SSI digitization

Demo table extraction

The better the question. The better the answer.
The better the world works.

EY
Building a better
working world

Case study background

▶ JP Morgan Chase uses Standard Settlement Instructions (SSIs) across all their business functions to settle client payments

▶ While Omgeo is relied for STP of these SSIs, there is still a large chunk of SSI that are manually processed

▶ There is also Client call back done by various teams for the same SSI received from the Client.

▶ JPMC approached EY to look at any opportunity to solve this issue.

▶ This is also a industry wide issue and there is opportunity for EY to bring interested banks onto this solution service.

Overall Solution proposal
EY proposes to leverage new age toolsets to solve for the current state challenges
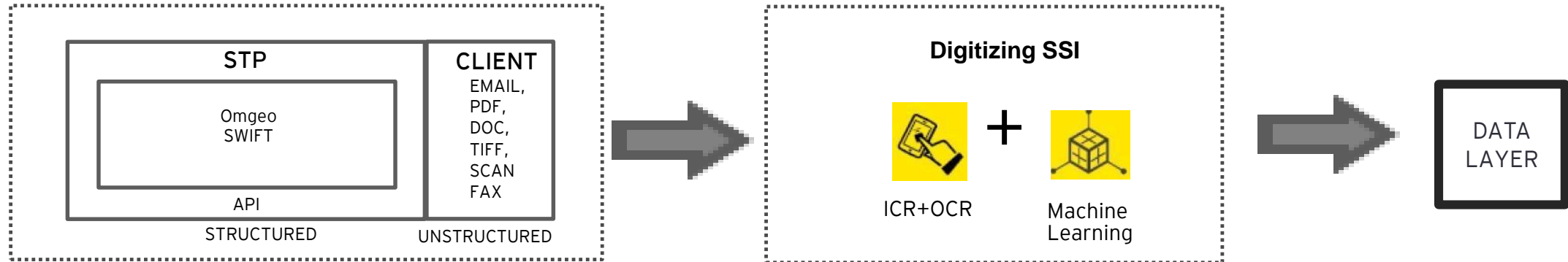
Key Current State Issues

➤ Receive SSI in unstructured formats like PDF, Scan Image, Email.

➤ No central repository to help business systems to access SSI information uniformly, leading to multiple manual processing

➤ Multiple teams calling back client for same SSI instruction to validate the same

➤ No insight via BI tools to understand client behavior on SSIs
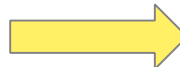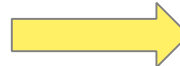
Integrated Solution Opportunity

✓ Digitise unstructured data using AI/ML toolset

✓ Set up a central data layer that will store the all digitised SSI data (unstructured , Omgeo, Swift etc)

✓ All teams can access data layer for processing client payments

✓ Centralisedcall back based on Data Layer SSI to prevent duplication

✓ BI layer leveraging strengths of Tableau/ Qlikview to provide configurable insights

SSI digitization

STP | **CLIENT**
Omgeo SWIFT | EMAIL, PDF, DOC, TIFF, SCAN FAX
API |
STRUCTURED | UNSTRUCTURED

Digitizing SSI

ICR+OCR + Machine Learning

DATA LAYER

CURRENT CHALLENGES

- Multiple SSI files received from various clients for various products

- Different client uses different formats and different file types like mails, pdf,doc,etc.

TARGET SOLUTION APPROACH

- Consuming varied input formats such as Email, PDF, Tiff, screenshots etc

- Training should be intuitively based on selecting document purpose and configuring the key fields to be picked up

- The data is then extracted out in specific format which is then sent to data layer

Sample requirement

Sample Client SSI received in different format

Standard Settlement Instructions for Treasury Transactions

CURRENCY	CORRESPONDING BANK	A/c NUMBER	SWIFT CODE
EUR	STANDARD CHARTERED BANK LONDON	56 01 2544199 96 IBAN GB64SCBL60910412544199	SCBLGB2L
EUR	DEUTSCHE BANK FRANKFURT	100953543600 IBAN DE245007 0010 0953 5436 00	DEUTDEFF
GBP	STANDARD CHARTERED BANK LONDON	00 01 2544199 01	SCBLGB2L
GBP	ROYAL BANK OF SCOTLAND PLC	160034/100006005	RBOSGB2L
JPY	BANK Of NEW YORK,TOKYO	8946483950	IRVTJPJX
CHF	UBS AG ZURICH	02300000036645050000K	UBSWCHZH80A
NZD	ANZ NATIONAL BANK LTD.	881169/00001NZD ACCOUNT NO. 1.	ANZBNZ22058
AUD	ANZ BANKING GROUP LTD.	81169/00001 CURRENT A/C NO.1.	ANZBAU3M

Standard output format for all client SSIs

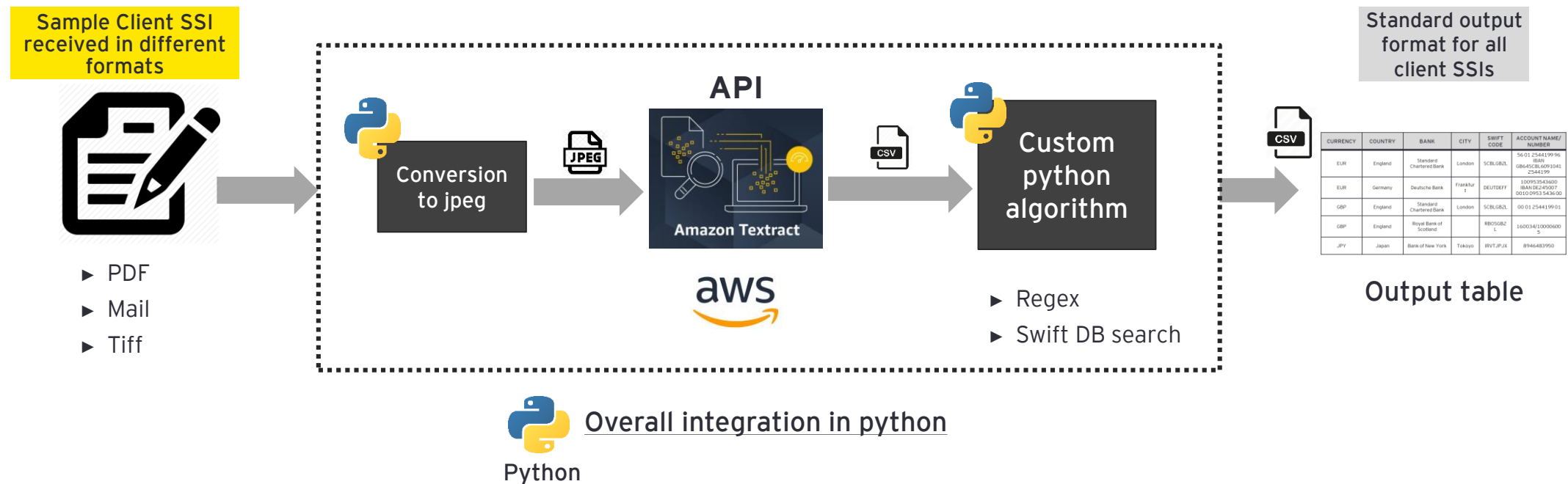| CURRENCY	COUNTRY	BANK	CITY	SWIFT CODE	ACCOUNT NAME/ NUMBER
EUR	England	Standard Chartered Bank	London	SCBLGB2L	56 01 2544199 96 IBAN GB64SCBL6091041 2544199
EUR	Germany	Deutsche Bank	Frankfurt	DEUTDEFF	100953543600 IBAN DE245007 0010 0953 5436 00
GBP	England	Standard Chartered Bank	London	SCBLGB2L	00 01 2544199 01
GBP	England	Royal Bank of Scotland		RBOSGB2L	160034/100006005
JPY	Japan	Bank of New York	Tokoyo	IRVTJPJX	8946483950

Required technologies:

1. OCR for table extraction

2. ML for identification of entities

Technology architecture and toolkit

Our demo solution leverages Amazon textract and python to build a custom solution for table extraction

Solution architecture

Sample Client SSI received in different formats

► PDF
► Mail
► Tiff

Conversion to jpeg

API

Amazon Textract

aws

Custom python algorithm

► Regex
► Swift DB search

Overall integration in python

Python

Standard output format for all client SSIs

Output table

Tools used

1. Python
2. Aamzon textract API

DEMO

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