

Getting start with

World’s leading

Merchant Management Platform

Document History

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Electronic Benefit Transfer

Toucan Functional Specification

*POS & Merchant Settlement*

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# Summary

This document outlines functional requirements and envisaged solution to support EBT program on Toucan

Objective of the document is to provide the areas of change, functional process, implementation guidelines and testing considerations for the solution.

# Terminology

Standard Industry based terminology

# Current Functionality

None

# Products Impacted

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Backend** | | **Merchant App** | | **Bank App** | |
| On-boarding | NO | IOS Mobile | NO | IOS Mobile | NO |
| Switch | NO | IOS Tab | NO | IOS Tab | NO |
| Interchange | NO | Android Mobile | NO | Android Mobile | NO |
| Settlement | YES | Android Tab | NO | Android Tab | NO |
| Collection | NO | Web | NO | Web | YES |
| Communication | NO |  |  |  |  |

# Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Mandatory/**  **Optional/**  **Good to Have** | **Description** | **Link to Solution** |
|  | Mandatory | Toucan application to support EBT transactions |  |
|  | Mandatory |  |  |
|  |  |  |  |
|  |  |  |  |

# System Flow

NA

# Security

NA

# Assumption

NA

# Solution Design

## Background

The EBT Program provides qualified recipients with electronic access to SNAP and/or cash benefits through Point-of- Sale (POS) devices using EBT cards with personal identification numbers (PINs)..

## High Level Impact Areas

Solution is divided into following impact areas:

* EBT POS application
* Merchant on-boarding
* User Access Management
* Authorization
* Merchant settlement
* Recon and MIS

## Design in Detail

#### Merchant on-boarding

Give reference of on-boarding FSD here

#### Terminal Initialization

When the EBT application is installed on the POS application, terminal is to be initialized to make the terminal ready to accept transactions.

Existing API [/api/auth/posinitial](https://ops.dev.toucanus.net/api/auth/posinitial) will be triggered after entering Terminal Number, SKU Number and OTP.

On receipt of this API, Toucan BE validates the details and if found valid, Terminal is set to transact and response is sent to the terminal.

If the details are not valid, respective error response is sent to the terminal.

#### Terminal Sign-on

Post initialization, terminal sign-on is initialized for key injection.

Existing API [/api/swt/matm/signon](https://ops.dev.toucanus.net/api/swt/matm/signon) will be triggered.

On receipt of this API, Toucan BE connects with HSM to generate two set of keys and send in API response to the terminal. Along with the keys critical terminal information like terminal capabilities,

These keys will be used for PIN block and ???

Whenever merchant feels that the keys are compromised/want to use new set of keys for every new business day/ want to use new set of keys for every shift change Terminal sign-on can be attempted.

#### User Access Management

* For EBT merchants, only one merchant users will be created from the Toucan application.
* While the merchant users will be able to access the merchant portal, clerks and supervisors will be users of the EBT POS application.
* Clerks and Supervisors are created from the EBT POS application.
* Clerks and Supervisors will be attached to the merchant.
* Clerk, Supervisor IDs and their corresponding passwords will be stored at the backend.
* When Clerk/Supervisor attempts login, credentials will be validated with BE.
* For the first time when the sign-on is done from the terminal, POS application creates a default supervisor ID. Using this default ID new clerk IDs can be created on the terminal.
* Add clerk API will be triggered by the POS application for default supervisor ID creation.

###### POS Application

* Users will be able to create Clerk/Supervisor IDs from the POS application

**Add/Delete Clerk**

Options>>>>>Clerk Maintenance>>>>>Add Clerk>>>>

*API details*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Field Type | Remarks |  |  |
| Request Type | A, D, | A – Add Clerk  D – Delete Clerk  DF – Default ID | Mandatory | Will be set to DF for default ID creation |
| Supervisor ID | Free text |  | Mandatory | For DF type request this can be blank |
| Supervisor Password | 4 – 8 chars (encrypted) | BE to decrypt the password to compare the credentials | Mandatory | For DF type request this can be blank |
| User type | Regular, Supervisor |  | Mandatory for Add Clerk | Will be set to Supervisor for DF request |
| User ID | Free text |  | Mandatory for Add/Delete Clerk | Add ID - Duplicate ID to throw error  Delete ID –throw error if ID is not found in system  Set to default value of 9876 for DF type |
| User ID Password | 4 – 8 chars | FE to encrypt while sending  BE to store encrypted value | Mandatory for Add Clerk | Set to default value 1234 for DF type |
|  |  |  |  |  |

**Add Clerk POS prompts**

* When the Clerk ID password is entered, re-entering of the password is prompted.
* If the re-entered password doesn’t match with initially entered password, error message is thrown and the user is prompted to set the password again.
* The above steps will happen on the POS device only and only after re-entered password is successfully validated; API is triggered for BE update.

**Delete Clerk POS prompts**

* Once the clerk ID to be deleted is entered, POS to prompt a confirmation on the delete. Only after successfully receiving the confirmation from the user, API to delete the clerk will be triggered.

Change Password

Options>>>>>Clerk Maintenance>>>>>Change Password>>>>

**API fields**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Field Type | Remarks |  |  |
| Request Type | C | C – Change Password | Mandatory |  |
| Supervisor ID | Free text |  | Mandatory | Error to be thrown if ID is not marked as Supervisor |
| Supervisor Password | 4 – 8 chars | BE to decrypt the password to compare the credentials | Mandatory | Error to be thrown if credentials does not match |
| User ID | Free text |  | Mandatory | throw error if ID is not found in system |
| Original Password | 4 – 8 chars | FE to encrypt while sending  BE to decrypt for comparison | Optional | Throw error if entered password doesn’t match. Can be blank |
| New Password | 4 – 8 chars | FE to encrypt while sending  BE to decrypt for comparison | Mandatory | Throw error if new pwd is same as old pwd |

**Change password POS prompts**

* When the Clerk ID password is entered, re-entering of the password is prompted.
* If the re-entered password does not match with initially entered password, error message is thrown and the user is prompted to set the password again.
* The above steps will happen on the POS device only and only after re-entered password is successfully validated; API is triggered for BE update.

#### Clerk S

#### Merchant Posting

#### Transaction view

Newly added Transaction Fees to be displayed for posted, Hold payment, reversal transactions in Transaction view.

#### Reports

Newly added Transaction Fees to be displayed in posted, hold payment, Payment advice, Statement, Transaction file download reports

### MDR type

Three new values will be added in MDR type, BOTH, GREATER, LESSER

#### Pricing UI

Pricing screen will be enhanced to

1. For all the 3 newly added MDR Types, there will be provision to enter both fixed and percentage MDR values and would be mandatory.
2. Zero will be allowed in both fixed and percentage fields.

#### Merchant posting

Merchant posting will be enhanced to

1. Calculate Final Payment amount as follows when MDR type is set to BOTH
   1. Calculate MDR value to be percentage value of transaction amount
   2. Calculate Final Payment amount as *Transaction amount – Fixed MDR amount – Calculated MDR amount*
2. Calculate Final Payment amount as follows when MDR type is set to GREATER
   1. Calculate MDR value to be percentage value of transaction amount
   2. Determine out of Fixed MDR and calculated MDR which is the greater value
   3. Calculate Final Payment amount as *Transaction amount – Greater of (Fixed MDR amount/calculated MDR amount)*
3. Calculate Final Payment amount as follows when MDR type is set to LESSER
   1. Calculate MDR value to be percentage value of transaction amount
   2. Determine out of Fixed MDR and calculated MDR which is the lesser value
   3. Calculate Final Payment amount as *Transaction amount – Lesser of (Fixed MDR amount/calculated MDR amount)*

#### Transaction view

Current Transaction view will be enhanced to

1. Include Fixed MDR value, calculated MDR value and Final MDR value
2. These details will be displayed for posted, Reversed and Hold Payment transactions

#### Payment Advice & Statement

Payment Advice will be enhanced to

1. Display Calculated MDR value as Fixed MDR + MDR calculated using % value when MDR type is BOTH.
2. Display Calculated MDR value as Greater of (Fixed MDR amount/calculated MDR amount) when MDR type is GREATER.
3. Display Calculated MDR value as Lesser of (Fixed MDR amount/calculated MDR amount) when MDR type is LESSER.

The above logic will be applicable even for the statement generation.

#### Reports

Fixed MDR value, calculated MDR value and Final MDR value will be displayed in Posted, Reversed and Hold Payment transactions reports.

### Security considerations

None

### Conversion processes

None

### Setup Sequence

None

## Table Structures

NA - no new table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Data Field ID** | **Attribute** | **Description** | **Default Value** | **Helper Text** | **Field Edits** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |

### System Names and Object ID details

None

#### 

### 

## Query and Answers

|  |  |
| --- | --- |
| **Query** | **Answer** |
|  |  |

# Out of Scope

NA

# Link to Technical Documentation

# Business Service

List high level description of business service to expose as part of function. Also list which service will be exposed to which app

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Business Service** | **Type** | **Retailer Portal** | **Customer Service** | **API** |
|  |  | YES/NO | YES/NO | YES/NO |

NA

# Testing Scenario

Test Scenarios should cover the following

# Reference

None