**Discovery Report**

ORIENT COMMERCIAL BANK

Way4 Implementation

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# Introduction

## Introduction

This document contains the Transaction flow of Auto Teller Machine (ATM) which the Way4 system will be configured for the Business Requirements of Orient Commercial Bank. It covers the different sections of the Way4 system and Configuration needed to be done in them.

The technical solution, setup and configuration needed to be done in Way4 to satisfy OCB’s ATM acquiring requirements. These solutions are internal to Way4 and are based on expertise and knowledge of OpenWay staff. The solution will be updated and finalized during system build phase by OpenWay.

## Notations used

The formats of the file fields are as follows:

| Ref | Description |
| --- | --- |
| A | Alphabetic characters A through Z and a through z |
| N | Numeric digits 0 through 9. A numeric field containing only digits; the field is right-aligned and should to be appended with leading zeros to reach the specified length. |
| An | Alphabetic and Special Characters. A character field containing any printable characters; the field is left aligned, it is appended with trailing spaces to reach the specified length |
| Ns | Numeric and Special Characters |
| Ans | Alphabetic, Numeric and Special Characters |
| MM | Month, 01 through 12 |
| DD | Day, 01 through 31 |
| YY | Year, 00 through 99 |
| YYYY | Year, 0000 through 9999 |
| HH | Hour, 00 through 23 |
| MI | Minute, 00 through 59 |
| SS | Second, 00 through 59 |
| B | Binary representation of data. A binary field only used to store line delimiter characters |
| ..nn | Variable length data up to nn characters. There will be two or three character length (depending upon whether maximum data length is 99 or 999) at the beginning of the element to identify the number of positions following to the end of the data element |
| S | Single Value Field |
| MV | Multi-value Field/Multiline data |
| O | Optional |
| M | Mandatory |
| C | Conditional |
| MR | Copy from request |
| CR | Copy if present in request |
| ATM | Auto Teller Machine |
| CCDM | Cheque and Cash Deposit Machine |
| SML | SmartLink |
| Napas | Vietnam Nation Financial Switching Joint Stock Company |
| OCB | Orient Commercial Bank |

## Data Elements

The final component of a message consists of a number of 'data elements'. Data elements may be of fixed or variable length. No delimiters are used between data elements. Their order and presence is indexed by the associated bit map(s). Variable length data starts with length specified, indicating the length of that particular data element. Each data element is characterized by:

* **No** is a running number
* **Data Element Name** is name of field
* **Position** is starting position of the field.
* **Size** is the length of the field. For example: Position = 6 and length = 3 mean the field content starts at 6 spaces/ characters/ digits from the left and occupies 3 spaces/ characters/ digits.
* **M/C/O** is a value represents mandatory or conditional or optional. The following flags specify if the entry of data in the field is mandatory:
  + **M** - the data entry is mandatory,
  + **O**- the data entry is optional,
  + **C** - the data entry depends on other field values.
* **Description** is additional explanation of the field. It should clarify
  + whether the field is expecting a fixed value
  + the field is running number
  + the field existence depends on other field/ fields
  + termination symbol
  + delimiter; for example 0x0D, 0x0A (CRLF).

# Basic Parameters

## Card Type

Below is list of card type which OCB requests to support ATM transaction.

|  |  |  |
| --- | --- | --- |
| **Card Type** | **Group** | **Note** |
| Local Debit Card | OCB Card 1 | Bank’s card |
| MC Debit Card | OCB Card 1 | Bank’s card |
| JCB Debit Card | OCB Card 1 | Bank’s card |
| Local Prepaid Card | OCB Card 1 | Bank’s card |
| MC Prepaid Card | OCB Card 1 | Bank’s card |
| Local Credit Card | OCB Card 2 | Bank’s card |
| MC Credit Card | OCB Card 2 | Bank’s card |
| JCB Credit Card | OCB Card 2 | Bank’s card |
| Napas Card | Non OCB Card 1 | Domestic card |
| Master Card | Non OCB Card 2 | International card |
| JCB Card | Non OCB Card 3 | International card |

Note: Napas Card is local card which is issued by Vietnam’s bank connected to Napas system.

Below is transaction list of each card group.

|  |  |
| --- | --- |
| **Group** | **Transaction** |
| OCB Card 1 | Cash Withdrawal  Balance inquiry  Mini statement  PIN change  Intra Bank Fund Transfer:   * Debit card to Debit card * Debit card to Prepaid card * Debit card to Credit card * Prepaid card to Prepaid card * Prepaid to Credit * Prepaid to Debit * Debit card to account * Prepaid to account   InterBank Fund Transfer (IBFT via Napas)   * Debit card to card * Debit card to account * Prepaid card to card * Prepaid card to account   Billing/Topup  Reversal |
| OCB Card 2 | Cash Withdrawal  Balance inquiry  Mini statement  PIN change  Reversal |
| Non OCB Card 1 | Cash Withdrawal  Balance inquiry  Mini statement  PIN change  InterBank Fund Transfer (IBFT)  Reversal |
| Non OCB Card 2 | Cash Withdrawal  Balance Inquiry  Money Send  Reversal |
| Non OCB Card 3 | Cash Withdrawal  Balance Inquiry  Reversal |

Note: Above ATM transactions are magnetic stripe (magstripe) transactions.

## ATM Protocol

OCB requests Openway to provide ATM configuration to support NDC+ protocol, vendor Wincor. Bellows is version information:

|  |  |  |  |
| --- | --- | --- | --- |
| **Branch** | **Machine** | **Firmware** | **Version** |
| WINCOR | ProCash 2000 | Wincor Nixdorf | xxx |

## ATM Denomination

All ATM of OCB is setup to support 4 denominations: VND50,000; VND100,000; VND200,000; VND500,000.

Bank has facility to configure different denomination for all ATMs or a particular ATM.

## ATM Denomination Limit

Below is a case which Way4 support to extract denomination once cardholder executes cash withdrawal. Other cases, we can refer to appendix B.

Maximum notes per one cash withdrawal transaction: 60 notes.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010260 | 1 | 3 | 5 | 9 | 18 | 35 | 60 |
| 200,000 | 60 | 010360 | 1 | 2 | 2 | 2 | 4 | 10 | 0 |
| 100,000 | 60 | 010460 | 0 | 1 | 1 | 1 | 2 | 4 | 0 |
| 50,000 | 60 | 010560 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |

## ATM Management and Monitoring

Refer to Appendix C for details.

# OCB Card - OCB ATM Transaction

## Allowed Transaction List

Below is transaction list which OCB bank wants to provide on ATM to cardholder.

1. Mini Statement
2. Balance Inquiry
3. Pin change
4. Cash Withdrawal
5. Intrabank Fund Transfer
6. Interbank Fund Transfer
7. Billing/Topup

## Transaction Initiation



Note: This process (transaction initiation) will not be shown on all of the following transaction flows because this will be repeated once cardholder inserts the card.

**Description:**

* Cardholder inserts card. If card is ok then next screen will be displayed.
* Cardholder selects language.
* Cardholder enters pin. At this screen, Cardholder can use keypad to press CANCEL key to cancel transaction; press CLEAR key to re-enter PIN; press OK key to continue.
* If Way4 verifies PIN successfully then Cardholder will select transaction.
* If Way4 verifies PIN and get Response code to request first PIN change then next screen will ask cardholder to do change PIN. PIN change flow is written in the following section.
* If Way4 verifies PIN unsuccessfully then ATM will ask cardholder to re-enter PIN or not?
* Cardholder is asked to select transaction. Transaction list is defined in section 3.1 for each card type.

## Mini Statement

This transaction is applied for Prepaid/Debit/Credit Card of OCB.



**Description:**

Cardholder is prompted to continue the transaction or not? Transaction will be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.

ATM will prompt user to select the account type (current account or saving account). After select account type then next screen will be displayed.

ATM will auto-detect FIT table. If inserted card is OCB’s debit card then next screen will ask cardholder to select account from dynamic list. Otherwise, ATM did not show account listing screen and directly goes to next screen.

Next screen will ask cardholder to print a receipt or not? If cardholder chooses YES then next step will include last transaction list on screen and print receipt. If cardholder chooses NO then next step includes last transaction list on screen only.

Besides, cardholder is prompted to select to do other transaction or not? If cardholder selects YES then next screen will be transaction selection (MM05).

## Balance Inquiry

This transaction is applied for Prepaid/Debit/Credit Card of OCB.



**Description:**

Cardholder is prompted to continue the transaction or not? Transaction will be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.

Next screen ATM will prompt user to select the account type (current account or saving account). After select account type then next screen will be displayed.

ATM will auto-detect FIT table. If inserted card is OCB’s debit card then next screen will ask cardholder to select account from dynamic list. Otherwise, ATM did not show account listing screen and directly goes to next screen.

Next screen will ask cardholder to print a receipt or not? If cardholder chooses YES then next step will include balance on screen and print receipt. If cardholder chooses NO then next step includes balance on screen only.

Besides, cardholder is prompted to select to do other transaction or not? If cardholder selects YES then next screen will be transaction selection (MM05).

## PIN Change

This transaction is applied for Prepaid/Debit/Credit Card of OCB.



**Description:**

If it is the first PIN change then screen will show the message to enter new PIN (e.g. it is the first pin change. It requires changing PIN. Please enter new PIN).

If it is not the first PIN change then screen will show the message to enter new PIN only (e.g. Please enter new PIN).

Cardholder is prompted to re-enter new PIN.

PIN change transaction is executed. If PIN was changed successfully then next screen will ask cardholder to select other transaction.

In case cardholder chooses [Yes] then ATM will go back the screen MM03 to ask cardholder to enter new PIN.

## Cash Withdrawal

This transaction is applied for Prepaid/Debit/Credit Card of OCB.



**Description:**

Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.

ATM will prompt user to select the account type (current account or saving account). After select account type then next screen will be displayed.

ATM will auto-detect FIT table. If inserted card is OCB’s debit card then next screen will ask cardholder to select account from dynamic list. Otherwise, ATM did not show account listing screen and directly goes to next screen.

Cardholder is asked to select transaction amount from static list. The list includes 7 static amounts (also called fast cash) and 1 option to enter new amount manually. If cardholder selects to enter new amount then [new enter amount-CW06] will be shown to ask cardholder to enter new amount.

Next screen will ask cardholder to print a receipt or not? If cardholder chooses YES then next step will include [take your card & cash] and print receipt. If cardholder chooses NO then next step includes [take your card & cash] only.

In case, cardholder did not take card/cash then card/cash will be retained.

## IntraBank Fund Transfer

OCB bank wants to provide Intra Bank Fund transfers between Debit card, Credit cards and Prepaid Cards from OCB Bank ATM’s to its customers. The following table shows the scope of the fund transfers enhancements.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| From To | Debit Card | Prepaid Card | Credit Card | Account |
| Debit Card | Yes | Yes | Yes | Yes |
| Prepaid Card | Yes | Yes | Yes | Yes |
| Credit Card | No | No | No | No |

### Debit Card to Debit/Prepaid/Credit Card (Card to Card)

Below flow is applied for fund transfer from Debit card to a card on Way4 system.



**Description:**

1. In main function, ATM prompt cardholder to select IntraBank Fund Transfer transaction (FT-A).
2. Next ATM prompt cardholder to select IntraBank Fund Transfer to card (FT-AC).
3. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
4. Next screen ATM will prompt user to select the account type (current account or saving account).
5. ATM will send request to Way4 to get dynamic list of account linked to debit card and display into screen.
6. ATM prompts cardholder to select. This screen will be skipped if there is one account linked to debit card.
7. ATM prompts cardholder to enter the Beneficiary Card Number/ Beneficiary account number.
8. ATM prompts cardholder to enter the Amount to transfer.
9. Next screen will ask cardholder to print a receipt or not?
10. In this case beneficiary is card, ATM will ask cardholder to confirm transaction (without cardholder name – FT12).
11. ATM send request message to Way4 switch to process transaction (FT13). Way4 will check the card type of beneficiary in three cases as following:

**In Case Beneficiary is Debit card**

1. Way4 get default account of beneficiary debit card and fill in DE103 of request message. DE102 is selected account of remitter.
2. Way4 switch send request message to CBS to process transaction (FT14).
3. Response message from CBS will be send Way4 switch.
   1. Way4 switch send response message to ATM and finish transaction.

**In Case Beneficiary is Prepaid card/Credit card**

1. Way4 send request message send to CBS with remitter account in DE102 and suspend account which open for prepaid card/credit card in DE103 (FT15/FT17).
2. Response message from CBS will be send to Way4 switch. If success response from CBS, Way4 will make a credit entry to prepaid/credit card (FT16/FT18).
3. Way4 switch send response message to ATM and finish transaction.
4. On reject response from CBS
   1. CBS will send unsuccessful response to Way4.
   2. Way4 will forward the rejected response to ATM.

### Debit Card to Account (Card to Account)

Below flow is applied for fund transfer from Debit card to an account on CBS.



**Description:**

1. In main function, ATM prompt cardholder to select IntraBank Fund Transfer transaction (FT-A).
2. Next ATM prompt cardholder to select IntraBank Fund Transfer to card (FT-AA).
3. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
4. Next screen ATM will prompt user to select the account type (current account or saving account).
5. ATM will send request to Way4 to get dynamic list of account linked to debit card and display into screen.
6. ATM prompts cardholder to select. This screen will be skipped if there is one account linked to debit card.
7. ATM prompts cardholder to enter the Beneficiary Card Number/ Beneficiary account number.
8. ATM prompts cardholder to enter the Amount to transfer.
9. Next screen will ask cardholder to print a receipt or not?
10. In this case, beneficiary is account number on CBS.

**In Case Beneficiary is Account number**

* 1. ATM will send message request to Way4 switch.
  2. Way4 switch forward message request from ATM to CBS to validate account number (FT09).
  3. If success response from CBS, Way4 switch forward message response to ATM and display into screen to ask cardholder confirm transaction (FT10).
  4. If cardholder confirm, ATM will send another request message to Way4 switch.
  5. In this case, both remitter and beneficiary are account in CBS then Way4 switch forward this request message to CBS (FT11).
  6. CBS make a transfer from remitter account to beneficiary account and send response message to Way4 switch.
  7. Way4 switch send response message to ATM and finish transaction.

1. On reject response from CBS
   1. CBS will send unsuccessful response to Way4.
   2. Way4 will forward the rejected response to ATM.

### Prepaid Card to Debit/Prepaid/Credit Card (Card to Card)

Below flow is applied for fund transfer from Prepaid card to a card on Way4 system.



**Description:**

1. In main function, ATM prompt cardholder to select IntraBank Fund Transfer transaction (FT-A).
2. Next ATM prompt cardholder to select IntraBank Fund Transfer to card (FT-AC).
3. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
4. ATM will prompt user to select the account type (current account or saving account).
5. ATM prompts cardholder to enter the Beneficiary Card Number/Beneficiary account number.
6. ATM prompts cardholder to enter amount to transfer.
7. Next screen will ask cardholder to print a receipt or not?
8. In this case beneficiary is card, ATM will ask cardholder to confirm transaction (without cardholder name – FT10).
9. ATM send request message to Way4 switch to process transaction (FT11). Way4 will check the card type of beneficiary in three cases as following:

**In Case Beneficiary is Debit card**

1. Way4 get default account of beneficiary debit card and fill in DE103 of request message. DE102 is suspended account for prepaid card.
2. Way4 do validation and debit to prepaid card (new balance greater than MIN limit and less than MAX limit). If success, Way4 send advice message to CBS with suspended account for prepaid card in DE102 and default account of beneficiary in DE103 (FT12).
3. Way4 switch send response message to ATM and finish transaction.

**In Case Beneficiary is Prepaid card/Credit card**

1. In this case, both remitter and beneficiary are cards in Way4. Way4 will make a transfer from remitter card to beneficiary card (FT13/FT14).
2. Way4 switch send response message to ATM and finish transaction.
3. On reject response from CBS
   1. CBS will send unsuccessful response to Way4.
   2. Way4 will forward the rejected response to ATM.

### Prepaid Card to Account (Card to Account)

Below flow is applied for fund transfer from Prepaid card to an account on CBS.



**Description:**

1. In main function, ATM prompt cardholder to select IntraBank Fund Transfer transaction (FT-A).
2. Next ATM prompt cardholder to select IntraBank Fund Transfer to card (FT-AA).
3. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
4. ATM will prompt user to select the account type (current account or saving account).
5. ATM prompts cardholder to enter the Beneficiary Card Number/Beneficiary account number.
6. ATM prompts cardholder to enter amount to transfer.
7. Next screen will ask cardholder to print a receipt or not?
8. In this case, beneficiary is account number on CBS.

**In Case Beneficiary is Account number**

* 1. ATM will send message request to Way4 switch.
  2. Way4 switch forward message request from ATM to CBS to validate account number (FT07).
  3. If success response from CBS, Way4 switch forward message response to ATM and ask cardholder confirm transaction (FT08).
  4. If cardholder confirm, ATM will send another request message to Way4.

1. Way4 do validation and debit to prepaid card (new balance greater than MIN limit and less than MAX limit). If success, Way4 send advice message to CBS with suspended account for prepaid card in DE102 and beneficiary account in DE103 (FT09).
   1. Way4 switch send response message to ATM and finish transaction.
2. On reject response from CBS
   1. CBS will send unsuccessful response to Way4.
   2. Way4 will forward the rejected response to ATM.

## InterBank Fund Transfer

### Transaction Flow

OCB bank wants to provide Inter Bank Fund transfers for OCB’s Debit and Prepaid Cards from OCB Bank’s ATM to card/account in another Bank. The following ATM flow is used for this.



**Description:**

1. Cardholder selects Inter-Bank Transfer from transaction menu.
2. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. ATM prompts cardholder to select the account type (savings/current account). Cardholder will select the desired option.
4. ATM will send request to Way4 to get dynamic list of account linked to debit card and display into screen of ATM.
   1. If any of the card validation or PIN verification fails, Way4 switch will send reject response to ATM
5. ATM prompts cardholder to select account number (steps 3, 4, 5 will be skipped if there is one account linked to debit card or remitter is prepaid card).
6. Next screen cardholder enters Beneficiary Bank code by select corresponding number which printed in the background screen.
7. Next screen cardholder enters beneficiary account number/beneficiary card number.
8. Next screen cardholder enters the amount to be transferred.
9. Next screen will ask cardholder whether they want to print receipt or not?
10. ATM will send transaction request to Way4 switch.
11. On receiving the transaction request, Way4 switch will send IBFT Account Inquiry message to NAPAS.
12. NAPAS will forward the request to Beneficiary bank.
13. Beneficiary bank will perform Beneficiary validation and send response to NAPAS.
    1. If Beneficiary validation successful, Beneficiary bank will send Beneficiary account name/cardholder name in response to NAPAS.
14. NAPAS will send the response to Way4 switch.
    1. If unsuccessful response received, Way4 switch will forward reject response to ATM. ATM will display reject response to cardholder and finish transaction.
15. If successful response received, ATM will display beneficiary account name/beneficiary card name, beneficiary account number/card number, beneficiary bank name and amount in ATM screen for cardholder confirmation.
16. On cardholder confirmation, ATM will send transaction request to Way4 switch.
17. Way4 switch will send IBFT Payment message to NAPAS (NAPAS will send IBFT Payment request to Beneficiary Bank to credit target account/card number). Concurrently, Way4 switch will process in two following cases:

**In case source card is Debit card:**

* 1. Way4 switch send IBFT Withdrawal advice message to CBS for authorization and send response to ATM. ATM will display reject response and finish transaction.
  2. Time out between Way4 switch and CBS: In case of time out between Way4 switch and CBS, Way4 switch will send reject response to ATM. Way4 switch will send reversal to CBS.

**In case source card is Prepaid card:**

1. Way4 will perform IBFT Withdrawal authorization request and send response to ATM. ATM will display reject response and finish transaction.

### Reconciliation

The reconciliation process will be develop and deploy by OCB

### Reports

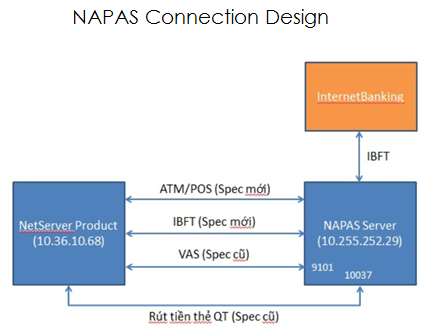
All of reports for IBT service will be developed and deploy by OCB

## Value Added Service Transaction

### Description

This function allow OCB’s cards makes payment (Billing/TopUp) on OCB’s ATM.

Interface with NAPAS for Billing/TopUp transaction will connect to difference port of other service (ATM/POS and IBT services).



### List of service code

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Service provider** | **Service Type** | **Service Code** |
| 1 | VMS Mobifone | Billing | VMSBILLING |
| 2 | TopUp | VMSTOPUP |
| 3 | Vinaphone Mobile | Billing | VNPBILLING |
| 4 | TopUp | VNPTOPUP |
| 5 | Viettel Mobile | Billing | VTLBILLING |
| 6 | TopUp | VTLTOPUP |
| 7 | Sfone Mobile | Billing | SFNBILLING |
| 8 | TopUp | SFNTOPUP |
| 9 | BeeLine Mobile | TopUp | BELTOPUP |
| 10 | EVN Mobile | Billing | EVNBILLING |
| 11 | TopUp | EVNTOPUP |
| 12 | VNPT Chi nhánh Hồ Chí Minh | Billing | VNPTHCMBILLING |
| 13 | SST | Billing | SSTHPBILL |
| 14 | SST | Billing | SSTADSBILL |
| 15 | Prudential | Billing | PRUBILLING |
| 16 | SML - Viettel Payplus | TopUp | PAYPRTOPUP |
| 17 | VTC Online (VCoin) | TopUp | VTCTOPUP |
| 18 | FPT Online (Bac) | TopUp | FPTOTOPUP |
| 19 | Vina Game (zing xu) | TopUp | ZGXUTOPUP |
| 20 | VDCO(Net to E on cash) | TopUp | N2ETOPUP |
| 21 | Prudential Finance | Billing | PFVBILLING |
| 22 | VTC Digital | TopUp | VDGTTOPUP |
| 23 | STC Billing | Billing | STCBILLING |

### Billing Payment



**Description:**

1. After cardholder chooses Billing function from [Select Payment] screen, cardholder is prompted to enter predefined code of service provider. Predefined code is listed in screen so that cardholder can determine what code they need.
2. Next screen, bill number is prompted to enter.
3. After cardholder entered Target number then check request is sent to NAPAS system to check bill number is correct or not. If Target number is correct the NAPAS will response **Biller amount** and biller amount will be shown in next screen.
4. Next step, ask cardholder to choose account type.
5. Way4 will do account listing function and display account(s) linked to insert card on ATM screen to ask cardholder to choose.
6. Confirmation screen will ask cardholder to check transaction detail again and ask them whether they want to do the transaction or not? Confirmation information includes: **cardholder name, linked account, Bill number** and **paid amount**.
7. If they choose NO then transaction will be cancelled and returned card to cardholder. If they choose YES then way4 will send FIN request to Core banking system.
8. Next screen will ask cardholder whether they want to print receipt or not?
9. If Core Banking returns an error then transaction will be cancelled and return card to cardholder.
10. If Core banking returns response successfully then way4 will continue send FIN request to NAPAS.
11. Next step, ATM will print receipt if any and returns card to cardholder.

### TopUp Service



**Description:**

1. After cardholder chooses TopUp function from [Select Payment] screen, cardholder is prompted to enter predefined code of service provider. Predefined code is listed in screen so that cardholder can determine what code they need.
2. Next screen, Phone number is prompted to enter.
3. After cardholder entered phone, on next screen, TopUp amount will be prompted to enter.
4. Next step, ask cardholder to choose account type.
5. Way4 will do account listing function and display account(s) linked to insert card on ATM screen to ask cardholder to choose.
6. Confirmation screen will ask cardholder to check transaction detail again and ask them whether they want to do the transaction or not? Confirmation information includes: **linked account, phone number** and **amount TopUp**.
7. If they choose NO then transaction will be cancelled and returned card to cardholder. If they choose YES then way4 will send FIN request to Core banking system.
8. Next screen will ask cardholder whether they want to print receipt or not?
9. If Core Banking returns an error then transaction will be cancelled and return card to cardholder.
10. If Core banking returns response successfully then way4 will continue send FIN request to NAPAS.
11. Next step, ATM will print receipt if any and returns card to cardholder.

### Reconciliation

The reconciliation process will be develop and deploy by OCB.

### Reports

All of reports for Value-added service for Payment will be developed and deploy by OCB.

# Napas Card – OCB ATM Transaction

## Transaction Initiation



Note: This process (transaction initiation) will not be shown on all of the following transaction flows because this will be repeated once cardholder inserts the card.

**Description:**

* Cardholder inserts card. If card is ok then next screen will be displayed.
* Cardholder selects language.
* Cardholder enters pin. Way4 did not verify PIN at this step. At this screen, Cardholder can use keypad to press CANCEL key to cancel transaction; press CLEAR key to re-enter PIN; press OK key to continue.
* Cardholder is asked to select transaction. Transaction list is defined in section 3.1 for each card type.

## Mini Statement

This transaction is applied for Napas Card only.



**Description:**

1. Cardholder will select Mini Statement function from transaction menu displayed on ATM.
2. Cardholder is prompted to continue the transaction or not? Transaction will be charged by issuer bank. If cardholder chooses YES next screen will be displayed.
3. Prompt cardholder to select account type (default, saving, checking and credit account).
4. Next screen will ask cardholder to print a receipt or not? ATM will send Mini Statement request message to Way4 switch.
5. On receiving transaction request, Way4 switch will identify that card belongs to Napas network.
6. Way4 switch will forward transaction request to Napas.
7. Napas will forward transaction request to corresponding issuer.
8. Issuer switch will authorize transaction and send response message to Napas.
9. Napas will forward response message to Way4 switch.
10. Way4 switch will send response messsage to ATM.
    1. If successful response received, ATM will display last transaction list on screen, print or don’t print receipt depend on the request of customer. Besides, cardholder is prompted to continue other transaction or not? If cardholder selects YES then next screen will be transaction selection (MM05).
    2. If unsuccessful response received, ATM will display appropriate response.
11. In case of time out between Way4 switch and Napas or time out between Way4 switch and ATM, ATM will reject transaction. Way4 switch will not generate reversal.

## Balance Inquiry

This transaction is applied for Napas card only.



**Description:**

1. Cardholder will select Balance Inquiry from transaction menu displayed on ATM.
2. Cardholder is prompted to continue the transaction or not? Transaction will be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. Prompt cardholder to select account type (default, saving, checking and credit account).
4. Next screen will ask cardholder to print a receipt or not? ATM will send Balance Inquiry request message to Way4 switch.
5. On receiving transaction request, Way4 switch will identify that card belongs to Napas network.
6. Way4 switch will forward transaction request to Napas.
7. Napas will forward transaction request to corresponding issuer.
8. Issuer switch will authorize transaction and send response message to Napas.
9. Napas will forward the response message to Way4 switch.
10. Way4 switch will send response message to ATM.
    1. If successful response received, ATM will display balance on screen on screen, print or don’t print receipt depend on the request of customer. Besides, cardholder is prompted to continue other transaction or not? If cardholder selects YES then next screen will be transaction selection (MM05).
    2. If unsuccessful response received, ATM will display appropriate response.
11. In case of time out between Way4 switch and Napas or time out between Way4 switch and ATM, ATM will reject transaction. Way4 switch will not generate reversal.

## PIN Change

This transaction is applied for Napas Card only.



**Description:**

1. Cardholder will select PIN change from transaction menu displayed on ATM.
2. ATM will prompt cardholder to enter new PIN.
3. Cardholder will enter new PIN and press Enter.
4. ATM will prompt cardholder to re-enter new PIN to confirm.
5. Cardholder will re-enter new PIN for confirmation.
6. ATM will check to ensure that new PINs entered twice are matching. Else, ATM will prompt cardholder to re-enter the new PIN again.
7. If both PINs are matched, ATM will send PIN Change request message to Way4 switch.
8. On receiving transaction request, Way4 switch will identify that card belongs to Napas network
9. Way4 switch will send transaction request with old and new PIN block to Napas.
10. Napas will forward the transaction request to corresponding issuer.
11. Issuer switch will authorize the transaction and send response to Napas.
12. Napas will forward the response to Way4 switch.
13. Way4 switch will send the response to ATM.
    1. If successful response received, ATM will display successful response and print the receipt to complete the transaction.
    2. If unsuccessful response received, ATM will display appropriate response.
14. In case of time out between Way4 switch and Napas or time out between Way4 switch and ATM, ATM will reject transaction. Way4 switch will not generate reversal.

## Cash Withdrawal

This transaction is applied for Napas Card only.



**Description:**

1. Cardholder will select Cash Withdrawal from transaction menu displayed on ATM.
2. Cardholder is prompted to continue the transaction or not? Transaction will be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. Prompt cardholder to select account type (default, saving, checking and credit account).
4. Next screen will ask cardholder to print a receipt or not? ATM will send Cash Withdrawal request message to Way4 switch.
5. On receiving transaction request, Way4 switch will identify that card belongs to Napas network.
6. Way4 switch will send transaction request to Napas.
7. Napas will forward transaction request to corresponding issuer.
8. Issuer switch will authorize transaction and send response message to Napas.
9. Napas will forward the response message to Way4 switch.
10. Way4 switch will send the response to ATM.
    1. If successful response received, ATM will return card to customer, dispense cash, print or don’t print receipt depend on the request of customer. In case, cardholder did not take card/cash then card/cash will be retained.
    2. If unsuccessful response received, ATM will display appropriate response.
11. In case of time out between Way4 switch and Napas or time out between Way4 switch and ATM, ATM will reject transaction. Way4 switch will generate reversal message and send to Napas.

## Interbank Fund Transfer

This transaction is applied for NAPAS Card. At OCB, we do not apply this transaction because OCB is using SmartLink specification. NAPAS did not provide this case.

### Source and Target are same bank



Description:

1. Cardholder will select InterBank Fund Transfer from transaction menu.
2. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. ATM will prompt cardholder to select the account type (Default/Checking/Savings/Credit). Cardholder will select the desired option.
4. ATM prompts cardholder to enter beneficiary bank code.
5. After entering beneficiary account number/beneficiary card number, ATM will prompt cardholder to enter the amount to be transferred.
6. Cardholder will enter the amount to be transferred.
7. ATM will send transaction request to Way4 switch.
8. On receiving transaction request, Way4 switch will identify issuer and beneficiary bank are same. Way4 switch will send IBFT inquiry with PIN verify request (processing code: 390010) to Napas.
9. Napas will forward the request message to corresponding issuer bank.
10. On receiving transaction request, issuer bank will perform card validation and PIN verification. On successful validation, it will send beneficiary name in the response to Napas.
    * + 1. If validation fails, it will send reject response to Napas. Napas will forward reject response message to Way4 switch.
        2. Way4 switch will forward the decline response and the same will be displayed on ATM.
11. Napas will forward the response to Way4 switch.
12. Way4 switch send response to ATM. ATM will display - Beneficiary Account name/Beneficiary Cardholder name, beneficiary account number/beneficiary card number, beneficiary bank name and IBFT amount for cardholder confirmation.
13. Cardholder will confirm IBFT transaction.
14. On cardholder confirmation, ATM will send transaction request to Way4 switch.
15. On receiving transaction request, Way4 switch send IBFT Payment transaction request (Processing code: 40xx00) to Napas for authorization.
16. Napas will send IBFT payment request to issuer.
17. Issuer bank will perform transaction and send response to Napas.
18. Napas will forward the response to Way4 switch.
19. Way4 switch will forward the response to ATM. ATM will display response and print the receipt to complete the transaction.
20. Exception Handling:
    * + 1. Time out between Way4 switch and Napas (during IBFT inquiry): Way4 switch will reject the transaction. Way4 switch will not generate reversal.
        2. Time out between Way4 switch and Napas (during IBFT Payment): Way4 switch will reject the transaction. ATM will display message “Fund Transfer transaction has been sent but not yet receive feedback. Please check your account”. Way4 switch will not send reversal to Napas.

### Source is another bank, Target is OCB Bank



Description

1. Cardholder will select InterBank Fund Transfer from transaction menu.
2. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. ATM will prompt cardholder to select the account type (Default/Savings/Checking/Credit). Cardholder will select the desired option.
4. ATM prompts cardholder to enter beneficiary bank code.
5. After entering beneficiary account number/beneficiary card number, ATM will prompt cardholder to enter amount to be transferred.
6. Cardholder will enter the amount to be transferred.
7. ATM will send transaction request to Way4 switch.
8. On receiving the transaction request, Way4 switch will identify that is beneficiary bank.
9. Way4 switch will perform beneficiary validation (beneficiary account validation and beneficiary name fetch) with HOST (Way4 or CBS) as beneficiary belongs to.
   1. If beneficiary validation is unsuccessful, Way4 switch will send reject response to ATM.
10. On successful beneficiary validation, ATM will display beneficiary account name/beneficiary card name, beneficiary account number/card number, beneficiary bank name and IBFT amount on ATM screen for cardholder confirmation.
11. On cardholder confirmation, ATM will send transaction request to Way4 switch.
12. On receiving transaction request, Way4 switch will send IBFT Payment transaction request (Processing Code: 41xx00) to Napas.
13. Napas will forward the IBFT withdrawal request to corresponding issuer for authorization.
14. Issuer will perform authorization and send response to Napas.
15. Napas will send IBFT payment response to Way4 switch.
    1. If unsuccessful response is received, Way4 switch will send reject response to ATM.
16. If successful response is received, Way4 switch will process in two following cases:

**In case beneficiary is account in CBS**

1. Way4 switch send FT request to CBS for authorization
2. CBS will perform authorization and send response to Way4 switch.
   1. If authorization is successful, CBS will credit the beneficiary account and send successful response to Way4 switch. Way4 switch will forward the response to ATM. ATM will display successful response and print the receipt to complete the transaction.
   2. If authorization is unsuccessful, CBS will send reject response to Way4 switch. Way4 switch will forward the reject response to ATM. ATM will display unsuccessful response and print the receipt to complete the transaction. Way4 switch will send reversal to Napas.

**In case beneficiary is card in Way4**

1. Way4 will perform authorization:
   1. If authorization is successful, Way4 will credit to beneficiary prepaid card and send response to ATM. ATM will display successful and print the receipt to complete the transaction. Way4 switch will send response message to Napas.
   2. If authorization is unsuccessful, Way4 switch will forward the reject response to ATM. ATM will display unsuccessful response and print the receipt to complete the transaction. Way4 switch will send reversal to Napas.
2. Exception Handling
   1. Time out between Way4 switch and Napas (during PIN verify): In case of time out between Way4 switch and Napas, Way4 switch will send reject response to ATM. No reversal will be generated.
   2. Time out between Way4 switch and Napas (during IBFT Payment request): In case of time out between Way4 switch and Napas, Way4 switch will send reject response to ATM. ATM will display message “Fund Transfer transaction has been sent but not yet receive feedback. Please check your account”.
   3. Time out between Way4 switch and CBS: In case of time out between Way4 switch and HOST, Way4 switch will send reject response to Napas.
   4. Time out between Way4 switch and ATM: In case of time out between Way4 switch and ATM, ATM will display message “Fund Transfer transaction has been sent but not yet receive feedback. Please check your account”.

### Source is another bank, Target card is other bank



**Description:**

1. Cardholder will select InterBank Fund Transfer from transaction menu.
2. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. ATM will prompt cardholder to select the account type (Default/Savings/Checking/Credit). Cardholder will select the desired option.
4. ATM prompts cardholder to enter beneficiary bank code.
5. After entering beneficiary account number/beneficiary card number, ATM will prompt cardholder to enter the amount to be transferred
6. Cardholder will enter the amount to be transferred.
7. ATM will send transaction request to Way4 switch
8. On receiving the transaction request, Way4 switch will identify beneficiary bank and send IBFT inquiry request (Processing Code:390000) to Napas
9. Napas will forward the IBFT inquiry request to beneficiary bank
10. Beneficiary bank will perform beneficiary validation and send response to Napas
11. If beneficiary validation successful, beneficiary bank will send beneficiary account name/cardholder name in response
12. Napas will forward the response to Way4 switch
13. If unsuccessful response received, Way4 switch will forward reject response to ATM. ATM will display reject response to cardholder.
14. If successful response received, ATM will display beneficiary account name/beneficiary card name, beneficiary account number/card number, beneficiary bank name and IBFT amount on ATM screen for cardholder confirmation
15. On cardholder confirmation, ATM will send transaction request to Way4 switch
16. On receiving transaction request, Way4 switch will send IBFT Payment transaction request (Processing Code : 48xx00) to Napas
17. Napas will perform IBFT transaction and send response to Way4 switch
18. Way4 switch will forward the response to ATM. ATM will display response and print the receipt to complete the transaction
19. Exception Handling:
    1. Time out between Way4 switch and Napas (during PIN verify): In case of time out between Way4 switch and Napas, Way4 switch will send reject response to ATM. No reversal will be generated.
    2. Time out between Way4 switch and Napas (during IBFT inquiry): In case of time out between Way4 switch and Napas, Way4 switch will send reject response to ATM. No reversal will be generated
    3. Time out between Way4 switch and Napas (during IBFT Payment request): In case of time out between Way4 switch and Napas, Way4 switch will send reject response to ATM.
    4. Time out between Way4 switch and ATM: ATM will display message “Fund Transfer transaction has been sent but not yet receive feedback. Please check your account”.

# OCB Card- Napas ATM Transaction

Orient Commercial Bank takes Issuer role. This section contain only information which Way4 check and response to Napas network and have no transaction flow.

## Mini Statement

Napas will receive the transaction request from acquirer.

Napas will forward the transaction request to Way4 switch. On receiving transaction request, Way4 switch will process Mini Statement transaction as follows:

**Description**

1. Way4 switch will receive “Mini Statement” transaction request from Napas with a specific account type.
2. On receiving transaction request, Way4 switch will perform Pre-screening checks and PIN verification.
   1. If any of the check or PIN verification fails, Way4 switch will send reject response to Napas.
3. On successful pre-screening checks and PIN verification, based on card type Way4 switch will route transaction to Way4 or CBS.
   1. In case debit card, Way4 need to specify account number corresponding to account type to make message request to CBS.
   2. In case transaction request for prepaid or credit card, Way4 will be authorized for this.
4. Way4 switch will send response to Napas.
5. Napas will forward the response to acquirer.

## Balance Inquiry

Napas will receive the transaction request from acquirer.

Napas will forward the transaction request to Way4 switch. On receiving transaction request, Way4 switch will process Balance Inquiry transaction as follows:

**Description**

1. Way4 switch will receive Balance Inquiry transaction request from Napas with a specific account type.
2. On receiving transaction request, Way4 switch will perform Pre-screening checks and PIN verification.
   1. If any of the check or PIN verification fails, Way4 switch will send reject response to Napas.
3. On successful pre-screening checks and PIN verification, based on card type Way4 switch will route transaction to Way4 or CBS.
   1. In case debit card, Way4 need to specify account number corresponding to account type to make message request to CBS.
   2. In case transaction request for prepaid or credit card, Way4 will be authorized for this.
4. Way4 switch send response message to Napas.
5. Napas will forward response message to acquirer.

## Cash Withdrawal

Napas will receive the transaction request from acquirer.

Napas will forward the transaction request to Way4 switch. On receiving transaction request, Way4 switch will process Cash Withdrawal transaction as follows:

**Description**

1. Way4 switch will receive Cash Withdrawal transaction request from Napas with a specific account type and amount.
2. On receiving transaction request, Way4 switch will perform Pre-screening checks and PIN verification.
   1. If any of the check or PIN verification fails, Way4 switch will send reject response to Napas.
3. On successful pre-screening checks and PIN verification, based on the card type Way4 switch will route transaction to Way4 or CBS
   1. In case debit card, Way4 need to specify account number corresponding to account type to make message request to CBS.
   2. In case transaction request for prepaid or credit card, Way4 will be authorized for this.
4. Way4 switch send response to Napas.
5. Napas will forward the response to Acquirer.

## Interbank Fund Transfer

At OCB, we do not apply this transaction because OCB is using SmartLink specification. NAPAS did not provide this case.

Napas will receive transaction request from acquirer.

Napas will forward transaction request to Way4 switch. On receiving transaction request, Way4 switch will process IBFT transaction as follows:

1. **Orient Commercial Bank as Issuer**
2. Way4 switch will receive PIN verify request (Processing Code: 920000) from Napas.
3. Way4 switch will perform card validation & other pre-screening checks and PIN verification.
   1. If any of the pre-screening check fails, Way4 switch will send reject response to Napas.
   2. On successful pre-screening checks and PIN verification, Way4 switch will send successful response to Napas.
4. Napas will forward the response to acquirer bank. Acquirer bank will send IBFT payment request to Napas.
5. Way4 will receive IBFT withdrawal request (Processing Code: 48xx00).
6. Way4 will send FT request to HOST for authorization.
7. HOST will perform transaction and send response to Way4 switch.
8. In case of time out between Way4 switch and HOST, Way4 switch will reject response to Napas. Way4 switch will send reversal to HOST.
9. Way4 switch will send response to Napas. Napas will forward the response to acquirer bank.
10. **Orient Commercial Bank as Beneficiary**
11. Way4 switch will receive IBFT inquiry request (Processing Code: 390000) from Napas.
12. Way4 switch will performing beneficiary account validation. If beneficiary account number is valid, Way4 switch will send beneficiary accountholder name in response to Napas, else Way4 switch will send reject response.
13. Napas will forward the response to acquire bank. Acquirer bank will send IBFT payment request to Napas.
14. Napas will send IBFT deposit advice (Processing Code: 48xx00) to Way4 switch.
15. Way4 switch will send FT request to HOST for authorization.
16. HOST will perform authorization and send response to Way4 switch.
    1. In case of time out between Way4 switch and HOST: Way4 switch will send reject response to Napas. Way4 switch will send reversal to HOST.
17. Way4 switch will forward the response to Napas.
18. **Orient Commercial Bank as Issuer and Beneficiary**
19. Way4 switch will receive IBFT inquiry with PIN verify request (Processing Code: 390010).
20. On receiving IBFT inquiry with PIN verify request, Way4 switch will perform card validation and PIN verification.
21. If any of the pre-screening check fails, Way4 switch will send reject response to Napas.
22. On successful pre-screening checks and PIN verification, Way4 switch will also perform beneficiary account validation. If beneficiary account number is valid, Way4 switch will send beneficiary accountholder name in response to Napas, else Way4 switch will send reject response.
23. Way4 switch will forward the response to Napas.
24. Napas will forward the response to acquirer bank.
25. Acquirer bank will send IBFT payment request to Napas.
26. Way4 switch will receive IBFT payment request (Processing code : 40xx00) from Napas.
27. Way4 switch will send FT request with remitter’s default account and beneficiary account number to HOST for authorization.
28. HOST will perform authorization and send response to Way4 switch
29. In case of time out between Way4 switch and HOST, Way4 switch will send reject response to Napas. Way4 switch will generate reversal and send to HOST.
30. Way4 switch will forward the response to Napas.

## PIN change

Napas will receive the transaction request from acquirer.

Napas will forward the transaction request to Way4 switch. On receiving transaction request, Way4 switch will process Pin change transaction as follows:

**Description**

1. Way4 switch will receive PIN change transaction request from Napas with old and new PIN block.
2. On receiving the transaction request, Way4 switch will perform Pre-screening checks and PIN verification.
   1. If any of the check or PIN verification fails, Way4 switch will send reject response to Napas.
3. On successful pre-screening checks and PIN verification, Way4 switch will store the new PIN data in system and send successful response to Napas.
4. Napas will forward the response to acquirer.

# MC/JCB Card – OCB ATM Transaction

## Transaction initiation



Note: This process (transaction initiation) will not be shown on all of the following transaction flows because this will be repeated once cardholder inserts the card.

**Description:**

* Cardholder inserts card. If card is ok then next screen will be displayed
* Cardholder selects language.
* Cardholder enters pin. Way4 did not verify PIN at this step. At this screen, Cardholder can use keypad to press CANCEL key to cancel transaction; press CLEAR key to re-enter PIN; press OK key to continue.
* Cardholder is asked to select transaction. Transaction list is defined in cash withdrawal (CW) and balance inquiry (BI).

## Balance Inquiry



**Description**

1. Cardholder will select “Balance Inquiry” transaction from the menu.
2. Cardholder is prompted to continue the transaction or not? Transaction may be charged by issuer bank. If cardholder chooses YES then next screen will be displayed.
3. ATM will prompt cardholder to select the account type (Default/Savings/Checking/Credit).
4. Cardholder will select desired account type.
5. Next screen will ask cardholder to print a receipt or not? After that ATM will send Balance Inquiry request message to Way4 switch.
6. On receiving transaction request, Way4 switch will identify that card belongs to MasterCard network. Way4 switch will route the transaction to MasterCard for authorization.
7. MasterCard will forward the transaction to corresponding issuer for authorization.
8. Issuer will perform authorization and send response to MasterCard network.
9. MasterCard will forward the response received from issuer to Way4 switch.
10. Way4 switch will forward the response to ATM
    1. If unsuccessful response received, ATM will display reject response and complete the transaction.
    2. If successful response received, ATM will display balance on screen on screen, print or don’t print receipt depend on the request of customer. Besides, cardholder is prompted to select to do other transaction or not? If cardholder selects YES then next screen will be transaction selection (MM05).
11. In case of time out between Way4 switch and MasterCard network, Way4 switch will send reject response to ATM. No reversal will be generated as balance inquiry is non-financial transaction.

## Cash Withdrawal



**Description**

1. Cardholder will select “Cash Withdrawal” transaction from the menu.
2. ATM will prompt cardholder to enter the amount to be withdrawal.
3. ATM will prompt cardholder to select the account type (Default/Savings/Checking/Credit)
4. Cardholder will select desired account type.
5. Next screen will ask cardholder to print a receipt or not? After that ATM will send Cash Withdrawal request message to Way4 switch.
6. On receiving transaction request, Way4 switch will identify that card belongs to MasterCard network. Way4 switch will route the transaction to MasterCard for authorization.
7. MasterCard will forward the transaction to corresponding issuer for authorization
8. Issuer will perform authorization and send response to MasterCard network
9. MasterCard will forward the response received from issuer to Way4 switch
10. Way4 switch will forward the response to ATM
    1. If successful response received, ATM will return card to customer, dispense cash, print or don’t print receipt depend on the request of customer. In case, cardholder did not take card/cash then card/cash will be retained.
    2. If unsuccessful response received, ATM will display appropriate response.
11. In case of time out between Way4 switch and MasterCard, Way4 switch will send reject response to ATM and reversal to MasterCard network
12. In case device failure, ATM will send reversal to Way4 switch. Way4 switch will forward the reversal to MasterCard network
13. In case of cash retraction, Way4 switch will generate suspect reversal. Suspect reversal will not be sent to MasterCard.

# Service Card Transaction

## Transaction Initiation



Note: This process (transaction initiation) will not be shown on all of the following transaction flows because this will be repeated once counter inserts the card.

**Description:**

* Counter inserts card. If card is ok then next screen will be displayed
* Counter selects language.
* Counter enters pin. Way4 did not verify PIN at this step. At this screen, Counter can use keypad to press CANCEL key to cancel transaction; press CLEAR key to re-enter PIN; press OK key to continue.
* Counter is asked to select transaction. Transaction list includes: End of Day (ED), Replenishment (RE), Collection (CL), PIN Change(PC) and ATM service (AS).

## Replenishment

Print ATM counter from Way4 and close ATM cycle.

Applied Way4’s standard flow.

## End of day

Print ATM counter from Way4.

Applied Way4’s standard flow.

## ATM Service/Load Cassettes

Load/Unload Bill Number of Cassettes

Applied Way4’s standard flow.



# Receipts

## Customer receipt

**Mini Statement**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Date | Time | ATM No |
| DD/MM/YY | HH:MM:SS | 12345678 |
|  |  |  |
| MINI STATEMENT | | |
|  |  |  |
| AUTH CODE/SEQ: 123456/777888 | | |
| CARD NO | 97042600001234 | |
| ACCOUNT | 01234567890123 | |
|  |  |  |
| DATE | TRANS | AMOUNT |
| 11/1/2015 | A | 5,000 |
| 10/1/2015 | F | 3,000 |
| 9/1/2015 | A | 5,000 |
| 8/1/2015 | F | 3,000 |
| 6/1/2015 | A | 5,000 |
|  |  |  |
| FEE + VAT: | 123,110 | VND |
|  |  |  |
| BALANCE | 123,456 | VND |

A=Authorized transaction; F=Financial transaction

**Balance Inquiry**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Date | Time | ATM No |
| DD/MM/YY | HH:MM:SS | 12345678 |
|  |  |  |
| BALANCE INQUIRY | | |
|  |  |  |
| AUTH CODE/SEQ: 123456/777888 | | |
| CARD NO | 97042600001234 | |
| ACCOUNT | 01234567890123 | |
|  |  |  |
| BALANCE | 123,456 | VND |
|  |  |  |
| FEE + VAT: | 123,110 | VND |
|  |  |  |
|  |  |  |

**Cash Withdrawal**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Date | Time | ATM No |
| DD/MM/YY | HH:MM:SS | 12345678 |
|  |  |  |
| CASH WITHDRAWAL | | |
|  |  |  |
| AUTH CODE/SEQ: 123456/777888 | | |
| CARD NO | 97042600001234 | |
| ACCOUNT | 01234567890123 | |
|  |  |  |
| AMOUNT | 123,456 | VND |
|  |  |  |
| FEE + VAT: | 123,110 | VND |
|  |  |  |
| BALANCE | 123,456 | VND |

**Fund Transfer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | |  | |
| Date | Time | | ATM No | |
| DD/MM/YY | HH:MM:SS | | 12345678 | |
|  |  | |  | |
| FUNDS TRANSFER | | | | |
|  | |  | |  |
| AUTH CODE/SEQ: 123456/777888 | | | | |
| CARD NO | | 97042600001234 | | |
| CARD NAME | | NGUYEN THI | | LUA |
|  | |  | | |
| SOURCE ACC | | 01234567890123 | | |
| TARGET ACC | | 1234667788990 | | |
| TARGET NAME | | TRAN VAN A | |  |
|  | |  | |  |
| AMOUNT | | 123,456 | | VND |
|  | |  | |  |
| FEE + VAT: | | 123,110 | | VND |
|  | |  | |  |
| BALANCE | | 123,456 | | VND |

The ATM receipts can be different for transaction, onus and offus card

The receipt must be showed the following information:

* + - * + The ATM ‘s name
        + The card number in mask
        + Transaction type
        + Description of Response code
        + Transaction ID
        + Transaction date
        + Transaction amount, available amount
        + Details of the number of note for each denomination

## Admin receipt

Applied Way4 standard receipt.

# GL Numbering

**On-us Transaction**

OCB Debit Card

|  |  |  |
| --- | --- | --- |
| **Direction** | **Account Name** | **GL Number** |
| Debit | Cl Deposit |  |
| Credit | Merchant Receivable |  |

OCB Prepaid Card

|  |  |  |
| --- | --- | --- |
| **Direction** | **Account Name** | **GL Number** |
| Debit | Cl Deposit |  |
| Credit | Merchant Receivable |  |

OCB Credit Card

|  |  |  |
| --- | --- | --- |
| **Direction** | **Account Name** | **GL Number** |
| Debit | Cl Cash Loan |  |
| Credit | Merchant Receivable |  |

Off-us Transaction

|  |  |  |
| --- | --- | --- |
| **Direction** | **Account Name** | **GL Number** |
| Debit | Nostro |  |
| Credit | Merchant Receivable |  |

# ATM Reports

Refer to the document \manuals\english\introductions\reports\_index.pdf, Chapter 2.Internal Report, ATM Network Monitoring section.

# Appendix A. Notification screen



# Appendix B. Denomination Limit Setup

Sample 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010260 | 1 | 4 | 6 | 9 | 17 | 34 | 60 |
| 200,000 | 60 | 030260 | 1 | 0 | 0 | 2 | 6 | 12 | 0 |
| 100,000 | 60 | 040260 | 0 | 0 | 0 | 1 | 3 | 5 | 0 |
| 50,000 | 60 | 050260 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |

Sample 2

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010260 | 1 | 4 | 6 | 9 | 18 | 36 | 60 |
| 200,000 | 60 | 030360 | 1 | 0 | 0 | 2 | 4 | 8 | 0 |
| 100,000 | 60 | 040460 | 0 | 0 | 0 | 1 | 2 | 3 | 0 |
| 50,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |

Sample 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010260 | 1 | 3 | 5 | 9 | 18 | 35 | 60 |
| 200,000 | 60 | 010360 | 1 | 2 | 2 | 2 | 4 | 10 | 0 |
| 100,000 | 60 | 010460 | 0 | 1 | 1 | 1 | 2 | 4 | 0 |
| 50,000 | 60 | 010560 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |

Sample 4

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010260 | 1 | 3 | 5 | 8 | 16 | 33 | 60 |
| 200,000 | 60 | 010260 | 1 | 2 | 2 | 4 | 8 | 13 | 0 |
| 100,000 | 60 | 010260 | 0 | 1 | 1 | 2 | 3 | 7 | 0 |
| 50,000 | 60 | 010260 | 1 | 0 | 0 | 0 | 0 | 4 | 0 |

Sample 5

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050260 | 1 | 4 | 5 | 9 | 17 | 33 | 60 |
| 200,000 | 60 | 040260 | 1 | 0 | 2 | 2 | 6 | 13 | 0 |
| 100,000 | 60 | 030260 | 0 | 0 | 1 | 1 | 2 | 7 | 0 |
| 50,000 | 60 | 010260 | 1 | 0 | 0 | 0 | 2 | 4 | 0 |

Sample 6

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050560 | 1 | 3 | 5 | 8 | 16 | 32 | 60 |
| 200,000 | 60 | 040460 | 1 | 2 | 2 | 3 | 7 | 15 | 0 |
| 100,000 | 60 | 030360 | 0 | 1 | 1 | 3 | 4 | 7 | 0 |
| 50,000 | 60 | 010260 | 1 | 0 | 0 | 2 | 4 | 6 | 0 |

Sample 7

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050260 | 1 | 4 | 5 | 9 | 18 | 35 | 60 |
| 200,000 | 60 | 040360 | 1 | 0 | 2 | 2 | 4 | 10 | 0 |
| 100,000 | 60 | 030460 | 0 | 0 | 1 | 1 | 1 | 4 | 0 |
| 50,000 | 60 | 010560 | 1 | 0 | 0 | 0 | 2 | 2 | 0 |

Sample 8

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010560 | 1 | 3 | 5 | 8 | 15 | 32 | 60 |
| 200,000 | 60 | 010460 | 1 | 2 | 2 | 3 | 9 | 14 | 0 |
| 100,000 | 60 | 010360 | 0 | 1 | 1 | 3 | 5 | 10 | 0 |
| 50,000 | 60 | 010260 | 1 | 0 | 0 | 2 | 4 | 4 | 0 |

Sample 9

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010560 | 1 | 4 | 5 | 8 | 16 | 32 | 60 |
| 200,000 | 60 | 050460 | 1 | 0 | 2 | 4 | 7 | 14 | 0 |
| 100,000 | 60 | 050360 | 0 | 0 | 1 | 2 | 5 | 10 | 0 |
| 50,000 | 60 | 050260 | 1 | 0 | 0 | 0 | 2 | 4 | 0 |

Sample 10

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010160 | 1 | 4 | 6 | 10 | 19 | 39 | 60 |
| 200,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 2 | 2 | 0 |
| 100,000 | 60 | 050560 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 50,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Sample 11

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050560 | 1 | 2 | 3 | 5 | 10 | 27 | 60 |
| 200,000 | 60 | 010160 | 1 | 4 | 6 | 10 | 19 | 32 | 0 |
| 100,000 | 60 | 010160 | 0 | 2 | 2 | 4 | 10 | 1 | 0 |
| 50,000 | 60 | 010160 | 1 | 0 | 2 | 2 | 4 | 0 | 0 |

Sample 12

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050560 | 1 | 3 | 4 | 7 | 14 | 32 | 60 |
| 200,000 | 60 | 050560 | 2 | 1 | 2 | 3 | 6 | 12 | 0 |
| 100,000 | 60 | 010160 | 0 | 2 | 5 | 7 | 14 | 16 | 0 |
| 50,000 | 60 | 010160 | 1 | 2 | 2 | 4 | 8 | 0 | 0 |

Sample 13

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010160 | 1 | 4 | 6 | 8 | 17 | 35 | 60 |
| 200,000 | 60 | 010160 | 1 | 0 | 0 | 5 | 7 | 12 | 0 |
| 100,000 | 60 | 050560 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 50,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Sample 14

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 010160 | 1 | 4 | 6 | 10 | 19 | 38 | 60 |
| 200,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 2 | 3 | 0 |
| 100,000 | 60 | 050560 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| 50,000 | 60 | 010160 | 1 | 0 | 0 | 0 | 0 | 4 | 0 |

Sample 15

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Denom.** | **Quantity** | **Limit Setup** | **750** | **2,000** | **3,000** | **5,000** | **10,000** | **20,000** | **30,000** |
| 500,000 | 60 | 050560 | 1 | 2 | 3 | 5 | 10 | 27 | 60 |
| 200,000 | 60 | 010160 | 1 | 4 | 6 | 10 | 20 | 32 | 0 |
| 100,000 | 60 | 010160 | 0 | 2 | 3 | 5 | 10 | 1 | 0 |
| 50,000 | 60 | 050560 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

# Appendix C. ATM Management and Monitoring

## ATM Control and Management

Front End provides an on-line forms or web browser interface that allows operators to control and manage the ATM network remotely from the Network Operation Centre by issuing commands, such as:

* ATM Information (address, IP address, contact…);
* Note (For warning, task, schedule, manual…);
* Privilege to access;
* Open ATM;
* Close ATM;
* Restart ATM;
* Load ATM configuration (parameters, scenarios, states, FIT tables, PIN and MAC encryption keys, configuration number, etc.);
* Set up cash withdrawal limits for individual ATM's;
* Print out current totals;
* Print out cycle totals;
* NDC and DDC queries for:
* ATM configuration number;
* Current values of ATM counters;
* ATM device configurations;
* Date and time;
* ATM device tallies;
* Error History;
* Active/Inactive ATM
* Download Key ATM (TPK)
* Save time of the action to fund ATM in hour, minute and second level.
* ATM display greetings by name of the cardholder
* Way4 should support both video and audio
* Way4 provides the capability of clear/unload and load cash transaction for ATM admin card
* The authorization at ATM must be settled automatically by end of day processing. The system will post the transactions to onus card account.
* Set up transaction limit for off-us card
* Deposit on ATM function
* Vendor provide tool to configure the transaction flow and screens
* The vendor must provide the tool to change the load file and receipts for ATM.

## Supported Specification

Card System must support all of the ATM branches and international standard following International Card Association of which Orient Commercial Bank is the member (NDC+, DDC).

1. **Fee calculation**

* Bank can configure surcharges for ATM
* Bank can configure fixed or variable ATM surcharges base on transaction amount. CMS will charge sum of fixed and variable fees, if both are configured, CMS provides facility to configure min and max values for these fees to be charged.
* ATM surcharges are set up for different transactions such as cash withdrawal, fund transfer, etc.
* Bank will have facility to configure separate ATM surcharges for on us, domestic and international transactions.
* Bank can configure ATM limit for off-us cards.

## ATM Monitoring

Front End keeps track of events, warnings and alarms generated by the ATM devices on the network and store them in the database. Operators can then monitor the device status using the Front End Graphical User Interface on-line forms, such as:

* Device History Log, showing all events at all devices;
* Unresolved Problems Display, listing all outstanding hardware and software problems with all devices;
* ATM Current Status Detailed Inquiry, for the device specified;
* ATM Status Inquiry, for all devices on the network;
* ATM Cash Status Inquiry, for all cassettes in all devices on the network.
* Inquiry of ATM Counters.

Queries are available to select data by device groups, time periods, etc. Event history may be cleared for an individual ATM and for all devices, entirely or to a desired point in time.

ATM Counter Synchronization

Front End maintains values of ATM counters based on transactions logged for each ATM. Whenever an event is detected that may affect the consistency between the ATM counter readings and the corresponding values in the CMS database, a software process is triggered to explicitly interrogate the ATM and synchronize the counters. This is done without human intervention, not to mention that there is no need to send a field technician on site. As a result, CMS database will always have accurate and up-to-date information about the dispenser status and the amount of cash in the cassettes.

The following counters are maintained in the database for each ATM:

* initial number of banknotes in each cassette;
* number of dispensed banknotes, per cassette;
* number of rejected banknotes, per cassette;
* number of cash withdrawal transactions, by currency; (\*)
* number of deposit transactions; (\*)
* number of balance inquiry transactions; (\*)
* number of payment transactions; (\*)
* number of funds transfer transactions; (\*)
* total cash withdrawals amount, by currency; (\*)
* total cash withdrawals, by account type (Checking or Savings); (\*)
* total cash deposits, by account type (Checking or Savings); (\*)

(\*) it required customized reports. OCB will develop under Openway support