Information Technology

POS ACQUIRING DOLLAR Settlement

System Design Specification

1. INTRODUCTION

The document was developed to document the enhancement of Pos Acquiring Dollar Visa process to optimize manual work effort and employ Robotic workforce.

1.1. **Purpose**

The RPA solution will be expected to eliminate a lot of the manual steps currently involved in the process For Pos Acquiring Dollar Visa Settlement Banking transactions. Bot first checks for pending task, its resumes if any is found else the bot first download three reports from the File server and necessary filtering are done. Performs all necessary data manipulations. The bot goes ahead to build an upload file. If the account is balanced or not, it notifies via email with the generated report.

1.2. Overview

This document gives the overview of important parts of the system to be built and the means of communication between each component to be built. The document also gives the overview of responsibility of each component to be built and the entry and exit criteria

1.3. References

The Functional Requirement document provided by the internal audit team is one of the documents used for this integration.
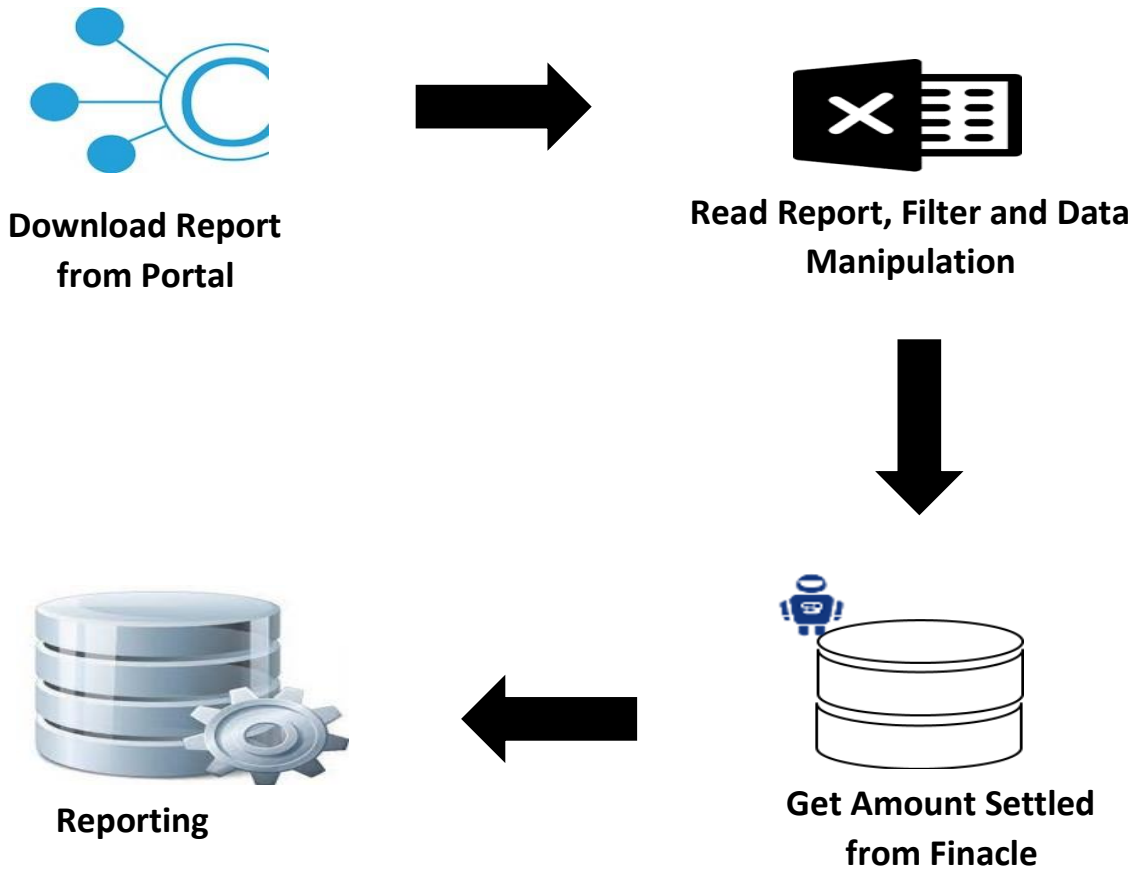
1.4. **Definition and Acronyms**

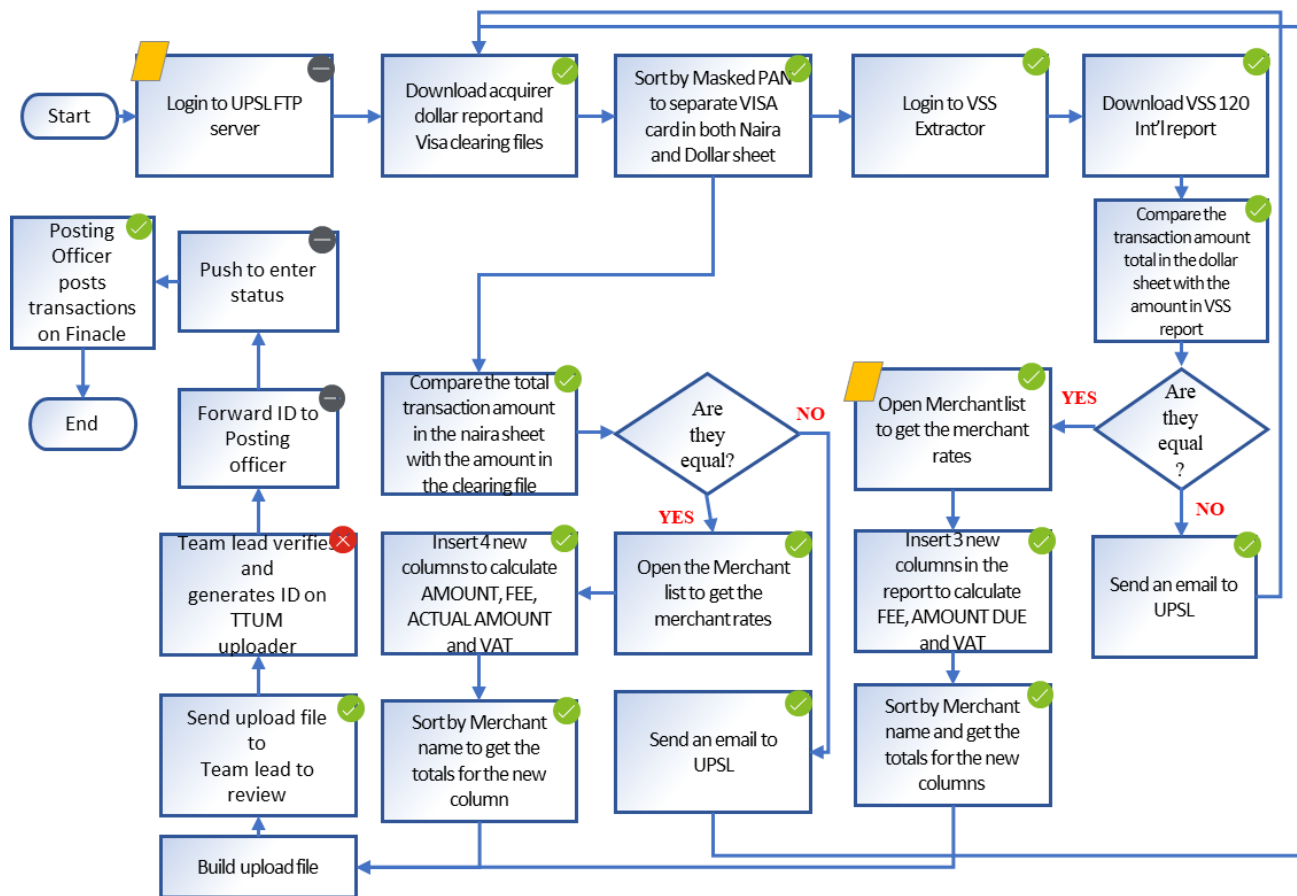| No	Abbreviation/Term	Description
1	RPA	Robotics Process Automation
2	Bot	Virtual Worker
3	SDD	Solution Design Document
4	PDD	Process Design Document
5	TBO	Transaction Banking Operation
6	FIP	First Instant Pay
7	EFT	Electronic Funds Transfer

2. SYSTEM OVERVIEW

This document defines the high-level requirements for the proposed Agency Banking Visa settlement process. It will be used as the basis for the following activities:

- Creating solution designs
- Defining functional requirements
- Developing test plans, test scripts, and test cases
- Determining project completion
- Assessing project success

3. SYSTEM ARCHITECTURE

Download Report from Portal

Read Report, Filter and Data Manipulation

Reporting

Get Amount Settled from Finacle

```
Start → Login to UPSL FTP server → Download acquirer dollar report and Visa clearing files → Sort by Masked PAN to separate VISA card in both Naira and Dollar sheet → Login to VSS Extractor → Download VSS 120 Int'l report
```

Compare the transaction amount total in the dollar sheet with the amount in VSS report

Posting Officer posts transactions on Finale

Push to enter status

Compare the total transaction amount in the naira sheet with the amount in the clearing file

Are they equal?   NO

Open Merchant list to get the merchant rates   YES

Are they equal?

End

Forward ID to Posting officer

YES

Team lead verifies and generates ID on TTUM uploader

Insert 4 new columns to calculate AMOUNT, FEE, ACTUAL AMOUNT and VAT

Open the Merchant list to get the merchant rates

Insert 3 new columns in the report to calculate FEE, AMOUNT DUE and VAT

NO

Send an email to UPSL

Send upload file to Team lead to review

Sort by Merchant name to get the totals for the new column

Send an email to UPSL

Sort by Merchant name and get the totals for the new columns

Build upload file

Current state for Agency Banking Process

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```
Start → Use FTP credentials to access UPSL FTP server → Download acquirer dollar report and Visa clearing files → Sort by Masked PAN to separate VISA card in both Naira and Dollar sheet → Login to VSS Extractor → Download VSS 120 Int'l report
```

Compare the transaction amount total in the dollar sheet with the amount in VSS report

Are they equal? — YES → Open Merchant list to get the merchant rates

Are they equal? — NO → Send mail to Process owner

Compare the total transaction amount in the naira sheet with the amount in the clearing file

Are they equal? — NO → Open Merchant list to get the merchant rates

Are they equal? — YES → Open the Merchant list to get the merchant rates

Insert 4 new columns to calculate AMOUNT, FEE, ACTUAL AMOUNT and VAT

Insert 3 new columns in the report to calculate FEE, AMOUNT DUE and VAT

Open the Merchant list to get the merchant rates

Send an email to Process owner

Sort by Merchant name to get the totals for the new column

Sort by Merchant name and get the totals for the new columns

Build upload file

Bot uploads the file on the RPA file server

Team lead verifies the file

Finacle posting process is invoked → End

Targeted state for Agency Banking Process

POS ACQUIRING DOLLAR

1. Bot opens browser and Generate Report
   - Bot goes to UPSL FTP server address
   - Bot uses FTP credentials to access the platform and download FBN ACQ dollar report, MIGS report and VISA clearing files
2. Processing settlement template
   - For the Dollar sheet
      i. Sort by Masked PAN to separate VISA from Mastercard
      ii. Bot to sort by amount to separate debit (-) and credit (+) for both Visa and MasterCard
      iii. Bot to sort by retailer name
      iv. Bot to Navigate to VSS Extractor address
         - Bot to input Login ID and password
         - Click on VSS report
         - Select   International
         - Enter report date (t-1)
         - Click VSS 120 summary settlement report
         - Click the dropdown and select Excel to download the report
      ii. Sum TRANAMOUNT for Visa credit and compare with the Business transaction total on the 100039563 PURCHASE row (cell S71) on VSS 120

      iii. Compare the count on the acquirer dollar report for the VISA credit with the count on cell R71
      iv. Sum transaction amount for debit and compare the total and count with the Merchandise credit total on cell S78 on VSS 120
      v. Identify the difference in count and amount
      vi. If there is a difference between the total and count from acquirer dollar report and VSS 120, identify the difference in amount
         - Navigate to MIGS report
         - Copy the dollar transactions and total the ORIGINAL AMOUNT

- Compare the ORIGINAL AMOUNT TOTAL with the difference identified

- If it is not the same, send a mail to the process owner
- If it is the same, find the new total (TRANAMOUNT from the ACQ Dollar report plus ORIGINAL AMOUNT from MIGS report)

vii. Open the MERCHANT ACCOUNT LIST to get the USD RATES for the merchant names

viii. Insert 3 new columns in the acquirer dollar report after AMOUNT DUE NAIRA to calculate FEE (ORIGINAL AMT * RATE), AMOUNT DUE MERCHANT (ORIGINAL AMT – FEE) and VAT (7.5/107.5*FEE)

ix. Separate the transactions by the merchant names and find the totals of the FEE and AMOUNT

- For the Naira sheet,
  - i. Sort by Masked PAN to separate VISA from Mastercard
  - ii. Sort by retailer name
  - iii. Open the Visa clearing files
  - iv. In the USD sheet in the visa clearing files, sort by merchant name
  - v. Separate the entries that have the same merchant's name with what is on the naira sheet of the acquirer dollar report

vi. The total transaction amount in both reports should be the same

vii. Insert 4 new columns after AMOUNT DUE NAIRA in the POS ACQ DOLLAR report

viii. The first column is AMOUNT DUE DOLLAR (TRANAMOUNT/EXRATE)

ix. Open the merchant list to get the rate for the merchants

x. Multiply the AMOUNT DUE DOLLAR by the rate in the second row to get the FEE

xi. Subtract the FEE from AMOUNT DUE DOLLAR in the third column

xii. Calculate VAT on the FEE in the fourth row (7.5/107.5*FEE)

xiii. Separate the entries by RETAILER NAME

xiv. Find the total of the FEE and VAT for all retailers

xv. Subtract VAT from FEE

xvi. Find the total of the amount after deducting fee (actual amount due) for each retailer

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RETAILER	RETAILERC	TERMINAL	TERMINAL	MERCHAN	EXRATE	TOTAL M	TRANAMOL	NAIRA RATE	NAIRA AMOUNT	DOLLAR AMOUNT	AMT DUE NAIRA	AMT DUE DOLLAR	W	X	Y	Z	AMT DUE DOLLAR	PTSA
EKO HOTE	EKO HOTE	2011398R	EKO HOTE	200825041	413.5396	3.75	14,000.00	1.0000	14,000.00	33.85	13,475.00	33.85	1.18	32.67	0.08		32.58	0.02
EKO HOTE	EKO HOTE	201125JO	EKO HOTE	200825041	413.5396	3.75	310,000.00	1.0000	310,000.00	749.63	298,375.00	749.63	26.24	723.39	1.83		721.51	0.42
EKO HOTE	EKO HOTE	201125JO	EKO HOTE	200825041	413.5396	3.75	360,720.00	1.0000	360,720.00	872.27	347,193.00	872.27	30.53	841.74	2.13		839.56	0.49
														1,597.80				
RADISSON	RADISSON	201191DK	RADISSON	201529793	413.5396	3.00	23,500.00	1.0000	23,500.00	56.83	22,795.00	56.83	1.70	55.12	0.12		55.12	0.03
RADISSON	RADISSON	2011278N	RADISSON	201529793	413.5396	3.50	13,100.00	1.0000	13,100.00	31.68	12,641.50	31.68	0.95	30.73	0.07		30.57	0.02
RADISSON	RADISSON	201197DK	RADISSON	201529793	413.5396	3.00	8,500.00	1.0000	8,500.00	20.55	8,245.00	20.55	0.62	19.94	0.04		19.94	0.01
RADISSON	RADISSON	2011278N	RADISSON	201529793	413.5396	3.50	5,700.00	1.0000	5,700.00	13.78	5,500.50	13.78	0.41	13.37	0.03		13.30	0.01
RADISSON	RADISSON	201191DK	RADISSON	201529793	413.5396	3.00	108,400.00	1.0000	108,400.00	262.13	105,148.00	262.13	7.86	254.26	0.55		254.26	0.15
RADISSON	RADISSON	2011278N	RADISSON	201529793	413.5396	3.50	9,200.00	1.0000	9,200.00	22.25	8,878.00	22.25	0.67	21.58	0.05		21.47	0.01
RADISSON	RADISSON	2011278N	RADISSON	201529793	413.5396	3.50	15,500.00	1.0000	15,500.00	37.48	14,957.50	37.48	1.12	36.36	0.08		36.17	0.02
RADISSON	RADISSON	201195DK	RADISSON	201529793	413.5396	3.00	32,000.00	1.0000	32,000.00	77.38	31,040.00	77.38	2.32	75.06	0.16		75.06	0.04
RADISSON	RADISSON	201191DK	RADISSON	201529793	413.5396	3.00	347,332.04	1.0000	347,332.04	839.90	336,912.08	839.90	25.20	814.70	1.76		814.70	0.47
RADISSON	RADISSON	2011278N	RADISSON	201529793	413.5396	3.50	5,000.00	1.0000	5,000.00	12.09	4,825.00	12.09	0.36	11.73	0.03		11.67	0.01
													99.17	1,332.85	6.92			
														92.25				

ALL   EXRATE   NAIRA   DOLLAR   DOLLAR (2)   NAIRA (2)   **NAIRA (3)**

3. Build the upload file
   - Dollar sheet
        i. Copy the TRANAMOUNT total
        ii. Copy AMOUNT DUE MERCHANT for each individual merchant
        iii. Copy and paste the difference between FEE and VAT
        iv. Copy and paste VAT
   - Naira sheet
        i. Copy AMOUNT DUE DOLLAR
        ii. Copy the ACTUAL AMOUNT DUE DOLLAR (Column 3) for each retailer and paste in the upload file
        iii. Copy and paste the difference between FEE and VAT
        iv. Copy and paste VAT

	A	B	C	D	E
1	account	NARRATION	Amount	type	
2	48919400007302	VISA MERCHANT FUND 29.11.21	1,531.44	D	
3	2012125760	VISA LA COURT 29.11.21	347.40	C	
4	2015200662	Visa RADISSON BLU 29.11.21	1,136.30	C	
5	48955099004502	VISA POS ACQ FEE 29.11.21	44.41	C	
6	48933104000602	VISA POS ACQ FEE VAT 29.11.21	3.33	C	
7	48919400007302	VISA MERCHANT FUND 29.11.21	3,029.82	D	
8	2015200662	Visa RADISSON BLU 29.11.21	1,332.85	C	
9	2012766536	VISA EKO HOTEL 29.11.21	1,597.80	C	
10	48955099004502	VISA POS ACQ FEE 29.11.21	92.25	C	
11	48933104000602	VISA POS ACQ FEE VAT 29.11.21	6.92	C	
12	999999999999	end			
13					
14					

4. If the upload file does not balance, send a mail to the process owner
5. If it balances, Bot uploads the file on the RPA file server
6. Team lead reviews it
7. Bot invokes the posting process on Finacle

3.2.1. Network system

Network software and protocols for systems to communicate:

a.   TCP/IP
b.   HTTP
c.   HTTPS
d.   SFTP

3.2.2. Authentication Credentials

Valid authentication credentials are required to run software from third party vendors:

a.   To use application development tools
b.   To use web server, application server and database software in development, test and
c.   production mode

3.   **DatabaseServer**
Oracle Server

4.   **Client Computers**
Windows (Preferred) client computers

5.   **Production support systems**
Web server computer(s) and related hardware support.

4. REQUIREMENT MATRIX

Requirement	Fulfilling component
Download Report from the FTP File Server	Bot
Send Upload file Report	Bot

5. DOCUMENT CHANGE RECORD

Date	Version	Author	Change Details
05/09/2022	1.0	Bakare Sodiq	Pos Acquiring Dollar

CREATEDBY

Name	Department/ Unit	Signature	Date
Bakare Sodiq	**Developer/RPA**		**05/09/2022**

REVIEWEDBY

Name	Department/ Unit	Signature	Date

APPROVALS

Name	Department	Designation	Signature	Date
	IT			