorecard

Mar 13, 2020 12:38:22 ...

Alert

Actionable entity: * Customer

Replicate records from the scenario context ⚠

Properties User-Defined Parameters (3) Expressions (0)

ID	Label	Type	Default
score	Score	Numeric	50
acc_type_list	Account Type List	List	"P"
pep_ind	Politically Exposed Person ...	List	"Y"

MANSSOR ARBABSIAR

Scenario	Score
NAME match found on OFAC (Sensitivity: 85)	85
DoB match found on OFAC (Sensitivity: 85)	30
ADDRESS match found on OFAC (Sensitivity: 80)	100
CITY match found on OFAC (Sensitivity: 85)	85
STATE match found on OFAC (Sensitivity: 85)	85

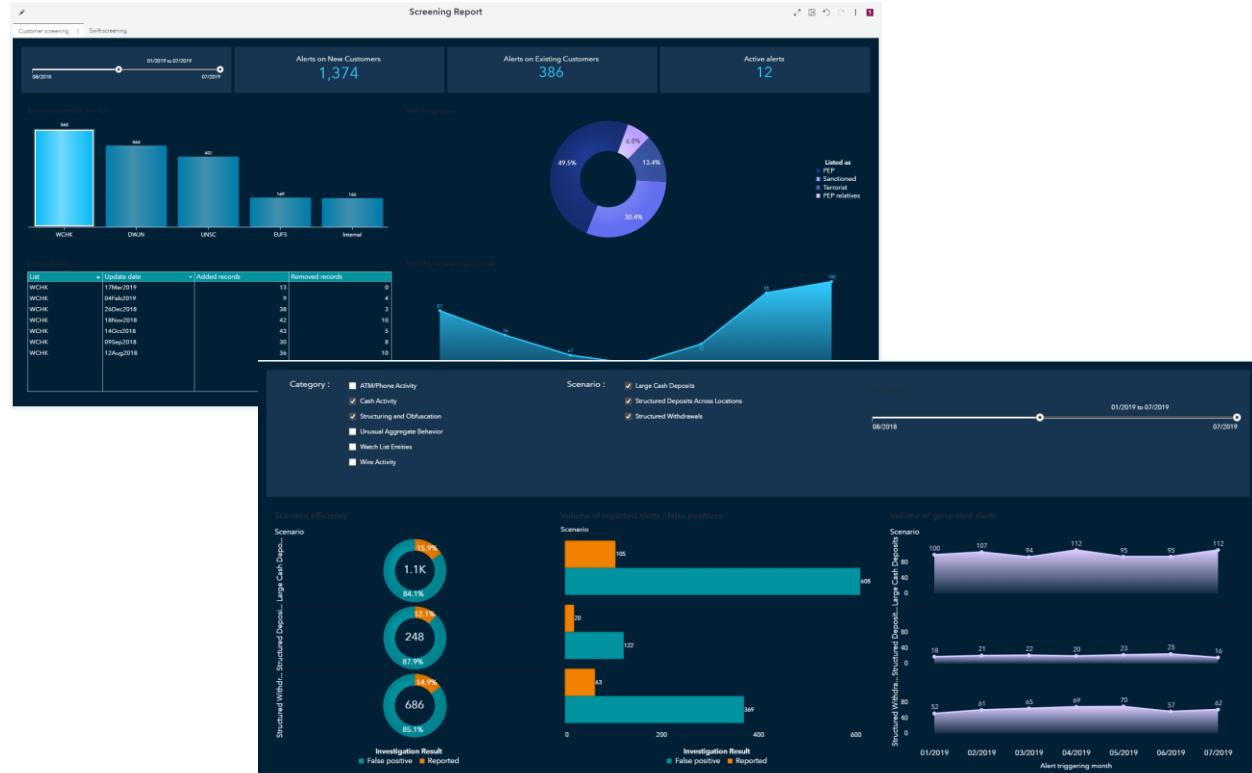
AML – Management Information Reporting

Operational Reporting

Out of the box
predefined MI Reports
Prepopulated based on
AML results

Flexibility to add any
extra reports

Allows headquarter to
analyze the alert
performance,
operation efficiency at
a group level.



DEMO #4



Transaction Monitoring

- Alert Investigation
- Screens
- Networks
- Dashboards
- Admin
- Scenarios

Notes:

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML

Transaction Monitoring ▾ All Active Alerts ▾ Assignment ▾ Dispositions ▾

Score ↓ :	Alert ID	Actionable Entity Type	Actionable Entity Label	Queue	Datetime Created	⋮
ⓘ 757	40816736080	party	17138 SHEILA TUSSER	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 735	44797920261	party	990000200	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 720	6484124439	party	10895600	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 698	1104297260	party	10922300	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 659	17969197213	party	10735086	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 659	19287574509	party	10770674	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 581	17508639971	party	10684728	Transaction Monitoring	Aug 5, 2019	⋮
ⓘ 581	1378979543	partv	10700227	Transaction Monitoring	Aug 5, 2019	⋮

⏪ ⏴ 1 ⏵ ⏩ 1 - 12 of 12 items

Items per page: 100 ▾

....

Scorecard

May 10, 2019 8:58:12 PM

01-0000211303

Scenario: Structured Withdrawals

Score: 757

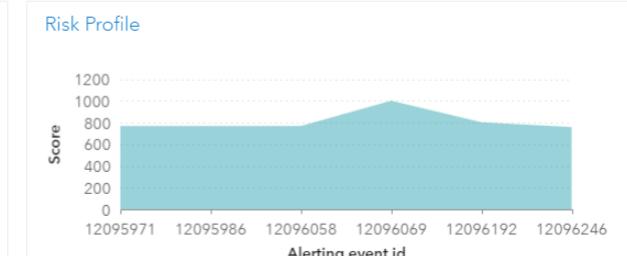
Alert Information

Alert ID: 40816736080

Actionable entity name: 17138 SHEILA TUSSER

Actionable entity type: party

Actionable entity ID: 17138



Transaction Monitoring Alerts and respective details. Page can be configured based on Customer's preferred view.



SAS® Visual Investigator - Investigate and Search Data - Alert

Home Alerts Tasks Management Search OFAC Watchlist Watchlist Exposure Whitelist Onboarding | ! 40816736080 * ! 38043648961 !

Assignment Dispositions Relate To 0 Attachments 0 Comments L2

Alert Details Alert Activity Account Activity Scoring History Alert History Workspace-1 +

Scorecard

May 10, 2019 8:58:12 PM

01-0000211303

Scenario	Score
Structured Withdrawals	757

Alert Information

Alert ID: 40816736080

Actionable entity name: 17138 SHEILA TUSSER

Actionable entity type: party

Actionable entity ID: 17138

Score: 757

Queue: queue_13515760

Status: ACTIVE

Productive:

Last updated by: videmo

Last updated date: 9/4/2019 02:52 PM

Risk Profile

Network

Viewing an alert detail. Again, the information displayed / pages can be configured.

Alert Details	Alert Activity	Account Activity	Scoring History	Alert History	Workspace-1	+
Scoring History						
Score :	Trigger text	:	Recommended queue	:	Created date/time	↓ :
757	Structured Withdrawals		queue_13515760		May 10, 2019 8:58:12 PM	1
802	Structured Withdrawals		queue_13515760		May 9, 2019 2:58:01 PM	1
999	Large Cash Deposits		queue_13515760		May 8, 2019 8:08:01 AM	1
767	Payments Made Using High-Risk Instruments		queue_13515760		May 7, 2019 6:01:45 PM	1
767	Structured Deposits Across Locations		queue_13515760		May 6, 2019 3:17:01 PM	1
767	Structured Withdrawals		queue_13515760		May 5, 2019 10:32:01 AM	1

Alert Details	Alert Activity	Account Activity	Scoring History	Alert History	Workspace-1	+
Alert History						
Action	Last updated user	:	Queue id	:	Action date/time	↓ :
The alert was checked out.	videmo		queue_13515760		Sep 4, 2019 2:52:11 PM	
The check-out released by the system.	sas.svi-alert		queue_13515760		Aug 29, 2019 1:51:11 PM	
The alert was checked out.	videmo		queue_13515760		Aug 29, 2019 12:19:45 PM	
The check-out released by the system.	sas.svi-alert		queue_13515760		Aug 29, 2019 12:09:11 PM	
The alert assignment was updated.	videmo		queue_13515760		Aug 29, 2019 10:33:59 AM	
The alert assignment was updated.	videmo		queue_13515760		Aug 29, 2019 10:33:43 AM	
The alert was checked out.	videmo		queue_13515760		Aug 29, 2019 10:33:31 AM	

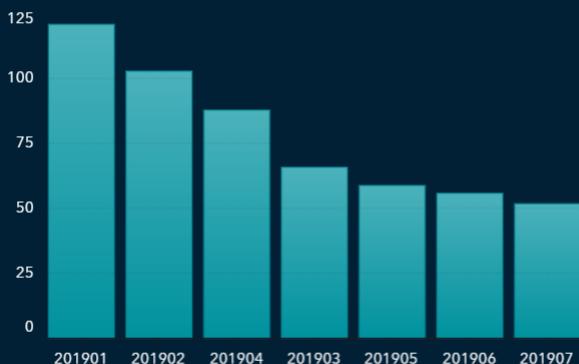


Scoring History details for the transaction being investigated.



[Home page](#) [Onboarding Due Diligence](#) [Ongoing Due Diligence](#)
Filters: INDIVIDUAL 
INDIVIDUAL ORGANIZATION
H L M
◀ 201901 201902 201903 201904 201905 201906 201 ▶

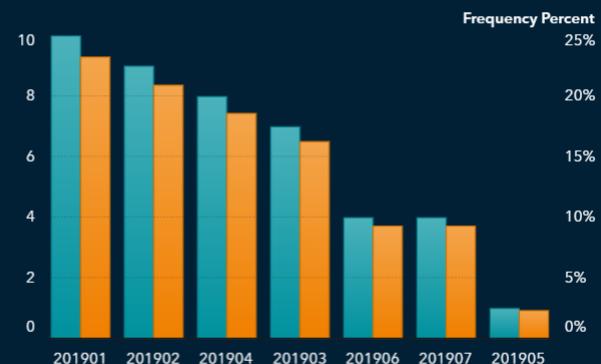
Accepted Onboarding Customer



Rejected Onboarding Customer



New Customers Risk Change (H-L, L-H)



party_name	party_number	year_month	reject_reason	party_type_desc	citizenship_country_code	occupation_desc	marital_status_desc	customer_risk
RUBY GARDEA	10783018	201905		INDIVIDUAL	MDV	FARMER	MARRIED	L
ROBERT JACKSON	10539335	201902		INDIVIDUAL	USA	RELIGIOUS	MARRIED	M
SHERRY MARSH	10581359	201906		INDIVIDUAL	USA	SELF EMPLOYED PROF/TECH	MARRIED	L
RUBY GARDEA	10783018	201906		INDIVIDUAL	MDV	FARMER	MARRIED	L
TONY SHENG	10185015	201906		INDIVIDUAL	USA	CRAFTSMAN	SINGLE	M
ROBERT JACKSON	10539335	201903		INDIVIDUAL	USA	RELIGIOUS	MARRIED	M



Sample AML interactive dashboards. The dashboard view can be easily managed through drag-n-drop capabilities.



Customer screening Swift screening

08/2018 to 07/2019

07/2019

Alerts on New Customers

2,342

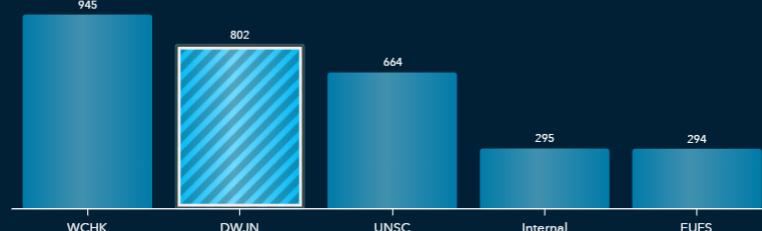
Alerts on Existing Customers

658

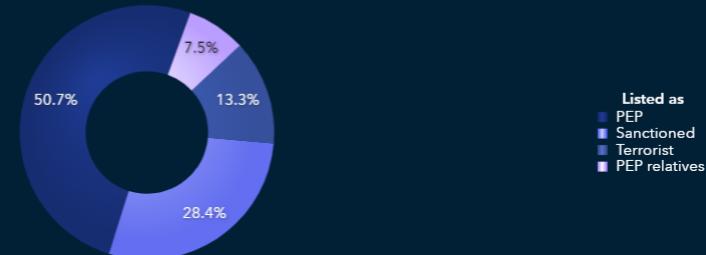
Active alerts

12

Entities matched per list



Matching types



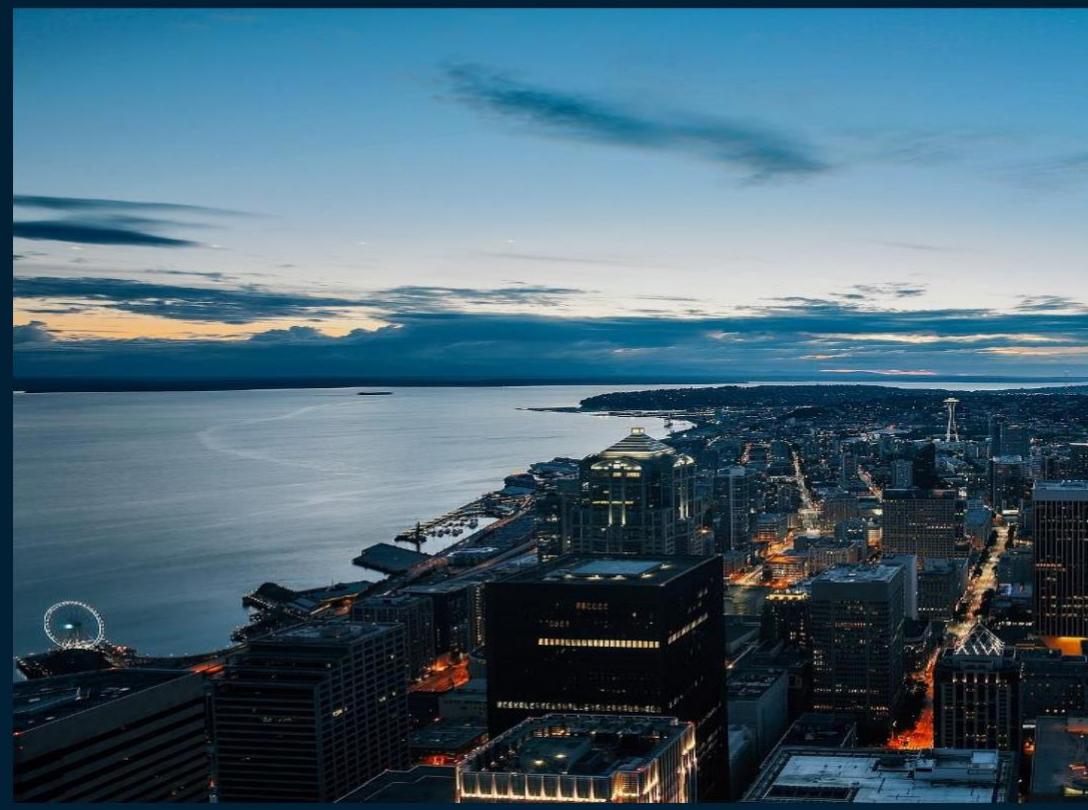
List updates

List	Update date	Added records	Removed records
DWJN	09May2019	40	9
DWJN	29Mar2019	44	10
DWJN	24Feb2019	48	4
DWJN	24Jan2019	50	5
DWJN	21Dec2018	26	2
DWJN	15Nov2018	11	6
DWJN	14Oct2018	12	3
DWJN	11Sep2018	43	10
DWJN	02Aug2018	24	1

Monthly screening volume



Sample AML interactive dashboards. The dashboard view can be easily managed through drag-n-drop capabilities.



AML Report



[Transaction monitoring](#)



[Investigation management](#)



[Scenario Performance](#)



[Swift monitoring](#)

Sample AML interactive dashboards. The dashboard view can be easily managed through drag-n-drop capabilities.

Active alerts

102

Closed alerts

6,167

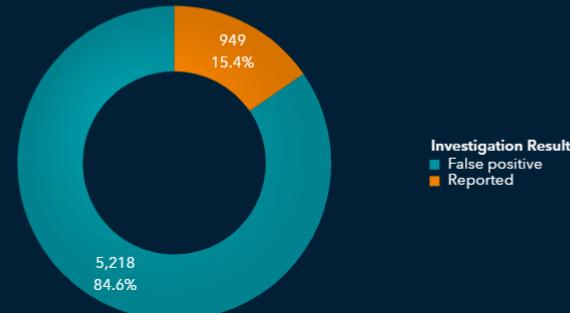
Active scenarios

11

Alerts per day

17

Detection efficiency



Scenario detection performance

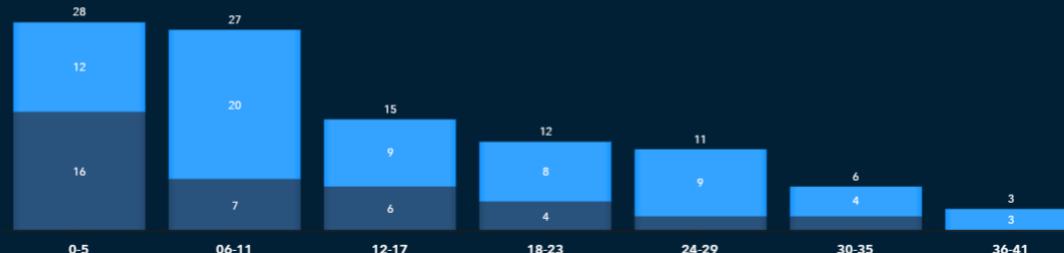


Frequency

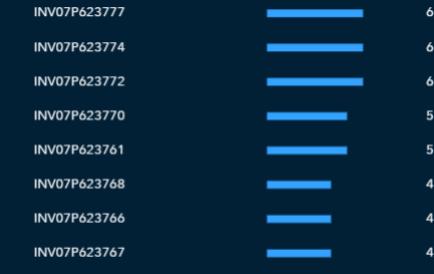
Reported alert rate

Age of active alerts

Alert status
■ Open ■ Under investigation



Investigator current workload



65

Sample AML interactive dashboards. The dashboard view can be easily managed through drag-n-drop capabilities.

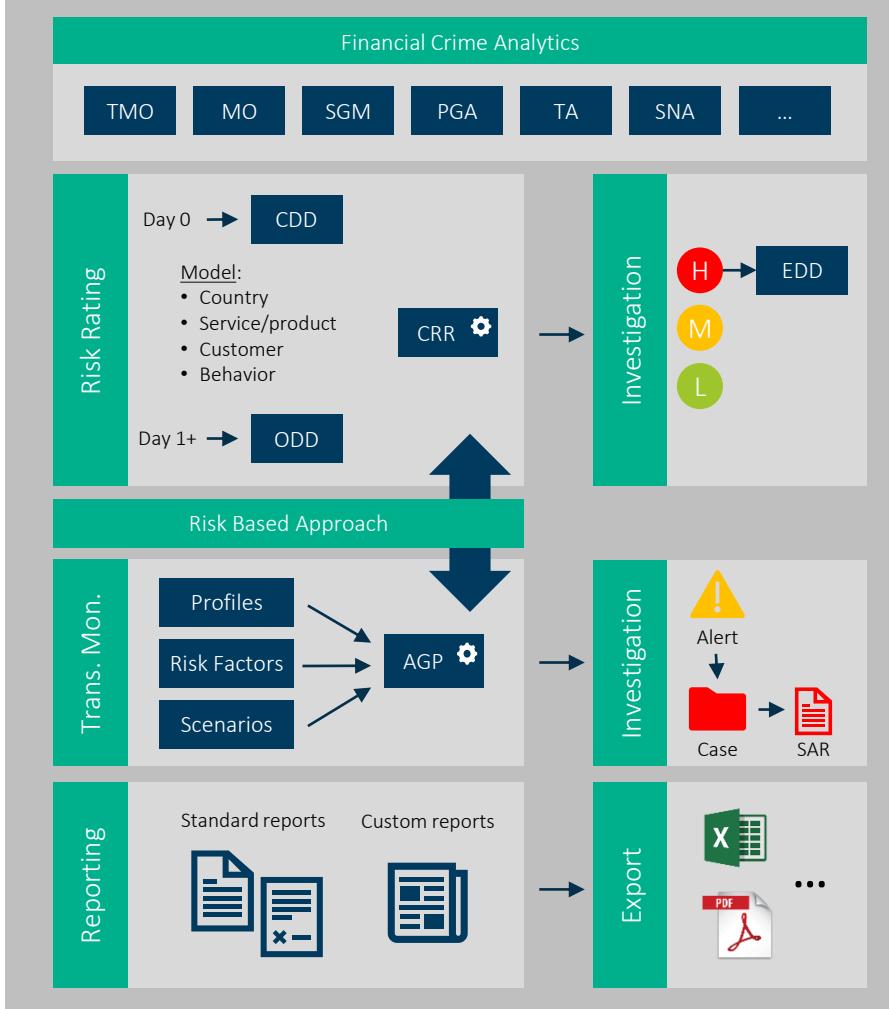
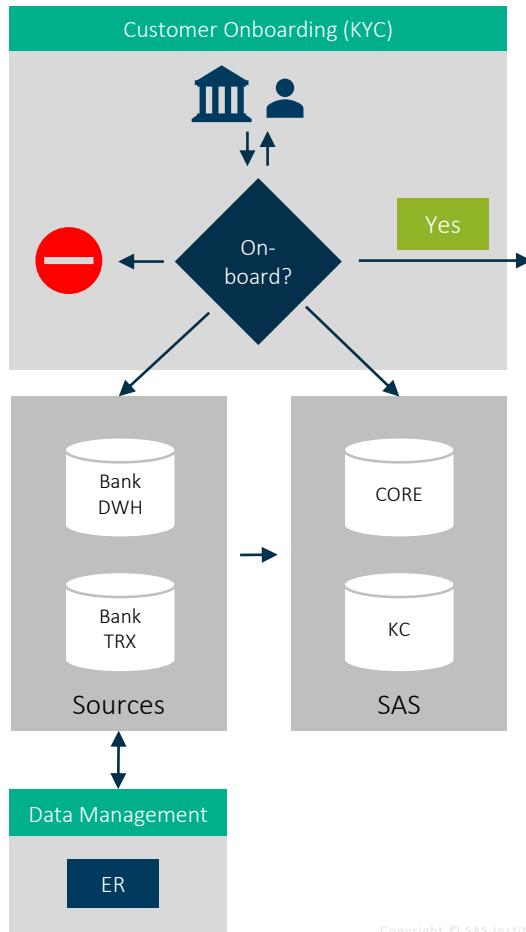


SAS KYC / CDD

Global Customer Risk Rating System

Terminology

AGP	Alert Generation Process
CDD	Customer Due Diligence
CORE	Core database (ref. data)
CRR	Customer Risk Ranking
EDD	Enhanced Due Diligence
ER	Entity Resolution
KC	Knowledge Center
KYC	Know Your Customer
MO	Modus Operandi
ODD	Ongoing Due Diligence
PGA	Peer Group Analysis
SAR	Suspicious Activity Report
SGM	Segmentation
SNA	Social Network Analytics
TA	Text Analytics
TM	Transaction monitoring
TMO	Transaction Monitoring Optimization



SAS® Customer Due Diligence

Customer Risk Rating

Packaged Data Management

Standard Library of Rules

'Open box' Rules Manager

Customer Risk Rating Process

Web-based Investigative UI for CDD Reviews

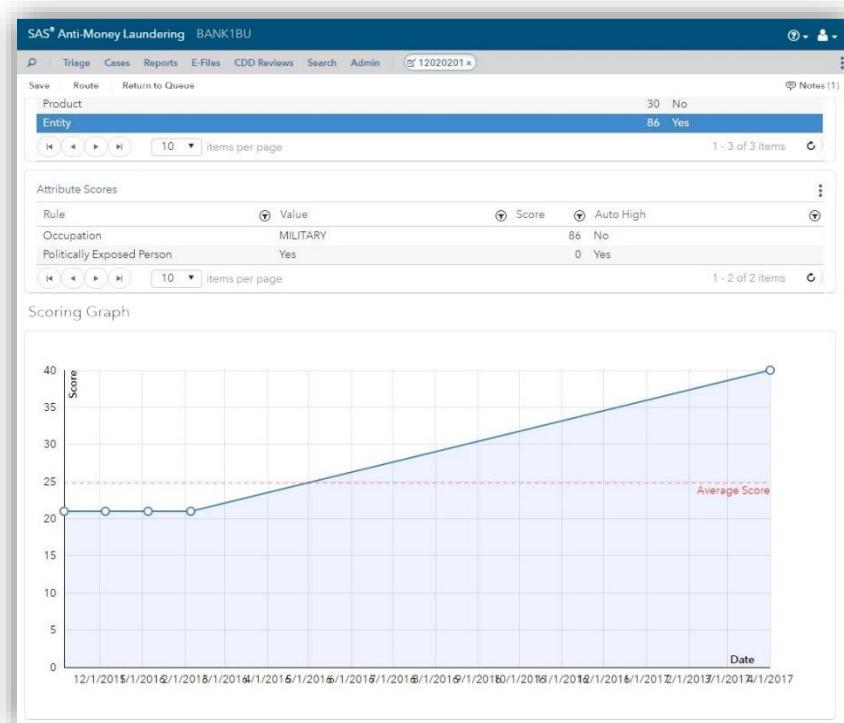
CDD Review Management

Data Export

MI Reporting

Search

Scoring trend analysis



Examples of Categories and Rules

Country Risk Attributes

Country of Residence
Country of Citizenship
Country of Expected Transaction Behavior

Product/Service Attribute

Each product type will have a numeric value assigned within a range of 0 to (n). Based on FI product mix

Entity Risk Attributes

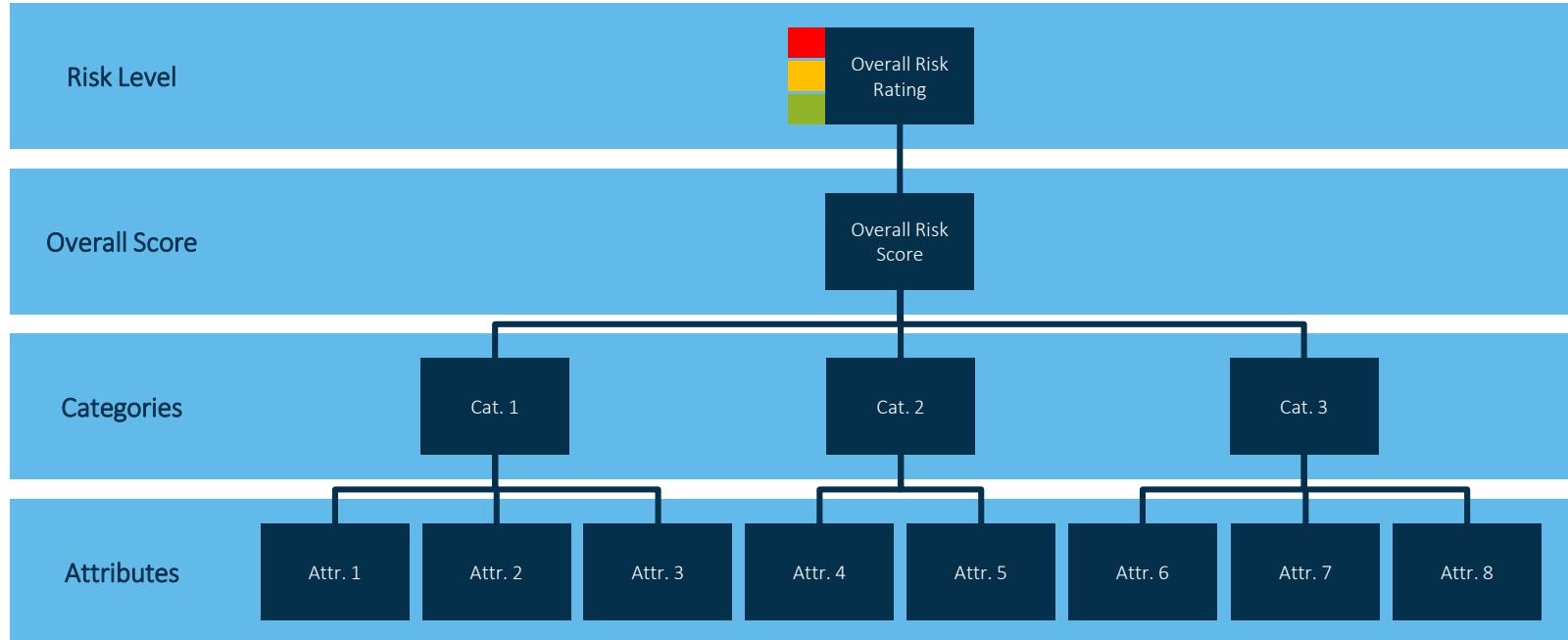
Occupation
PEPs (Y/N Flag)
Legal Entity Status
Not For Profit (Y/N Flag)
Money Service Business
Foreign Consulate/Embassy

Transaction Attributes

SAR count over a period of time

SAS® Customer Due Diligence

Scoring Overview



Global Customer Risk Rating

Best Practice Scoring Example

Attributes				Categories				Overall Score	Overall Risk Rating		
	Values	Weights	Relative Attribute Values	Categories	Values	Weights	Relative Category Values				
Attributes	All values normalized into range 0 to 100	Total per Category = 100	Value * Weight		Sum of Relative Attribute Values per Category	Total = 100	Values * Weight	Sum of Relative Category Values	0 <= Low < 40 40 <= Medium < 75 75 <= High <= 100		
Attribute 1	30	20%	6	Category 1	51	20%	10.2	66.3	Medium Risk		
Attribute 2	100	30%	30								
Attribute 3	30	50%	15	Category 2	47	30%	14.1				
Attribute 4	100	15%	15								
Attribute 5	20	25%	5	Category 3	84	50%	42.0				
Attribute 6	40	30%	12								
Attribute 7	50	30%	15								
Attribute 8	60	40%	24								
Attribute 9	100	60%	60								

DEMO #5

KYC / CDD / EDD



- Customer Risk score Review
- Workflow Process

Notes:

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML

SAS® Visual Investigator - Investigate and Search Data - Alert

Home Alerts Tasks Management Search OFAC Watchlist Watchlist Exposure Whitelist Onboarding | ! 38043648961 X

Assignment Dispositions Relate To

Alert Details Alert Activity Scoring History Alert History Workspace-1

0 Attachments 0 Comments A

Ongoing Risk Scorecard

May 5, 2019 3:00:00 AM

Scenario	Score
Personal Entity Rule: Politically Exposed Person	100
Personal Entity Rule: Occupation	50
Weighted Sum of Country Attribute Scores Divid...	0
Personal Country Rule: Residence	10
Personal Country Rule: Country of Citizenship	10
Personal Country Rule: Country of Birth	30
Exist alert under investigation or more than 2 ale...	90
Product Category Aggregation	30
Personal Entity Rule: Identification Expired	100
Final Score: Assign Score Classification	420

Alert Information

Alert ID: 38043648961
Actionable entity name: 17138 SHEILA TUSSER
Actionable entity type: party
Actionable entity ID: 17138
Score: 420
Queue: queue_3306309
Status: ACTIVE
Productive: true
Last updated by: videmo
Last updated date: 9/4/2019 02:53 PM

Risk Profile

Score

Alerting event id

Network

ad_2110.Norrb...

8473755001

8473755000

8473755002

40816736080

38043648961

425862734614

SHEILA TUSSER

Assignment Dispositions Relate To

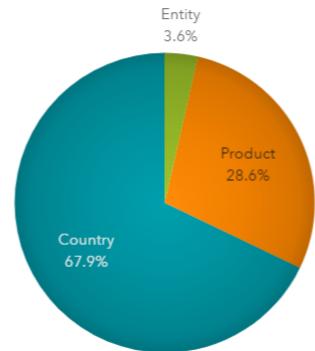
0 Attachments

0 Comments

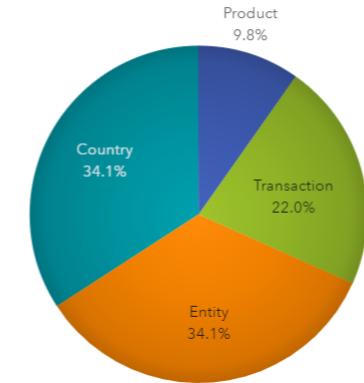
Alert Details Alert Activity Scoring History Alert History Workspace-1

▼ Historical Risk Classification

02/05/2019



04/05/2019



Historical risk classification information. You can compare the risk by different time periods from the date dropdown field.

Assignment ▾ Dispositions ▾ Relate To ▾

Alert Details Alert Activity Scoring History Alert History Workspace-1 +

 Alert 1: Aug 5, 2019 - Sep 4, 2019 May 5, 2019 3:00:00 AM

Entit... :	Entity :	Sc... ↑ :	Scenario ID :	Scenario Description	Scenario Details	Run ... :	Productivity Rat... :	Com... :	Score :	↓
Party	17138	Alert re...	CDDR_P001	Exist alert under investigation or more than 2 alerts in the...	Product Attribute Rule	Aug 5, ...	Productive		90	
Party	17138	Bandin...	CDDR_X020	Final Score: Assign Score Classification	Final Score: Assign Score Classification	Aug 5, ...	Productive		420	
Party	17138	Citizens...	CDDR_C202	Personal Country Rule: Country of Citizenship	Personal Country Rule: Country of Citizenship	Aug 5, ...	Productive		10	
Party	17138	Country...	CDDR_C920	Weighted Sum of Country Attribute Scores Divided by W...	Weighted Sum of Country Attribute Scores Divided by W...	Aug 5, ...	Productive		0	
Party	17138	Country...	CDDR_C203	Personal Country Rule: Country of Birth	Personal Country Rule: Country of Birth	Aug 5, ...	Productive		30	
Party	17138	Identific...	CDDR_EX001	Personal Entity Rule: Identification Expired	Personal Entity Rule: Identification Expired	Aug 5, ...	Productive		100	
Party	17138	Occupa...	CDDR_E201	Personal Entity Rule: Occupation	Personal Entity Rule: Occupation	Aug 5, ...	Productive		50	
Party	17138	Political...	CDDR_E202	Personal Entity Rule: Politically Exposed Person	Personal Entity Rule: Politically Exposed Person	Aug 5, ...	Productive		100	
Party	17138	Product...	CDDR_P920	Product Category Aggregation	Product Category Aggregation	Aug 5, ...	Productive		30	
Party	17138	Residen...	CDDR_C201	Personal Country Rule: Residence	Personal Country Rule: Residence	Aug 5, ...	Productive		10	

No context records.



SAS RTS

Global Customer Risk Rating System

SAS - Real Time Sanctions screening

Key Features

Support of public,
internal and third
party lists providers

Real time customer
screening

Real time screening of
SWIFT MT / ISO 20022
payments

On going customer
screening

Fuzzy logic algorithm
for Latin & Non Latin
alphabets

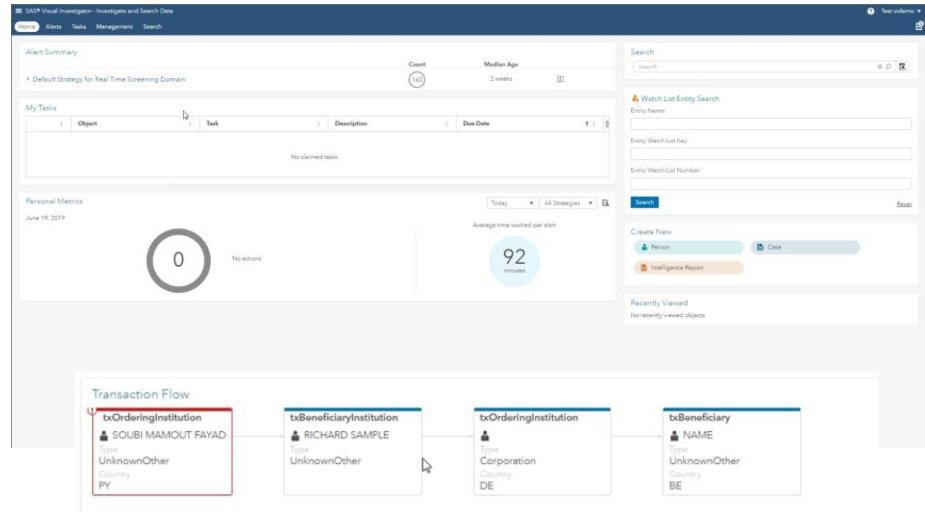
STP Processing

Integrated on the SAS
Compliance Solutions

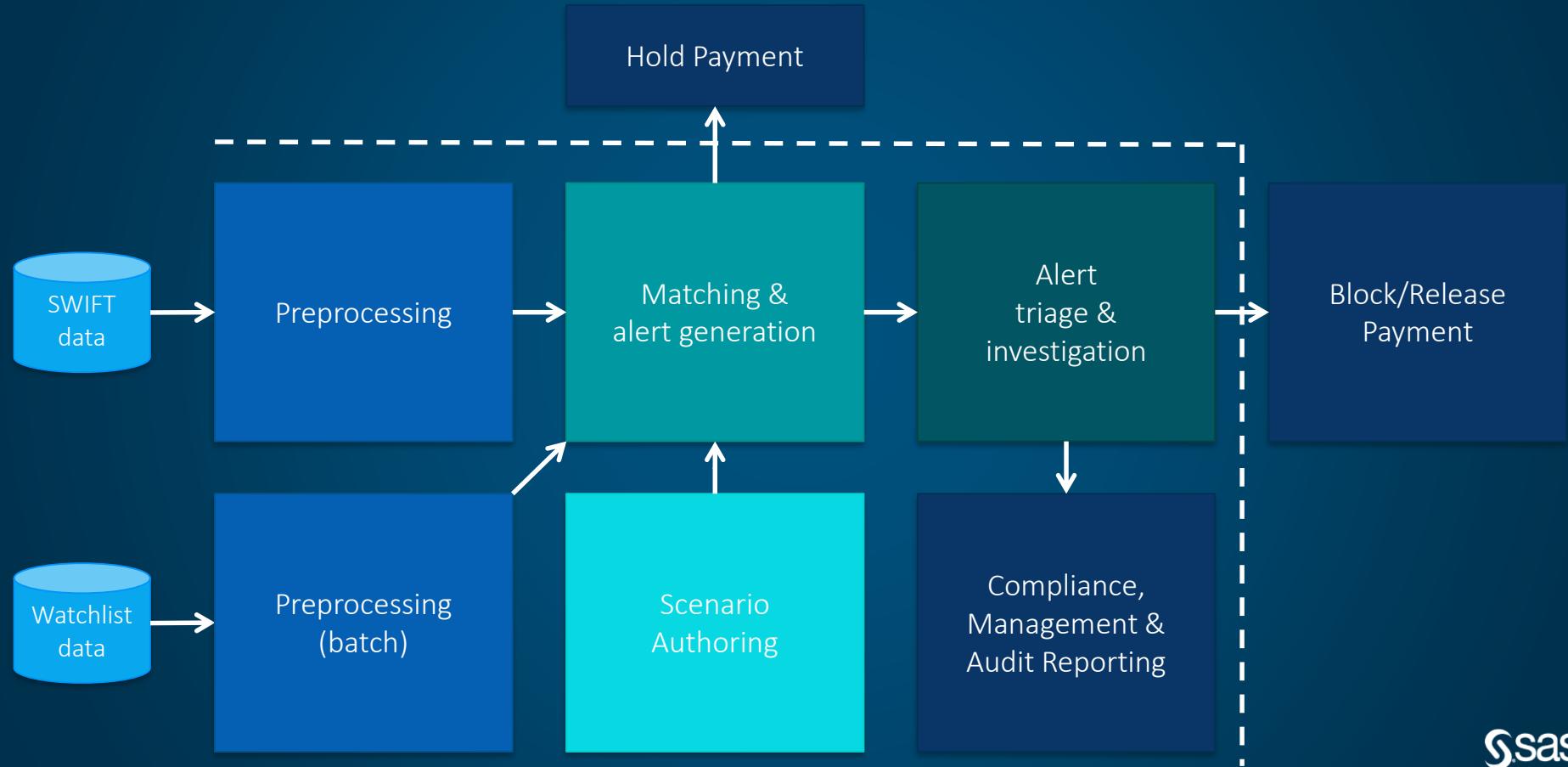
Advanced Analytics

High flexibility of the
screening rule builder

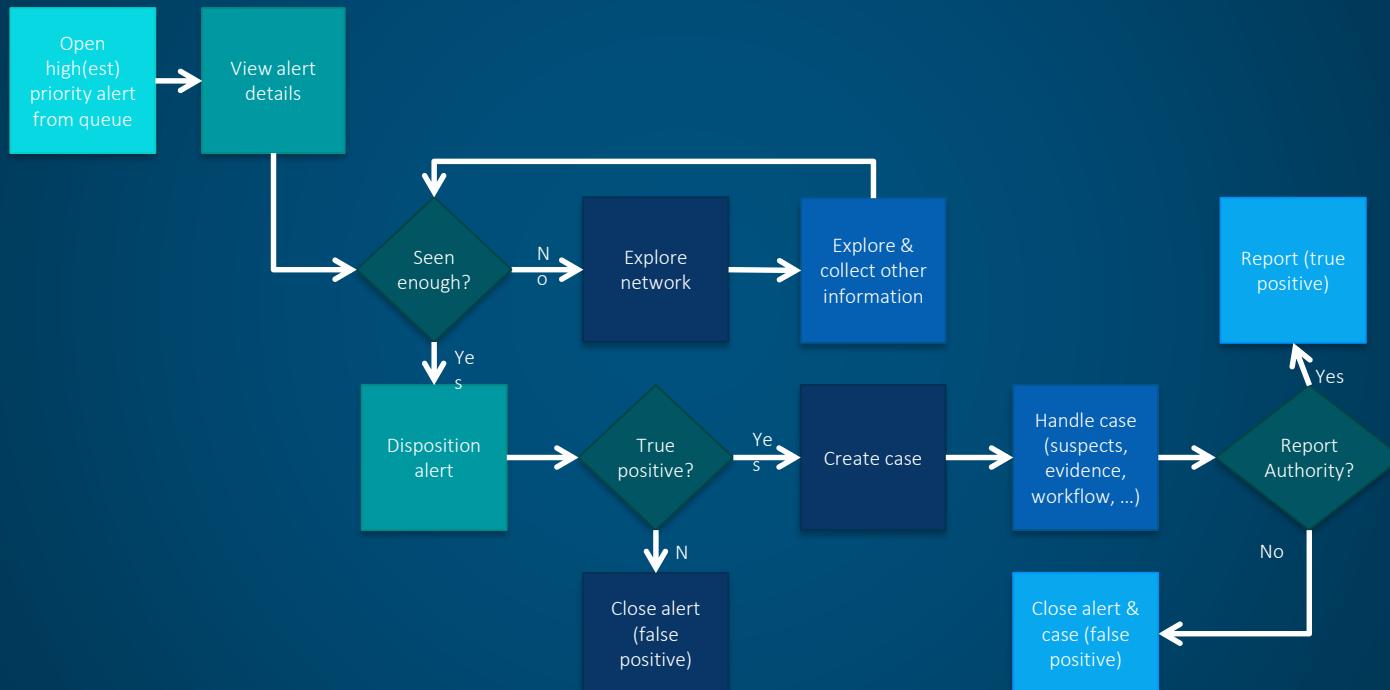
Flexibility to add any
payment type to be
screened



Transaction Screening Process (real-time)



Alert Triage & Investigation



DEMO #6



RTS

- Transaction Screening Alerts
- Rule builder for message type transactions screening

Notes:

This demo is to address the Item 3 - The scope of work need further clarification with component C- AML

Home Alerts Tasks Management Search Transactions Held Blocked Accounts

Alert Summary

	Count	Median Age	
▶ Real Time Screening Party Strategy	119	4 days	i
▶ Real Time Screening Transaction Strategy	24	3 hours	i
▶ Default Alert Strategy	124	3 days	i

My Tasks

Object	Task	Description	Due Date	Actions
No claimed tasks.				

Personal Metrics

March 2, 2020

Average time worked per alert



0
No actions

Average time worked per alert



0
minutes

Search

SearchReset

Watch List Entity Search

Entity Name:

Watch List Name:

Entity Watch List Number:

Search Reset

Create New

RTS ESP Entity Config

Recently Viewed

No recently viewed objects

Home Alerts Tasks Management Search Transactions Held Blocked Accounts

Detail View * Select Object

Filters

- All Types
- Account (13,946)
- Address (107,723)
- Alert (273)
- Associate (1,841)
- Bank (1)
- Customer (27,118)
- External Party Account (1,533)
- Household (1)
- Real Time Screening Case (1)
- Real Time Screening Party Case (2)
- RTS Alert Transaction (25)
- RTS Alerted Entity Reason (15)
- RTS Alerted Transaction Entity (144)
- RTS ESP Entity Config (48)
- Watch List Entity (4,730)

▼ Watch List Name

- All
- WCHK (4,729)
- DWJN (1)

▼ PEP

1 to 40 of 4,730 results found. 1 2 3 4 5 Next > Results per page: 40 Sort results by: Relevance

PEDRO DANIEL HARO PAVEZ
Entity Name: PEDRO DANIEL HARO PAVEZ
Watch List Name: WCHK
Entity Watch List Number: 5573237
Type Desc: INDIVIDUAL
Gender: M
Deceased: N
Law Enforcement: Y
Regulatory: N
Sanctions: N
Terrorist: N
PEP: N
Position:
Pep Description:
Other: N

GUSTAVO GABRIEL JUAREZ
Entity Name: GUSTAVO GABRIEL JUAREZ
Watch List Name: WCHK
Entity Watch List Number: 5573267
Type Desc: INDIVIDUAL
Gender: M
Deceased: N
Law Enforcement: Y
Regulatory: N

Tools Object Inspector

Watch List Entity

Entity Name: PEDRO DANIEL HARO PAVEZ

Entity status flag: A

Watch list: WCHK

Entity Watch List Number: 5573237

Type: INDIVIDUAL

Gender: M

Deceased: N

Law Enforcement: Y

Watchlist Filtering Interface. Filters allow for targeted view / search. Details of each item is available on the right.



Real-Time Screening Transaction Strategy											
Score	Alert ID	Sender Receiver	Bank Code	Message Category	Message Type	Transaction Reference	Transaction Amount	Transaction Currency	Datetime Created		
① 100	19688940751	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:51:33 AM		
① 100	46968454977	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:50:05 AM		
① 100	43964095667	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:46:10 AM		
① 100	23026293319	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:36:07 AM		
① 100	30546185749	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:29:13 AM		
① 100	28153891088	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:14:44 AM		
① 100	6859737972	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 7:03:04 AM		
① 100	15260374060	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 28, 2020 6:34:40 AM		
② 85	40763439794	Output		Customer Payments and Ch...	pain.001	FuzzyName001	13	IRR	May 27, 2020 12:52:20 PM		
① 100	29944618718	Output	AAAAA	Customer Payments and Ch...	MT103	5387354	1121.5	EUR	May 27, 2020 12:33:26 PM		

1 - 54 of 54 items

Items per page: 100 ▾

Scorecard

May 28, 2020 7:51:33 AM ▾

MOHAMMED SAIFUDIN FAIZ

Scenario

Score

Match

100

AL-QAIDA OF JIHAD--- IN THE LAND OF THE TWO RIVERS

Scenario

Score

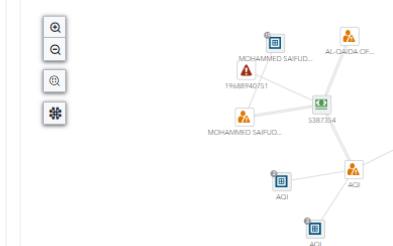
No match

AQI

Alert Information

Alert ID:
19688940751Actionable entity name:
0057::000289Actionable entity type:
RTS_ALERT_TRANSACTIONActionable entity ID:
61Score:
100

Network



Assignment ▾ Dispositions ▾ Relate To ▾

0 Attachments

0 Comments

Alert Details Alert Activity Alert History Scoring History Network Workspace +

Alert Information

Alert ID: 40070763020 Actionable Entity Name: BBBB/150928-FICT/UAH/430::2015-09-28T16:00:00
Score: 100 Actionable Entity ID: 4
Queue: RTS_TXN_QUEUE Actionable Entity Type: RTS_ALERT_TRANSACTION

Status

Status: ACTIVE Productive:
Hold: false Last Updated By: videmo
Suppress: false Last Updated Date: 3/2/2020

Transaction Flow



Scorecard

Feb 28, 2020 10:58:45 AM

100

AL JAMMALI IMAD BEN BECHIR

Scenario

Match

Score

Assignment ▾ Dispositions ▾

Alert Details Alert Activity Alert History Scoring History Network Workspace +

Alert 1: May 28, 2020 - May 29, 2020 ▾ May 28, 2020 7:51:33 AM ▾

Entity Type	Entity	Scenario Name	Scenario ID	Scenario Description	Message Text	Value
RTS Alerted Transaction Entity	236	MOHAMMED SAIFUDIN FAIZ	ebee329d-625f-41...	Match		
RTS Alerted Transaction Entity	237	AL-QAIDA OF JIHAD--- IN THE LAND OF THE TWO RIVERS	d002243b-ab66-4...	No match		
RTS Alerted Transaction Entity	238	AQI	e41d1fa2-c31b-4d...	Match		
RTS Alerted Transaction Currency	61	RTS CURRENCY RULE MATCH	55c990d9-f1b8-42...	Rule Match		
RTS Alerted Transaction Country	61	RTS COUNTRY RULE MATCH	08767809-2577-4c...	Rule Match		

Table View ▾

Name on Transaction	Transaction Role	Watch List	Watch List Number	Name on Watch List
MOHAMMED SAIFUDIN F...	txOrderingCustomer	WCHK	283460	MOHAMMED KARIM YUSOP FAIZ

Transaction - Watch List Compare

Matching Entities

Transaction name:
MOHAMMED SAIFUDIN FAIZ

Watch list entity name:
MOHAMMED KARIM YUSOP FAIZ

Transaction role:
txOrderingCustomer

Watch list:
WCHK

Watch list number:
283460

Matching Fields (18)



Transaction Value	Watch List Value	Match Type	Watch List Code
PH	ZAMBOANGA CITY, ZAMBOANGA PENINSULA, PHILIPPINES	Country Match	
PH	TAWI-TAWI, PHILIPPINES	Country Match	
MOHAMMED SAIFUDIN FAIZ	MOHAMMED KARIM YUSOP FAIZ	Name Individual Fuzzy Match	G&&4\$\$\$\$\$B&2&B&8\$\$\$\$\$
MOHAMMED SAIFUDIN FAIZ	MOHAMMED USOP KARIM FAIZ	Name Individual Fuzzy Match	G&&4\$\$\$\$\$B&2&B&8\$\$\$\$\$

← 1 2 → 1 - 10 of 18 objects

objects per page 10 ▾

Match Details Transaction Details Watch List Details

Watch List Match Information

Watch List Entity Additional Information +

Details

Individual name:
MOHAMMED KARIM YUSOP FAIZ

Watch list:
WCHK

Law enforcement:
Y

PEP:
N

Gender:
M

Watch list number:
283460

Regulatory:
N

Position:

Deceased:
N

Type:
INDIVIDUAL

Sanctions:
Y

PEP description:

Entity status flag:
A

Terrorist:
Y

Other:
Y

Names / Aliases

Addresses

Countries

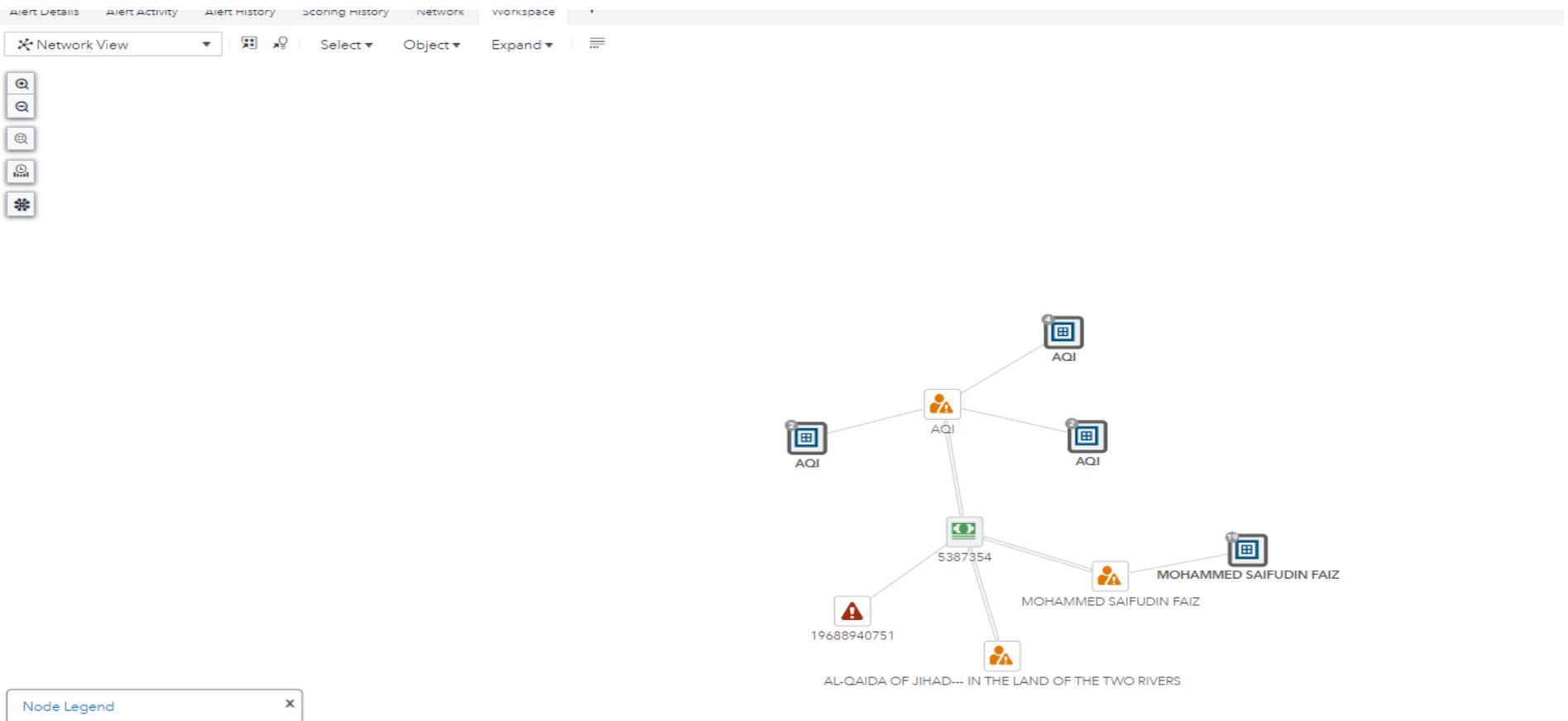
Birth Dates / Places

Identifiers

Programs

Names / Aliases

Entity Name	Name Type	First Name	Last Name	Middle Name
FAUZ FATUROHMAN	ALIAS	FAUZ	FATUROHMAN	
MOHAMMED YUSIP KARIM	ALIAS	MOHAMMED YUSIP	KARIM	
UDTADZ SYAIFUDIN	ALIAS	UDTADZ	SYAIFUDIN	
FAIS	LQALIAS		FAIS	
ABDULLAH FAIZ	ALIAS		ABDULLAH FAIZ	
FAIZ SAIFUDDIN	ALIAS	FAIZ	SAIFUDDIN	



[Home](#) [Alerts](#) [Tasks](#) [Management](#) [Search](#) HARAKAT AL-NUJABA

Detail Information on Match Entry

Entity Watch List Number

Regulatory

Position

2174692

N

Type

Sanctions

PEP Description

ORGANIZATION

Y

Gender

Terrorist

Y

Deceased

N

[Names / Aliases](#)[Addresses](#)[Countries](#)[Birth Dates / Places](#)[Identifiers](#)[Programs](#)[Information](#)[Related Entities](#)

Entity Country Name :

Entity Country Type :

Entity Country Code2 :

Entity Country Code3 :

IRAQ

REGI

IQ

IRQ

Detail information on match entry, this information is extracted from External list vendors.





Label	Case Status	Case Priority	Created Date
2020041	Open	High	Apr 10, 2020 10:59:43 AM

Identification

Description
test

Category:
WATCHLIST

Summary:

Subcategory:
RISKCNTRY

Group Box

Status:
OPEN

Financial amount involved:

Owner:
 Test videmo

Review start date:

Priority:
H

Review end date:



ROBERT SAMJALYI...

Example of RTS transaction held screen, which will show all transactions are currently in active investigation by Bank.



Label	Blocked Account Number	Date Of Block	Amount Blocked	Case Comment	Regulatory Contact Name	Date Of Contact	Report Commentary
2020054	84939432	May 28, 2020	32,432.432.00		mr X	May 28, 2020	test

Identification

Description:
test_flow

Category:
BLACKLIST

Summary:

Subcategory:
MANUAL

Overview

Status:
REPCMPLT

Financial amount involved:

Owner:
 Test videmo

Review start date:

Example of RTS block account screen, which shows the list of Block account based on final investigation.

Case Details Related Items

Identification

Case ID: 2020032

Alert Id 40070763020

Case Status Open

Case Primary Status: Initiated

Description: test

Case Category Watch List Entities

Subcategory: Manually Created Alert

Summary dd

Manager's Case Comment

Tasks

Real Time

Claim

Claimant

Start

Case Ownership

Generate ID

Withdrawal

Update Opened Transaction Field

Start Investigation

Get Investigator User

Task required for Additional Information

Request for Information

Put DTP Message

Create Report

Report Progress

Select Case for OC

OC-Release

Release Selected for OC-Release

OC-Release

Real Time Screening Case Workflow

```
graph TD; Start(( )) --> Ownership[Case Ownership]; Ownership --> GenerateID[Generate ID]; GenerateID --> Withdrawal[Withdrawal]; Withdrawal --> UpdateField[Update Opened Transaction Field]; UpdateField --> StartInvestigation[Start Investigation]; StartInvestigation --> GetInvestigatorUser[Get Investigator User]; GetInvestigatorUser --> TaskInfo[Task required for Additional Information]; TaskInfo --> RequestInfo[Request for Information]; RequestInfo --> PositiveResult[Positive result - Block]; PositiveResult --> PutDTP[Put DTP Message]; PutDTP --> CreateReport[Create Report]; CreateReport --> ReportProgress[Report Progress]; PositiveResult --> FurtherInvestigationX[Further investigation]; FurtherInvestigationX --> ManagerReview[Manager Review]; ManagerReview --> FalsePositiveX[False Positive - Release]; FalsePositiveX --> SelectCaseOC[Select Case for OC]; SelectCaseOC --> OCRelease[OC-Release]; OCRelease --> ReleaseSelectedOC[Release Selected for OC-Release]; ReleaseSelectedOC --> OCReleaseFinal[OC-Release]; OCReleaseFinal --> End(( ));
```

Example of RTS Case Workflow for customer and transaction screening. The workflow interface / flow allows the Customer to design the required flow based on the use case.

Relate To ▾

Case Details Related Items

Identification

Case ID: 2020053

Alert Id: 28722260249

Case status: Under Investigation

Case primary status: Open

Description: test

Category: Black List

Subcategory: High-Risk Country

Tasks

Tasks (1) History

Real Time Screening Case Workflow

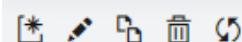
Start Investigation

Claimed by: videmo

Confirm Match False Positive Further Investigation Request for Information Release Claim

Example of RTS Case workflow steps. The page is configurable.

Projects



Name	Type	Domain
new trans flow 1	Transaction	Real Time Screening Transaction Domain
Transaction Flow	Transaction	Real Time Screening Transaction Domain
TEST	Transaction	Real Time Screening Transaction Domain
KH Party Test	Party	Real Time Screening Party Domain
IAG_Part_Flow	Party	Real Time Screening Party Domain

Example of the Rule Builder flow / logic. The interface allows user to create and maintain Rules for Customer screening and Real-Time Transaction screening.

Country Rule Builder

Edit Rule

Rule Properties

Rule name:*

santion country

Description:

Score:*

100

Alert Routing

Queue:*

Real Time Screening Party Queue

Conditions

Sanctioned countries:*

- North Korea X
- Syria X
- Iraq X
- Iran X
- Russia X

X

Currency Rule Builder

Edit Rule

Rule Properties

Rule name:*

Iran currency

Description:

Score:*

100

Alert Routing

Queue:*

Real Time Screening Transaction Queue

OK

Cancel

OK

Cancel

X

Edit Rule

Rule Properties

Rule name: *

Description:

Score: *

Alert Routing

Queue: *

Conditions

Entity type:

- All
- Organization
- Individual

Include indeterminate entities

Primary attribute: *

- Name

Match type:

- Fuzzy

Additional attributes:

Attribute	Match Type
<input type="checkbox"/> Identifier	
<input checked="" type="checkbox"/> Address	Missing
<input type="checkbox"/> City	Missing
<input type="checkbox"/> State	Exists
<input type="checkbox"/> Postal Code	Fuzzy
<input type="checkbox"/> Country	Exact
<input type="checkbox"/> Year of Birth	
<input type="checkbox"/> Date of Birth	

Rule Properties

Rule name: *

Description:

Score: *

Alert Routing

Queue: *

Conditions

Entity type:

- All

Include indeterminate entities

Primary attribute: *

- Name

Match type:

- Fuzzy

Additional attributes:

<input type="checkbox"/> Postal Code	Exact
<input type="checkbox"/> Country	
<input type="checkbox"/> Place of Birth	
<input type="checkbox"/> City of Birth	
<input type="checkbox"/> State of Birth	
<input checked="" type="checkbox"/> Country of Birth	Missing
<input checked="" type="checkbox"/> Year of Birth	Offset <input type="text" value="0"/>
<input type="checkbox"/> Date of Birth	
<input checked="" type="checkbox"/> Gender	Exact

OK

Cancel

OK

Cancel

Rules



Enabled	Name	Description	Score
<input checked="" type="checkbox"/>	Excat Match		100
<input checked="" type="checkbox"/>	fuzzy	fuzzy name	80
<input checked="" type="checkbox"/>	address missing		85
<input checked="" type="checkbox"/>	city and state match	city and state match	85
<input checked="" type="checkbox"/>	DOB match		95
<input checked="" type="checkbox"/>	year of birth offset		88

The list of Examples for Entity Rules.

Additional Sharing

SAS AML

Search Capabilities Overview

Free text searching - Supports the standard Elastic Search query syntax. This includes wildcards, fuzzy matching, proximity, boosting. Currently this is all done through the search query text box, so the user requires a knowledge of the syntax to perform advanced searches.

Map searching - Combines a free text query with one or more map shapes (polygons, squares and circles)

Faceting - Showing counts of results grouped by entity type and field value.

Filtering - Allowing search results to be filtered by entity type, field terms and date and numeric values and ranges.

SAS Visual Investigator

Free text searching

Fields – Field searches, search for terms in specific fields, but it is possible to specify other fields in the query syntax. Fields on child entities can also be specified or combined with parent entity fields.

Finds all claims that have a child vehicle entity starting with T or Q

`_type:[entity] AND ([child entity].[child entity field]:[Value])`

`_type:claim AND claim_vehicle.vehicle_reg:(T* Q*)`

`_type:claim AND claim_vehicle.vehicle_reg:T* Q*` - *Without the () around T* Q*, the search will find all claims AND a vehicle reg of T* OR any field that starts with Q for ANY entity! This missing*

Finds all claims that have a police ref # (i.e. all claims where this field is NOT NULL)

`_exists_:[field]`

`_exists_:police_reference_no`

SAS Visual Investigator

Free text searching

Wildcards - Wildcard searches can be run on individual terms, using ? to replace a single character, and * to replace zero or more characters.

Finds all claims where the forename starts with “Ja” can then be any letter and end with any values, with/without a field specified.

[field]: [Value][Wildcard]

? (single character) & * (multiple characters) can be used.

forename:Ja*

forename:Ja?e*

forename:Ja?*		
Label	Forename	
8210248 Settled	James	
8233960 Fraud	Jamie	
ud	Jaimes	
en	Jake	
en	Jaemes	
tled	Jaymes	

forename:Ja?e*		
Label	Full Name	Forename
8210248 Settled	James Hurst	James
8688565 Open	Jake Russell	Jake

SAS Visual Investigator

Free text searching

Fuzzy Matching - We can search for terms that are similar to, but not exactly like our search terms, using the “fuzzy” operator ~

This uses the [Damerau-Levenshtein distance](#) to find all terms with a maximum of two changes, where a change is the **insertion, deletion or substitution** of a single character, or **transposition** of two adjacent characters.

Finds all claims with forename similar to James

`_type:[entity] AND [field]: [Value][~Fuzziness]`

`_type: claim AND forename:James~1`

`_type: claim AND forename:James~`

`_type: claim AND forename:James~2`

~ & ~1 are the same as the default is 1

Label	Entity Type	Full Name	Forename	Surname	St
8210248 ...	claim	James Hurst	James	Hurst	Se
8271548 ...	claim	Jaimes Hurst	Jaimes	Hurst	Fr
8257245 ...	claim	Jaemes Hurst	Jaemes	Hurst	O
8314913 ...	claim	Jaymes Hurst	Jaymes	Hurst	Se

Label	Entity Type	Full Name	Forename	Surname	St
8210248 ...	claim	James Hurst	James	Hurst	Se
8271548 ...	claim	Jaimes Hurst	Jaimes	Hurst	Fr
8257245 ...	claim	Jaemes Hurst	Jaemes	Hurst	O
8314913 ...	claim	Jaymes Hurst	Jaymes	Hurst	Se
8233960 ...	claim	Jamie Ashton	Jamie	Ashton	Fr
8688565 ...	claim	Jake Russell	Jake	Russell	O

SAS Visual Investigator

Free text searching

Proximity - While a phrase query (eg "john smith") expects all of the terms in exactly the same order, a proximity query allows the specified words to be further apart or in a different order. In the same way that fuzzy queries can specify a maximum edit distance for characters in a word, a proximity search allows us to specify a maximum edit distance of words in a phrase.

The closer the text in a field is to the original order specified in the query string, the more relevant that document is considered to be.

Finds all documents that are of type 'Blog' and contain the words 'intelligence' & 'threats' and the two words are within 20 words of each other!

[field]:[Value] AND ("[word] [word]"[^Proximity]
type.code:"B" AND ("intelligence threats "~20)

The closer the words the higher relevance the search result is.

SAS Visual Investigator

Free text searching

Boosting - Use the boost operator \wedge to make one term more relevant than another.

The default boost value is 1, but can be any positive floating point number. Boosts between 0 and 1 reduce relevance. Boosts can also be applied to phrases or to groups.

Finds all claims of types “Damage or Theft”

_type:[entity] AND [field]:[Value]

_type: claim AND claim_type:(Damage* OR Theft*)

Finds all claims of types “Damage” or “Theft”

with “Theft” being ‘Boosted’ (i.e. more relevant)

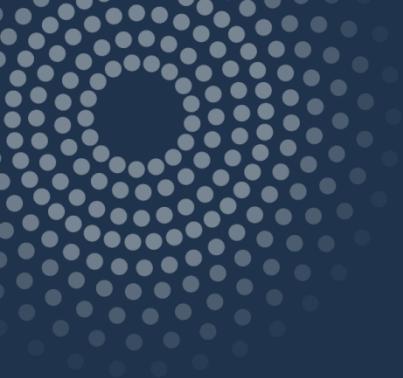
_type:[entity] AND [field]:[Value][Boost Value]

_type: claim AND claim_type: (Damage* OR Theft* \wedge 2)

Boost values can be positive integers or 0 to 1 (to reduce relevance)

The screenshot shows the SAS Visual Investigator interface with a search query: `_type: claim AND (claim_type: Damage* OR Theft*)^2`. The results are sorted by Relevance. Two results are displayed:

- 8232910 Open**
Claim #: 8232910
Make: BMW
Model: X1
Status: Open
Value: 2700
Registration #: UW69 JJS
Owner Name: Joseph Hudson
Type: Theft: vehicle
Description: Car was stolen from multi-story carpark.
Incident Date: 10/12/2015
Reported Date: 10/26/2015
Days Since Incident: 14
Unusual Time Flag:
- 8289767 Open**
Claim #: 8289767
Make: BMW
Model: X1
Status: Open
Value: 1140
Registration #: UW69 JJS
Owner Name: Joseph Hudson
Type: Theft: vehicle
Description: Car was stolen from driveway whilst on holiday



Thanks

sas.com