ORACLE

Oracle Global Leaders Program

June 24 - 14.45 CET

Oracle Global Leaders Summer Meeting EMEA 2020

Oracle Machine Learning Panel

Roger Vila Gonzalez
Big Data Projects
CaixaBank - Spain

Pawarit Ruengsuksilp (Taa)
Project Consultant
Forth Smart – Thailand

Awad El-Sidiq
Team Leader, AI & Analytics
ADNOC Distribution - UAE

Johan Verbrugghen
BI Architect
SWIFT – Belgium

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HOW DATA WAREHOUSE AND DATA MINING MAKE FINTECH MARKETING MORE EFFECTIVE

Pawarit Ruengsuksilp
Project Consultant
FORTH CORPORATION PCL

Speaker Biography

Responsibility and Experience

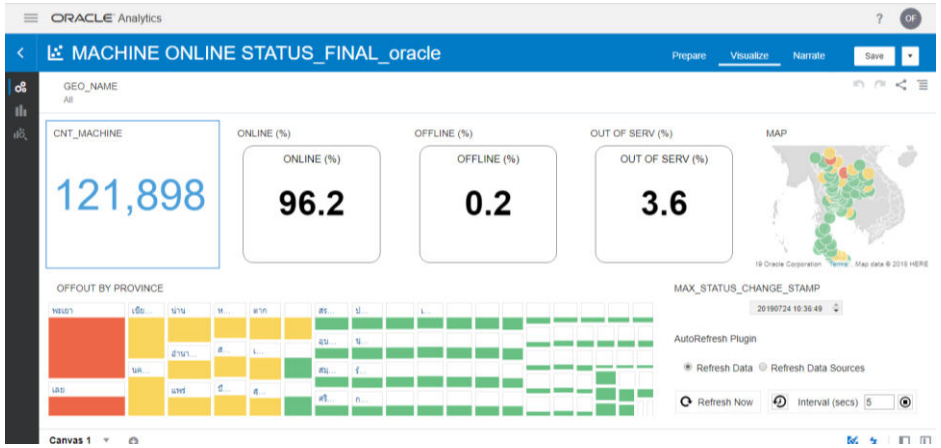
- Building a control room to minimize the downtime of 120,000 online vending machines
- Using Machine Learning Algorithms to do market segmentation and targeted ads
- Made more than 50 working dashboards with Oracle Analytics Cloud
- Automating and improving the quality and integrity of Management Meeting's reports
- Co-ordinating with international vendors to bring about the Smart Grid solution to improve Bangkok's electricity infrastructure

Forth Smart Service Corporation

- Established in 2008
- Around 300 employees
- Head Office based in Bangkok, Thailand
- Operating more than 120,000 vending machines throughout Thailand
- Provides topping up prepaid mobile phones, bank transfers and utility bills payment services
- Expanded into snacks, drinks and coffee

Agent Service

- First point of contact for agents
- Provide maintenance advice to agents
- Solve machine robbery issues
- Troubleshooting alarms
- Keep the system of machines disturbance free



Classification Model

Objective: Working out which customers are likely to be our Line Sticker customers

- 12 mn potential customers reached
- Query the customers with rules obtained
- Give the marketing team a set of cellphone numbers to do targeted advertising
- Facebook Audience used as a comparison channel to SMS

Rule | Surrogates | Target Values

Node Rule:

```
If   CNT_SERVICE_USED isIn ( "3" "4" "5" "6" )
And  SUM_SERV_AMT_TOPUP <= 55
And  CNT_TRANSACTION > 6.5
Then YES
```

Confidence	0.518993839835729
Support	0.002971913283598029

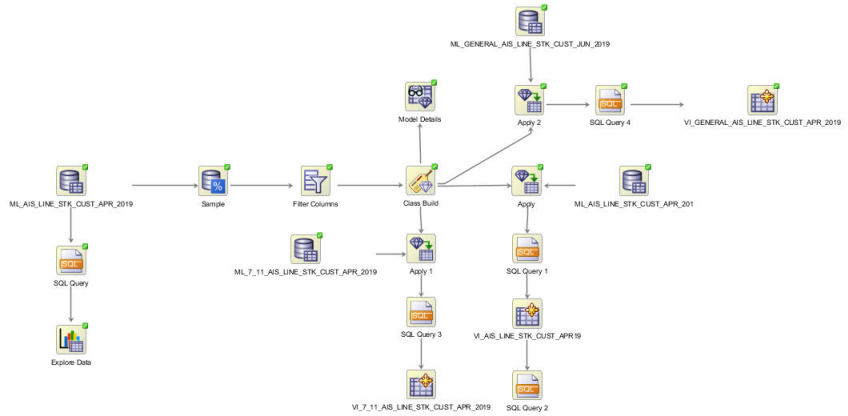
Results:

- 3x Conversion Rates due to Classification
- 6x Conversion Rates due to Facebook Audience

Classification Model II

Objective: Introducing a new bank

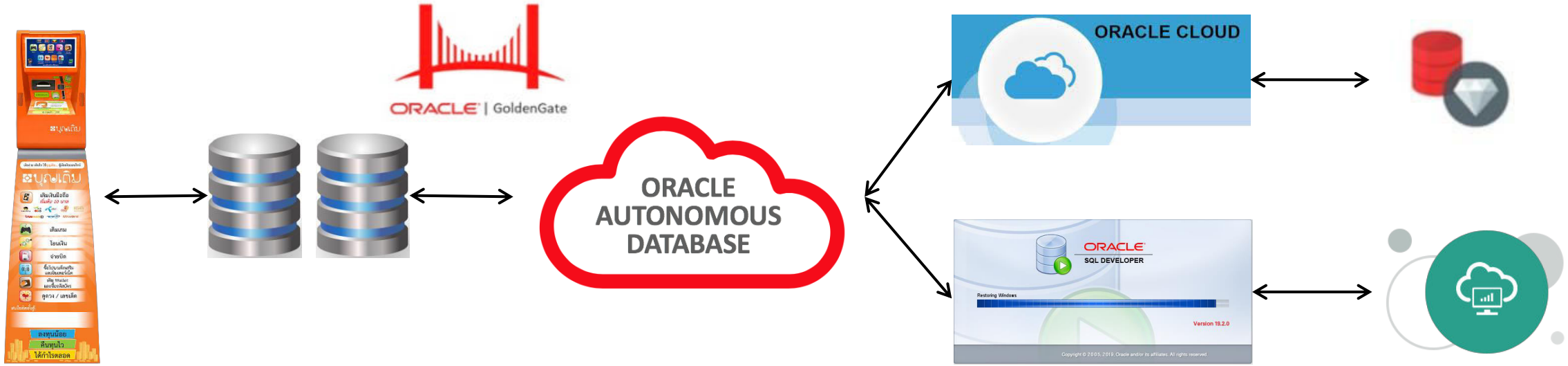
- Use transaction data of similar banking service
- Query the customers with rules obtained
- Give the marketing team a set of cellphone numbers to do targeted advertising via SMS
- Control group available



Results:

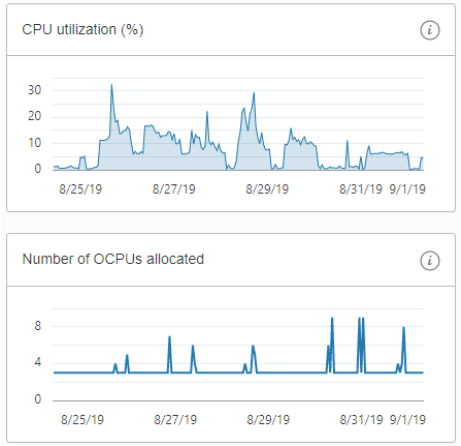
- 53,490 potential customers identified
- 3x difference in conversion rates for group with confidence more than 0.9 to group with confidence between 0.5 and 0.6

Database Architecture



Experience of Using Autonomous Database

- 2 years into using ADW
- Auto-Scaling: Allocate more resources when needed
- Data Encryption: Less prone to cyber attacks
- Faster: More frequent refreshes makes data closer to real-time
- User-friendly GUI: Less downtime as there is no need to wait for the DBA to reset the database



Facts and Benefits of ML in the Cloud

- Seamless integration with ADW
- Adding value to your data
- Variety of powerful graphing techniques
- Keep improving all the time
- Drag and Drop Experience
- Perform Market Basket Analysis and Classifications Models
- Providing numerical conclusions, not graphs

Future Plans

- Get into more complex use cases (Anomaly Detection and Clustering…)
- Try to work out the customer journey
- Add more banking-agent functionalities into the machines (accepting ID card verified payments and cash management functionalities)

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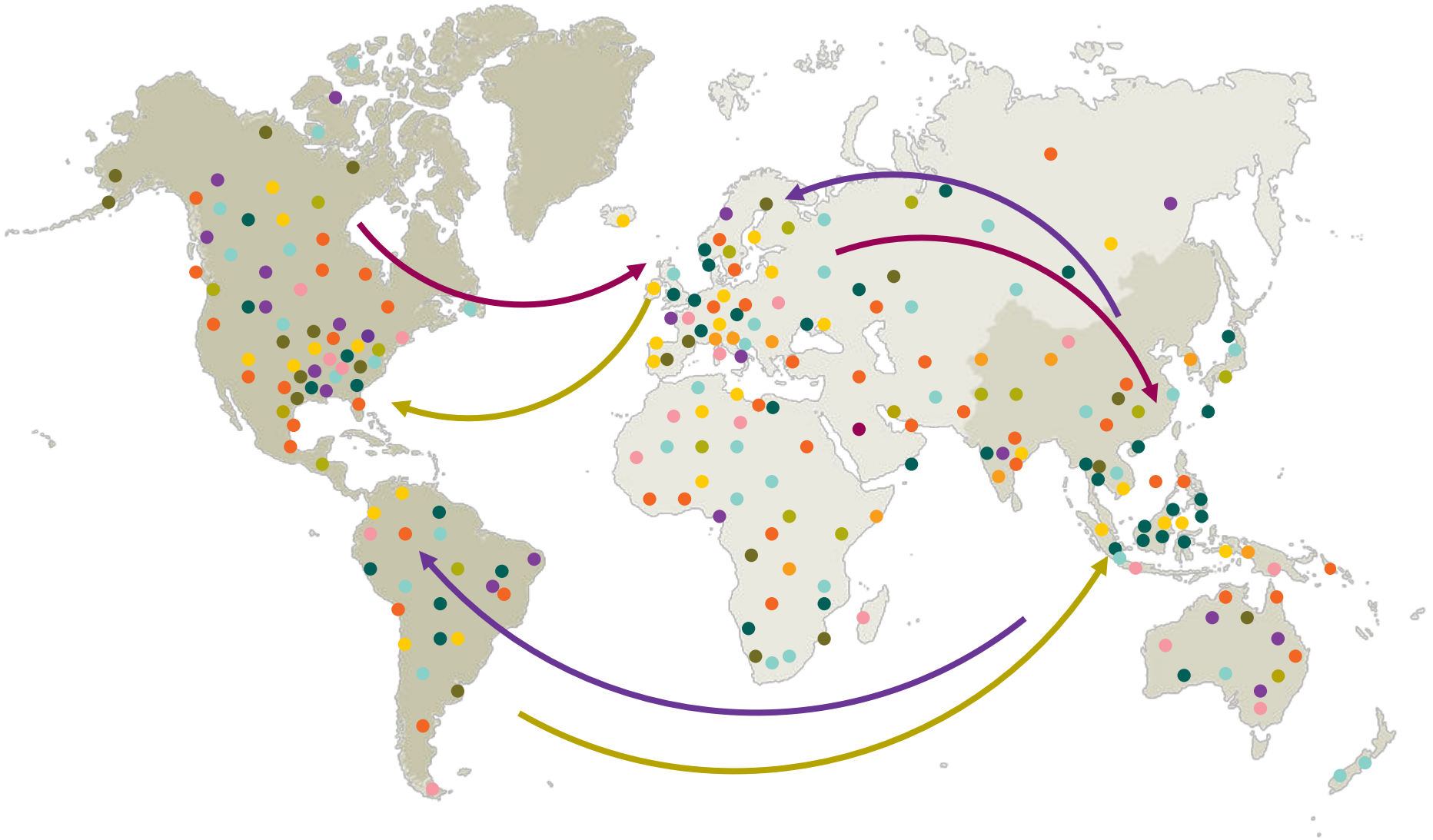
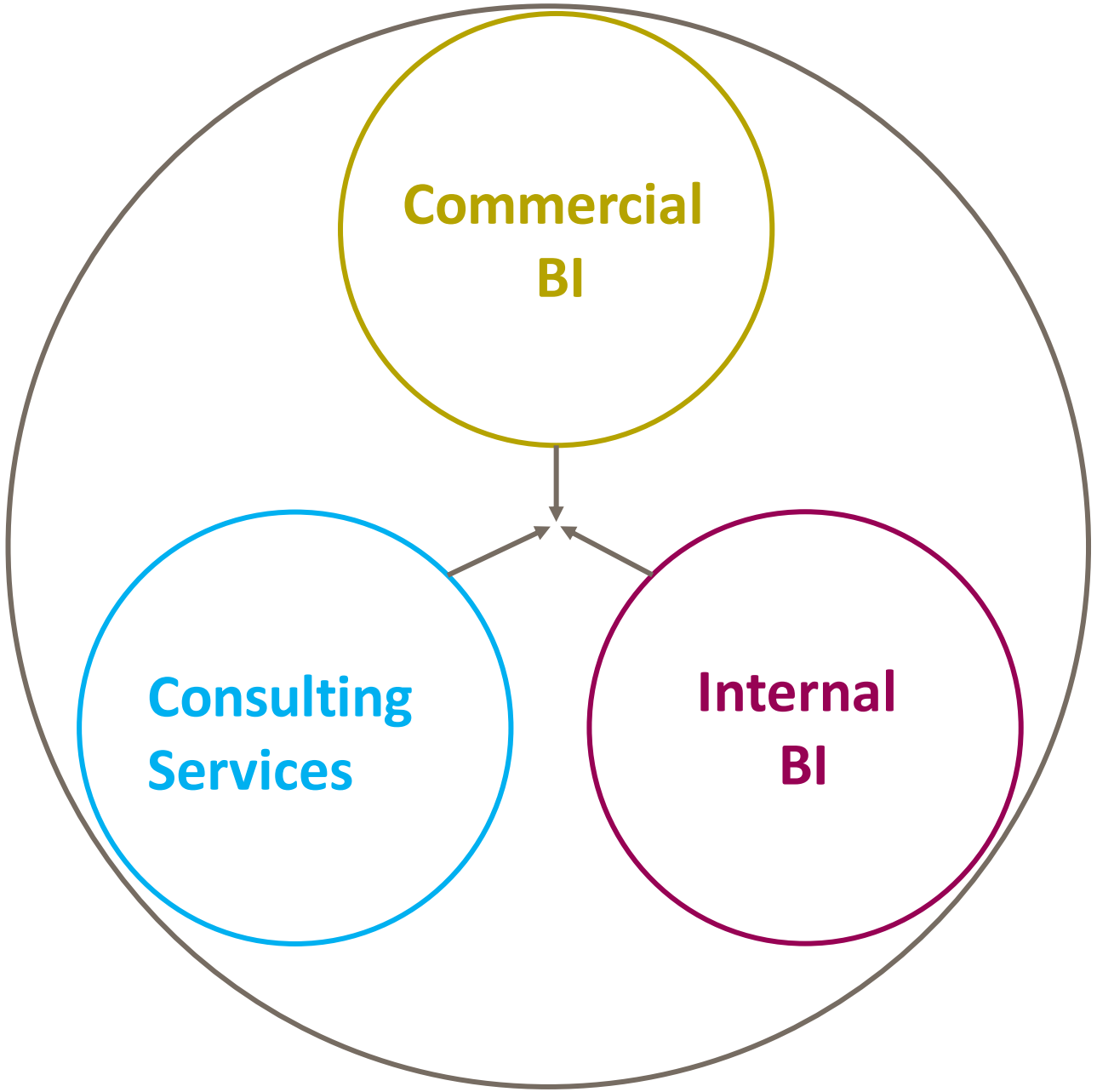
Data & Analytics @SWIFT

Johan Verbrugghen – *Data Architect*

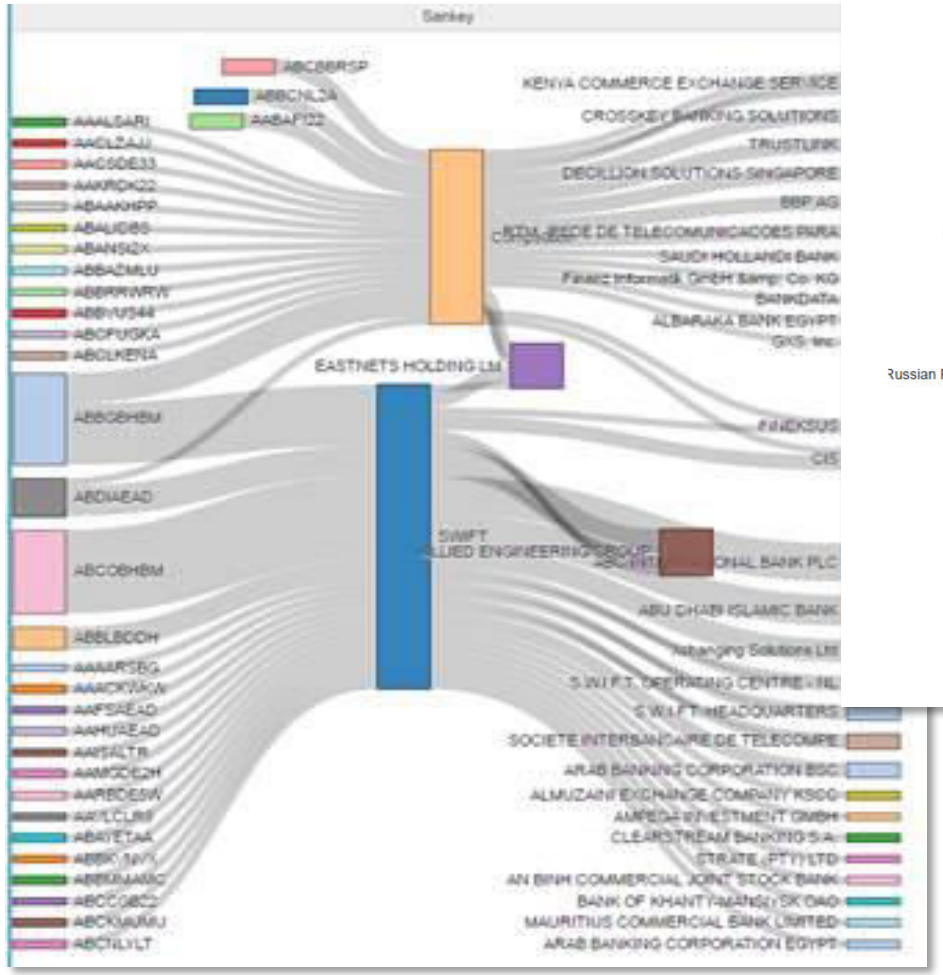
The global provider of secure financial messaging services

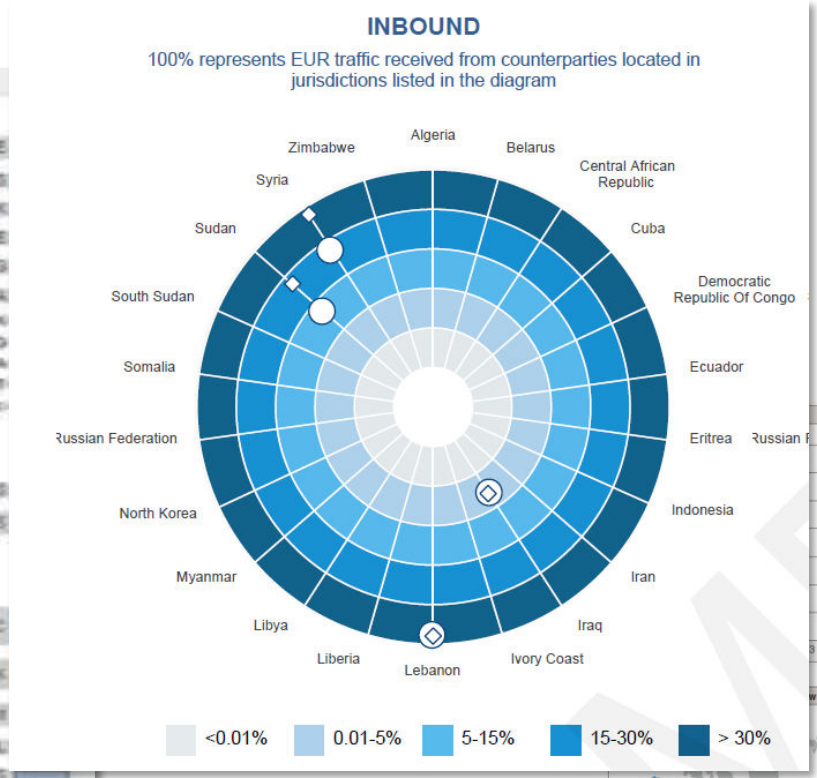


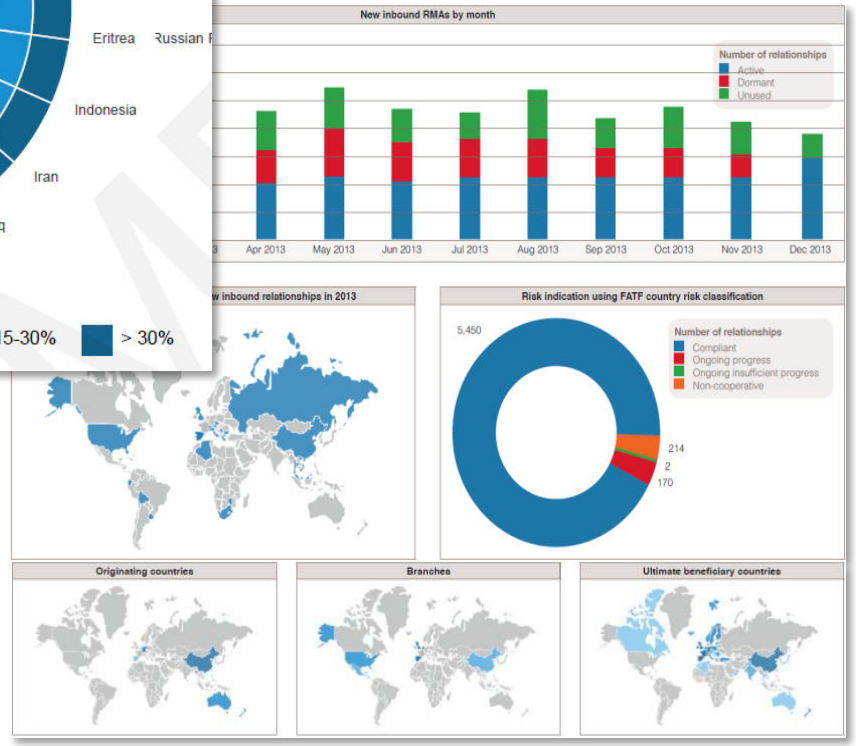
SWIFT's Analytics Offering



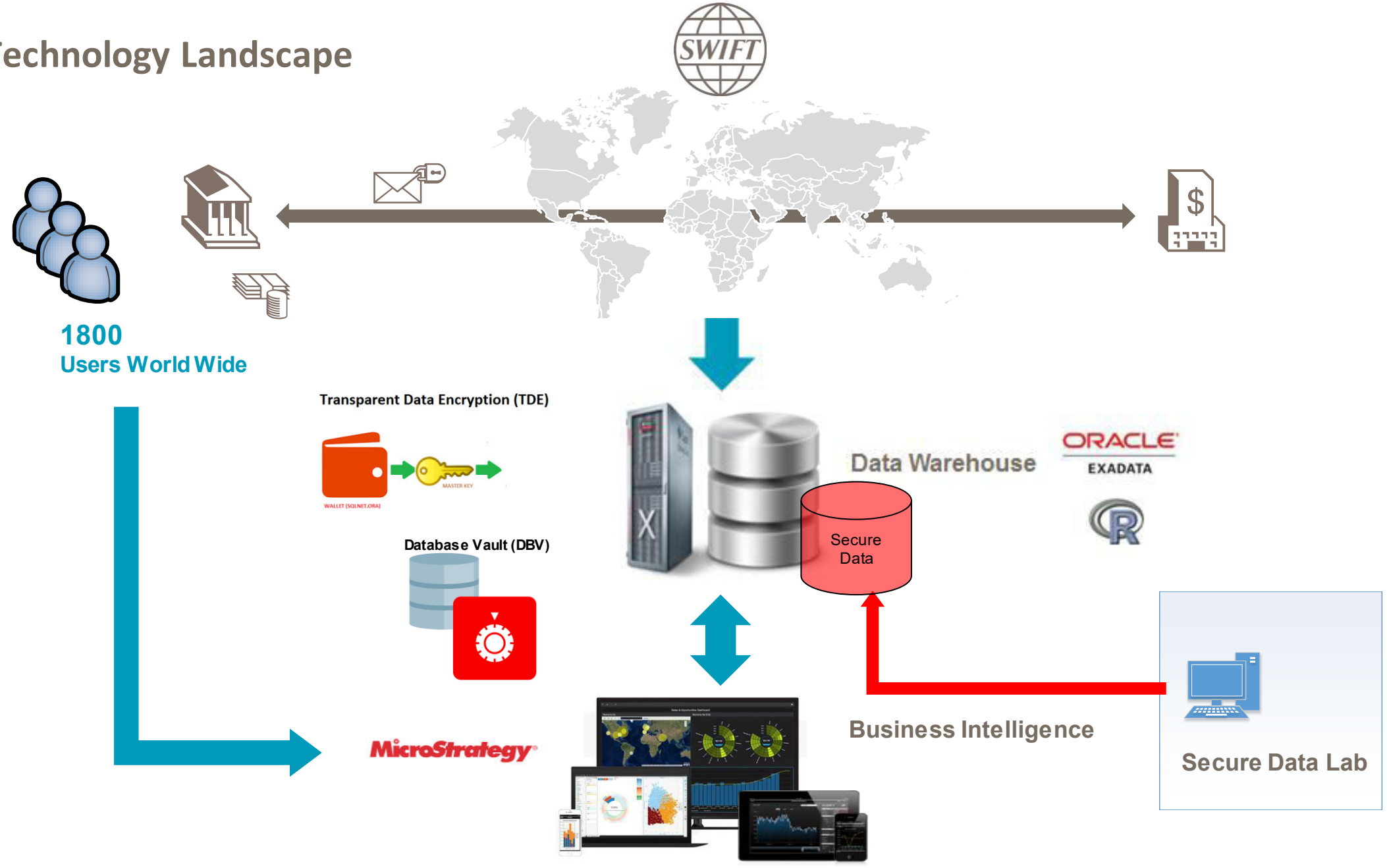
SWIFT's Analytics Offering – Commercial BI products







Technology Landscape



Data & Analytics : 2020 OML4Py – *Beta* : Why?

SWIFT was invited by Oracle to participate OML Beta-program

SWIFT has acquired the Advanced Analytics license in 2014

- this license convers Oracle R (kernalised R) and datamining
- Enterprise Edition now (19c+) includes data-mining, Machine Learning and graph

Oracle databases already exist and are secured *(as per confidentially of their data)*

"Bringing the technology to the data works better in an organization where security has much focus then bringing the data to the technology"

Data & Analytics : 2020 OML4Py – *Beta*

Use-case for POC

analysis of gpi end-to-end payment speed vs payments data quality

Business objective

A. What are the factors influencing the speed of execution of a gpi payment?
B. What are the causes of slow gpi payment speed with regards to payments data quality?
C. Predict the end-to-end execution time of a gpi payment using (among others) the data quality features

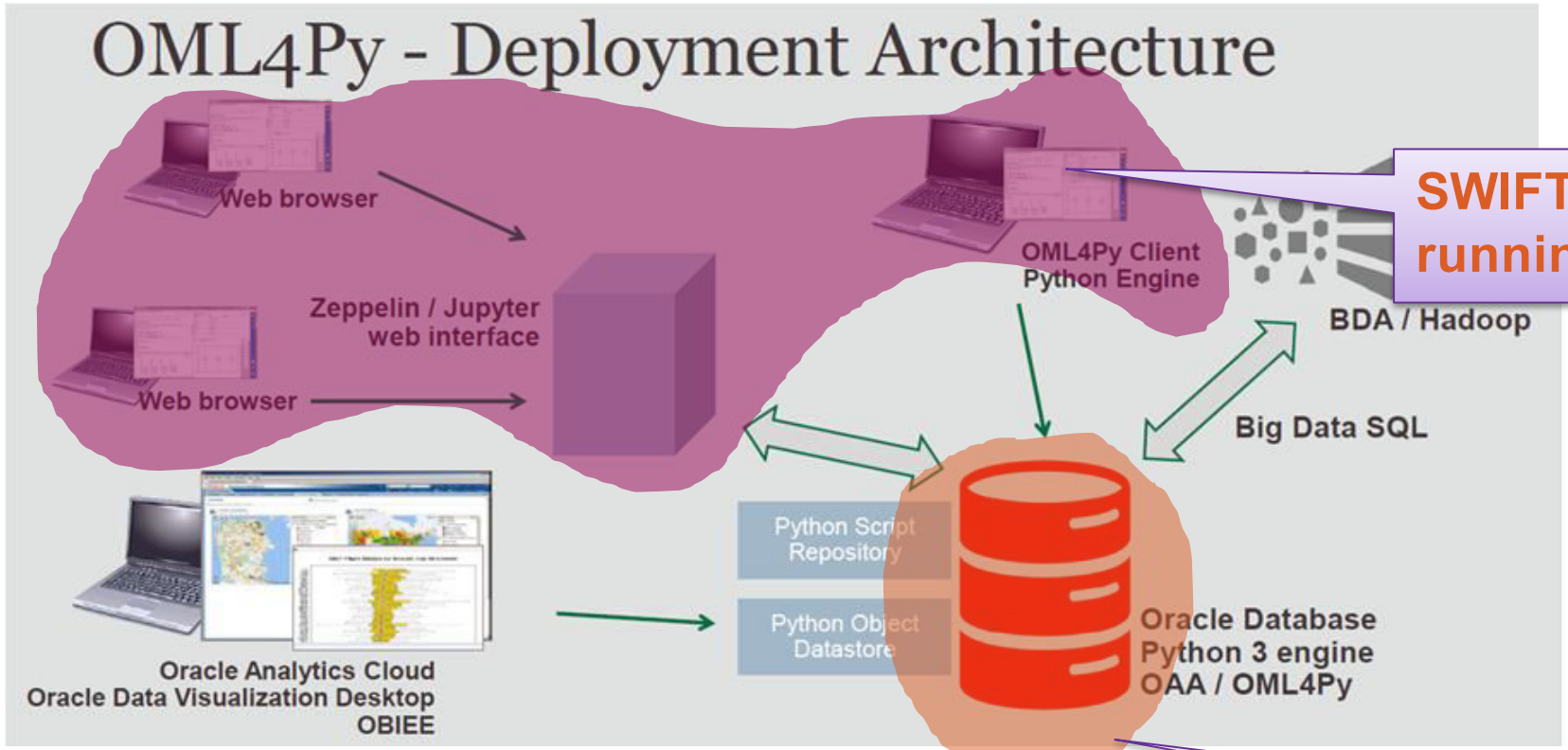
Setup:

One-off data-set in secured environment

Team of 2 data-scientists from ‘Exploration Squad’

3 days full-time in March2020

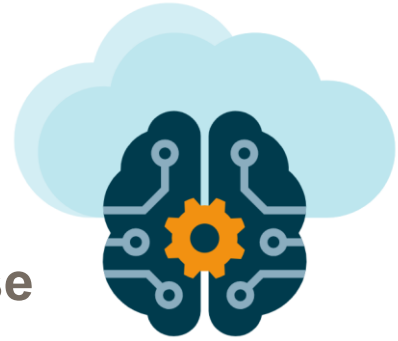
Data & Analytics : 2020 OML4Py – *Beta* : Overview



SWIFT laptop/vm running python scipts

SWIFT BI data

Data & Analytics : 2020 OML4Py – *Beta : Findings*



OML4PY could provide a seamless point of entry into the BI data warehouse using python semantics

The OML capabilities are offered via the same python code semantics as standard data science packages such as pandas and scikit-learn

The implementation at this stage is still incomplete and also suffers from some performance issues.

Time-constraints + COVID-19 forced us to end the POC earlier then foreseen

```
In [20]: type(table["PROCESSED_TIME_SECONDS"])
         executed in 35ms, finished 11:31:56 2020-04-03
Out[20]: oml.core.float.Float

In [21]: len(table["PROCESSED_TIME_SECONDS"])
         executed in 365ms, finished 11:31:58 2020-04-03
Out[21]: 73772298

In [5]:  missingTimes = table["PROCESSED_TIME_SECONDS"].pull()
         executed in 9m 4s, finished 13:43:28 2020-04-03

In [23]: missingTimes_bool = table["PROCESSED_TIME_SECONDS"].isnull().pull()
         executed in 10m 60s, finished 11:54:20 2020-04-03

In [28]: type(missingTimes)
         executed in 10ms, finished 11:58:39 2020-04-03
Out[28]: list
```

Data & Analytics : 2020 OML4Py – *Beta*

Conclusion:

- The software is still Beta at Oracle side (first beta-drop not may2020-drop)
- Post-pone further investigations until production version becomes available for on-prem usage

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