**High Level Design**

**SL RETAILER APP**

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1. **Introduction**
   1. **Scope**

The HLD Document presents the structure of the system and the application flow. The purpose of this document is to add the complete details of the current project description

* 1. **Definitions**

FTA – First Time Activation

FTR – First Time Recharge

De Dupe – Maximum count if connection allowed to a NIC

CYN – Choose your Number

1. **General Description**

**2.1 Pre-Paid New Acquisition**

**2.1.1 RETAILER APP**

Retailer to logs into the app and click on New Acquisition screen from the dashboard.

Retailer will enter the POI Number (NIC) to check for the dedupe process. Dedupe checks for the maximum number of connections against an NIC. If the retailer is entering an old NIC then a V needs to be added at the end of the NIC ex: 112233445V, else the 12 digit NIC can be directly entered.

When sending the passport no as NIC, the retailer adds P before the passport no as P12345567.

To check for the DE Dupe process an API call is made to the iPACS system. This API will do validation against the NIC no passed and the type of NIC and return the outcome of the match to the Retailer APP.

Once the Dedupe process is completed and Retailer checks if a new number can be issued to the customer, the Retailer checks with the customer with the Connection Type of the pre-paid SIM. The connection type could be SUK SIM or CYN. The Retailer can make the selection based on the radio button selected.

**2.1.2 SUK SIM**

The retailer can manually enter the 9 Digit Mobile Number and SIM Number. Retailer can either enter the 20 char SIM Number or the last 5 digits of the SIM Number. The Barcode scanner can be also used scan the Mobile Number and the SIM Number as per the SUK Pack

**2.1.3 CYN Process**

The customer can choose their own number using CYN process. As the retailer clicks on the CYN radio button, the App navigate to the next screen. The Retailer enters the length of the pattern which can be varied from 1-9. On the click of the show button, an API containing this search pattern and the LAPU Number of the retailer is send to search for the free MSISDN as per the search pattern. The available MSISDN is returned in the response and these number is blocked for 15 seconds (config). The maximum count of available number in the response is 10.

The Retailer now reserves the particular MSISDN using an API. The Request sent contains parameters – MSISDN to be blocked, MSISDN Type and the Retailer Id. The time interval for which the number reserved will be 30- 60 minutes. The MSISDN will be auto reverted to status FREE once the blocking end time is reached. Once in the FREE status, the MSISDN will be available for searching by other Retailer using CYN process.

Once the De Dupe process & Connection Type is confirmed, the Retailer enters the customer details in the app. below following are the details entered

Customer Photo – Not Mandatory

POI Details – NIC/Passport/Driving License (Front & Back both required if POI is NIC)

Select Title - Mandatory

Select Gender – Mandatory

Select Address – Not Mandatory

Enter Alternate Number – Not Mandatory

Enter Email – Not Mandatory

After the Customer details are captured, the Retailer selects for the FTR Plans.

The FTR plans available in the Retailer App is configured from the portal. Retailer can either click on the View All option to view all the FTR plan available or can click on the individual plan to check for the descriptions.

Once the FTR pack value is selected, Retailer proceeds to capture customer’s signature & Retailer’s signature in the app. The default mode of capturing the signature is Digital Signature. The other mode available for capturing the signature is through taking the picture of the Customer Signature Image.

The Retailer proceed review the customer information captured with the only edit option of the fields – Customer Photo, POI Details, Enter Address , Alternate Number and Email.

The Retailer then click on Proceed button to complete the acquisition process. An API call is made to iPACS to activate the MSISDN. This API will pass MSISDN, SIM, NIC and Retailer LAPU Number. iPACS API will do basic validation against MSISDN, SIM and NIC id. API will accept the request and pass acknowledgement for request acceptance in case validation is successful otherwise return error. Validation include:

* + Request is from valid retailer
  + Customer NIC could be 9 digit followed by with a upper letter ‘V’ or ‘X’ (old NIC) or 11 digit numeric (New NIC) value
  + Total number of connection taken on NIC
  + Customer can request not to activate more connection under this NIC.
  + Status should be pre-provision and state should be idle

After the validation, API will submit the request for HLR unlocking to provisioning of the MSISDN in iPACS. The Retailer APP will expose an API to iPACS, iPACS to hit this API to update HLR Status in Retailer App.

Once the success notification is received by app, Retailer can proceed to do complete FTR.

**2.1.4 First Time Recharge (FTR)**

The Dashboard contains a menu item, FTR List, on click of which the app navigates to the FTR List.

This list shows the list of FTR to be done on the current date. (FTR list will be updated only when the HLR gives the success response to the retailer app). The header of this screen will have a calendar view, selecting the date will display all the list of FTR that was completed for that particular day.

On click of each FTR transaction, App shows a pop up asking the Retailer if the FTR process is completed or Not. When confirmed by clicking NO, the App navigates to the next screen which auto populates the FTR Value selected while completing the new acquisition process. The Retailer to enter the mPIN and clicks on Submit to complete the recharge. To complete the FTR, an API is fired to LAPU system contains the mPIN of the retailer, Retailer LAPU Number, Price Point & the customer MSISDN. On Successful recharge, this particular transaction will get deleted from the FTR list in the retailer App.

If Retailer clicks on Yes in the Pop up box, the app assumes that FTR process is already completed and navigates to the FTR List Screen and this particular transaction is also removed from the list.

App also provisions the Retailer to complete the FTR process by going to the RECHARGE Screen.

**2.1.5 Image Upload Status**

Retailer App to have an inbox which shows the status of all the images (Customer Photo and POI Image) upload for each new acquisition request.

Each of the request will have the following three status

* Pending
* Syncing
* Sync Complete

While the Sync is in progress and the device goes into offline mode due to loss of network or device switched to airplane mode, the process will show as Pending Status. The process will start to auto sync when the device comes under network coverage.

Once the sync is done, the status is shown as Sync Completed.

Syncing process for the all documents under new acquisition request will be sequential.

**2.1.6 Acquisition Transaction Inbox**

On click of Acquisition Transaction menu item in the dashboard, navigates the Retailer to the transaction status for each of the acquisition. The Status of any acquisition done can be as below based on the response receive from HLR system to the Retailer APP

* Pending – Waiting for the Response from HLR System
* Success – Success Response from HLR System
* Failure – Failure Response from HLR

**2.1.7 Distributor CAF Upload**

Distributor can log in to the retailer app to complete the acquisition process for the pre activated SIMs.

Distributor to enter the Customer Mobile Number and Customer SIM Number. The customer MSISDN entered is checked in D-1 Day Dump to check if the activation process is complete or not by clicking on the Validate button. If the MSISDN is already activated then the Retailer App shows the message fetched by the server.

If the entered number is not activated then, Distributor to upload the PEF and POI Image to submit the acquisition process.

**2.1.8 REJECT RESUBMIT**

Retailer to select REJECT RESUBMIT in the app to resubmit the user document.

Retailer have to validate the customer number for document resubmission. When app user enters mobile number and select Validate, app will check the validity of request (rejected or non-reception) and shall send a PIN number to the customer in SMS stating “Document resubmit is in progress. share the 8 digit PIN xxxxx with retailer"

If the documents have been already resubmitted, display error message indicating ‘Documents are already submitted’

Document Submitted date to be calculated from FTA date.

If an incorrect PIN is entered, a message is to be sent to the request Customer mobile number – “Incorrect PIN Entered” and the app navigates to the Dashboard

If PIN entered is corrected, then the app to show the gender of the customer, document (POI number & Customer Photo) submit date, rejected document submitted, retailer name or code.

Rejected documents are uploaded again

When the Reject Resubmit is for the pre-activated SIM, then an option to edit PEF also to be available in the Retailer APP

On clicking on Verify, the captured image of the resubmitted documents are shown

Digital Signature of the customer is captured.

Customer signature can be captured from either Sign or Capture mode

When Sign selected, drawing area will be displayed in the screen where customer can put their signature on the page itself.

When Capture is selected, camera will be open to capture the pre signed signature of the customer, once captured, image will be displayed

Signature is verified to proceed with the re submission of the documents.

Once the document is send for the verification, resubmit date and resubmit code will be sent along the document

The resubmitted document will have ‘Reject Submit’ on the document.

If Resubmitted documents are rejected again, the same reject process is followed. And data should be available to capture via report of noncompliance count and resubmitted documents.

**2.1.9 PORTAL**

BO Agent & Data Entry Team log in to the portal to complete the acquisition process. As soon as the Customer details and the Image flows from Retailer App to the Server, the records for the new acquisition is available in the BO Agent Dashboard.

The BO agent can search the records with the MSISDN in the database. The Records can be filtered Zone wise. A maximum of 10 records are available for the Agent. The Agents have an option to SKIP, Reject & Approve. When Agent clicks on the SKIP option the next record is made available for the Bo Agent. If the record is to be rejected due to clarity issues, noncompliance or any other reason, the BO Agents needs to select the reason from the list of pre-defined rejection reason given in the portal. The Mandatory/Critical Reject Reasons is highlighted in Red.

In case of rejection, an SMS to be send to customer to resubmit the documents within 24hours of the documents getting rejected

The SMS frequency is to be configured in the Portal.

(1 in 48 hours or 1 in 96 hours)

After BO Agents successfully verifies the documents, the details along with the images are moved to the Data Entry Team.

Data Entry Team enters the data which are in digital PEF.

On approving the record, the record moves to the Data Entry Team

1. **RECHARGE**

Retailer should be able to type the customer MSISDN and it shall be validated against the Airtel number format. The length of the MSISDN should be 9 digits, starting with 75.When MSISDN of length more than 9 digit and not as per the format (starting with 75) is entered then App to throw an error “Please enter Valid MSISDN”.

The app shows the best offers/list of Recharge Packs available. If customer does not want to go in for “best offer” retailer could type in the required amount. Retailer to enter the PIN in the app screen to transfer the reload to the customer.

The API call is made to the LAPU system where Retailer No, mPIN, Customer Number and Amount is passed as a Parameter.

The Response received for the request made is showed in the screen.

Retailer reload VL account is used to deduct the credited amount and the Screen to show the Transaction

ID along with the current available LAPU balance for the Retailer number.

Recharge Screen also let the Retailer do a FTA. By clicking on FTA button on the screen, all the existing recharge packs is replaced by the FTA packs available.

Retailer to enter the customer MSISDN, select the FTA value and click of Submit button, Retailer is asked for the mPIN. The FTA is completed by clicking on Proceed Button. Once FTA is done a recharge transaction ID is shown along with the current available LAPU Balance.

1. **SIM SWAP**

Retailer to click on the SIM SWAP screen and choose the type of SIM – Blank or SUK.

To proceed with the SIM SWAP Process, Retailer to type the customer MSISDN, NIC and SUK Mobile

Number. SUK mobile number can be scanned using the bar code scanner. Alternate number can also be provided and this not being the mandatory field. Customer Signature is also captured through either digital signature mode or through capture image mode.

When Retailer clicks on Continue button, app the make an API call to the iPACS. The same API is used for both SUK SIM and Blank SIM. The API will send these parameters as request – MSISDN, SIM Number, NIC, NIC Type and Flag Type. For a Success iPACS response (MSISDN and NIC matched), Retailer Server to share a transaction ID with Retailer App to upload the images to the file server.

For a failure iPACS response (MSISDN and NIC mismatch), a third party verification check is done. This check is done by asking the customer the last 2 reload values and the last 3 dialed values. Last dialed numbers will be matched against the CDR API and Reloads will be matched against prechargeHistory File.

If the third party verification process fails, app will exit the process and redirect to Dashboard, and a notification to be shown on app and a sms to be sent to the requesting number as “SIM change failed, due to verification failure @<retailer code><datetime>”

If the Third Party Verification process is successful, then NIC Dump API is called to retrieve the correct NIC number. Once the correct NIC is retrieved, once again SIM SWAP API is called and the correct parameters is send to the iPACS.

To complete the submission, retailer shall select ‘I assure of the documents’ check box. If the check box is not selected, App should not allow to submit the request.

Retailer code to be displayed in the APP screen.

Upon selecting ‘Submit’, a message will be displayed confirming the submission.

1. **mPIN Reset/Change**

mPIN Reset is used to reset the mPIN through the Retailer App. Retailer goes to the RESET mPIN item in the dashboard menu. The Retailer will click on send New PIN to receive PIN via SMS which can be changed by clicking on change mPIN and setting up a new pin.

1. **Language Change**

User can select and change the language of the app. Sinhala, English and Tamil languages will be available to select. Based on the selected language, App labels will be changed. Language file to be uploaded in the Retailer App. Based on the language option selected, the respective file language will be called and content of the App changes to the particular selected Language.