# 

**Discovery Report**

ORIENT COMMERCIAL BANK

WAY4 Implementation

|  |  |
| --- | --- |
| Prepared for : | ORIENT COMMERCIAL BANK |
| Version of Document : | 1.1 |
| Status : | Draft |
| Release Date : | 9th Jan 2018 |
| Prepared by : | Openway Asia |
| Author : | Tu B. Nguyen |
| Owner : | Openway Asia |

**Document Version Control**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Description of Change | Change done by | Approved By |
| 9th Jan 2018 | Initial Draft | Tu B. Nguyen |  |
| 12th Jan 2018 | Update section REQC0017, REQC0018, REQC0019, REQC0020 | Tu B. Nguyen |  |
| 16th Jan 2018 | Update section REQC0017, REQC0018, REQC0019, REQC0020 for new change | Tu B. Nguyen |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Intellectual Property

OpenWay International Limited. All rights reserved.

The intellectual property of this document belongs to OpenWay International Limited and to ORIENT COMMERCIAL BANK. Proprietary material, brand or product names of other parties or trademarks remain with their respective owners. You may not, except with the express written permission of OpenWay International Limited AND ORIENT COMMERCIAL BANK, distribute or commercially exploit the content. Nor may you transmit it or store it in any other website or other form of electronic retrieval system. Any sample data used in examples below are completely fictitious unless otherwise noted.

Disclaimer

The OpenWay International software described in this document is furnished by OpenWay International Limited under a Software Licensing Agreement, Consultancy Agreement, Variation Request or Confidentiality Agreement, and may be used or copied only in accordance with the terms of such Agreement. Neither this document nor the OpenWay International software it describes may be used, sold, transferred, copied, translated, reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, in whole or in part, other than in accordance with the terms of such Agreement, or otherwise without prior written consent of OpenWay International Limited and ORIENT COMMERCIAL BANK, respectively OpenWay International Limited solely.

This document describes a generic product or service and should be read in conjunction with other documents relevant to the configuration of any specific system. The licensee of OpenWay software or user of OpenWay International services is responsible for ensuring that the product or service described herein meets its own requirements. The information contained in this document is subject to change without notice and should not be taken as a commitment by OpenWay International Limited or ORIENT COMMERCIAL BANK. OpenWay International Limited and ORIENT COMMERCIAL BANK assume no responsibility for any errors that may appear in this document.

Confidentiality

The information contained in this document is the property of OpenWay International Limited and ORIENT COMMERCIAL BANK and contains CONFIDENTIAL information that is produced solely for the benefit of OpenWay International Limited and ORIENT COMMERCIAL BANK. The recipient should keep this document and all its information confidential. On no account should this document, in whole or in part, be used, sold, transferred, copied, translated, reproduced or transmitted in any form or by any means, electronic or mechanical, or disclosed or disseminated to any third party, without the express written permission of OpenWay Asia AND ORIENT COMMERCIAL BANK.

**Contents**

[1 Introduction 11](#_Toc503283420)

[1.1 Discovery Review Acceptance 11](#_Toc503283421)

[1.2 Disclaimer 11](#_Toc503283422)

[1.3 Notations used 11](#_Toc503283423)

[1.3.1 Data Elements 12](#_Toc503283424)

[1.3.2 Requirements Notation 12](#_Toc503283425)

[1.3.3 Items Marked as ‘To Be Determined’ (TBD) 13](#_Toc503283426)

[2 REQC0001 - Payment Systems 14](#_Toc503283427)

[2.1 Introduction 14](#_Toc503283428)

[2.2 REQC0001.1 – Napas/MasterCard/JCB Product Support 14](#_Toc503283429)

[2.2.1 Business Requirement 14](#_Toc503283430)

[2.2.2 Technical Details 15](#_Toc503283431)

[2.2.3 Limitations 15](#_Toc503283432)

[2.2.4 Impact Areas 15](#_Toc503283433)

[2.3 REQC0001.2 – Napas 15](#_Toc503283434)

[2.3.1 Business Requirement 15](#_Toc503283435)

[2.3.2 Technical Details 17](#_Toc503283436)

[2.3.3 Limitations 17](#_Toc503283437)

[2.3.4 Impact Areas 17](#_Toc503283438)

[2.4 REQC0001.3 – JCB 17](#_Toc503283439)

[2.4.1 Business Requirement 17](#_Toc503283440)

[2.4.2 Technical Details 18](#_Toc503283441)

[2.4.3 Limitations 18](#_Toc503283442)

[2.4.4 Impact Areas 18](#_Toc503283443)

[2.5 REQC0001.4 – MasterCard 18](#_Toc503283444)

[2.5.1 Business Requirement 18](#_Toc503283445)

[2.5.2 Technical Details 19](#_Toc503283446)

[2.5.3 Limitations 19](#_Toc503283447)

[2.5.4 Impact Areas 19](#_Toc503283448)

[3 REQC0002 - Card Application Workflow 20](#_Toc503283449)

[3.1 Business Requirements 20](#_Toc503283450)

[3.2 Technical Details 20](#_Toc503283451)

[3.2.1 REQC0002.1 - Workflow Schemes 20](#_Toc503283452)

[3.2.2 REQC0002.2 - Workflow Steps 20](#_Toc503283453)

[3.3 Limitations 21](#_Toc503283454)

[3.4 Impact Areas 21](#_Toc503283455)

[4 REQC0003 – Card Production 22](#_Toc503283456)

[4.1 Introduction 22](#_Toc503283457)

[4.2 REQC0003.1 - Card Production Process 22](#_Toc503283458)

[4.2.1 Business Requirements 22](#_Toc503283459)

[4.2.2 Technical Details 22](#_Toc503283460)

[4.2.3 Limitations 23](#_Toc503283461)

[4.3 REQC0003.2 - Personalisation outsourced to 3d Party 23](#_Toc503283462)

[4.3.1 Business Requirements 23](#_Toc503283463)

[4.3.2 Technical Details 23](#_Toc503283464)

[4.3.3 Limitations 23](#_Toc503283465)

[4.4 REQC0003.3 - Urgent card issuing 23](#_Toc503283466)

[4.5 REQC0003.4 – Card Numbering 23](#_Toc503283467)

[4.6 REQC0003.5 – Card Expiration Date 24](#_Toc503283468)

[4.7 REQC0003.6 – Card Track 25](#_Toc503283469)

[4.7.1 Limitations 25](#_Toc503283470)

[4.7.2 Impact Areas 25](#_Toc503283471)

[5 REQC0004 – PIN Mailer 26](#_Toc503283472)

[5.1 Business Requirements 26](#_Toc503283473)

[5.2 Technical Details 26](#_Toc503283474)

[5.3 Limitations 26](#_Toc503283475)

[5.4 Impact Areas 27](#_Toc503283476)

[6 REQC0005 – Card Blocking 28](#_Toc503283477)

[6.1 Business Requirements 28](#_Toc503283478)

[6.2 Technical Details 29](#_Toc503283479)

[6.3 Limitations 29](#_Toc503283480)

[6.4 Impact Areas 29](#_Toc503283481)

[7 REQC0006 – Card Blocking Events 30](#_Toc503283482)

[7.1 Business Requirements 30](#_Toc503283483)

[7.2 Technical Details 30](#_Toc503283484)

[7.3 Limitations 30](#_Toc503283485)

[7.4 Impact Areas 30](#_Toc503283486)

[8 REQC0007 - Card Activation 31](#_Toc503283487)

[8.1 Business Requirements 31](#_Toc503283488)

[8.2 Technical Details 31](#_Toc503283489)

[8.3 Limitations 31](#_Toc503283490)

[8.4 Impact Areas 31](#_Toc503283491)

[9 REQC0008 - Card Renewal/Replacement 32](#_Toc503283492)

[9.1 Business Requirements 32](#_Toc503283493)

[9.2 Technical Details 33](#_Toc503283494)

[9.3 Limitations 33](#_Toc503283495)

[9.4 Impact Areas 33](#_Toc503283496)

[10 REQC0009 - Cardholder Notifications 34](#_Toc503283497)

[10.1 Business Requirements 34](#_Toc503283498)

[10.2 Technical Details 34](#_Toc503283499)

[10.3 Limitations 34](#_Toc503283500)

[10.4 Impact Areas 34](#_Toc503283501)

[11 REQC0010 – Card Operations/Customer Service 35](#_Toc503283502)

[11.1 Business Requirement 35](#_Toc503283503)

[11.2 Technical Details 35](#_Toc503283504)

[11.2.1 Cardholder Identification 35](#_Toc503283505)

[11.2.2 Cardholder Information Update 36](#_Toc503283506)

[11.3 Limitations 36](#_Toc503283507)

[11.4 Impact Areas 36](#_Toc503283508)

[12 REQC0011 – Card Closure 37](#_Toc503283509)

[12.1 Business Requirement 37](#_Toc503283510)

[12.2 Technical Details 37](#_Toc503283511)

[12.3 Limitations 37](#_Toc503283512)

[12.4 Impact Areas 37](#_Toc503283513)

[13 REQC0012 – Corporate Card 38](#_Toc503283514)

[13.1 Business Requirements 38](#_Toc503283515)

[13.2 Technical Details 38](#_Toc503283516)

[13.3 Limitations 38](#_Toc503283517)

[13.4 Impact Areas 38](#_Toc503283518)

[14 REQC0013 - Statements 39](#_Toc503283519)

[14.1 Introduction 39](#_Toc503283520)

[14.2 Technical Details 39](#_Toc503283521)

[14.3 Limitations 39](#_Toc503283522)

[14.4 Impact Areas 39](#_Toc503283523)

[15 REQC0014 –Financial Institution 40](#_Toc503283524)

[15.1 Business Requirement 40](#_Toc503283525)

[15.2 Technical Details 40](#_Toc503283526)

[15.2.1 REQC00014.1 – Financial Institutions Definitions 40](#_Toc503283527)

[15.2.2 REQC00014.2 – Management of Calendar 40](#_Toc503283528)

[15.2.3 REQC00014.3 – Financial Institutions Currencies 40](#_Toc503283529)

[15.2.4 REQC00014.4 – Financial Institution Language 41](#_Toc503283530)

[15.2.5 REQC00014.5 – Financial Institution Branch Management 41](#_Toc503283531)

[15.2.6 REQC00014.6 – Financial Institution Hierarchy 41](#_Toc503283532)

[15.3 Limitations 41](#_Toc503283533)

[15.4 Impact Areas 41](#_Toc503283534)

[16 REQC0015 – Issuing Product Configuration 42](#_Toc503283535)

[16.1 Business Requirements 42](#_Toc503283536)

[16.2 WAY4 Product Definitions 43](#_Toc503283537)

[16.3 Client/Contract hierarchy 43](#_Toc503283538)

[16.4 Customer and contract classifiers 46](#_Toc503283539)

[16.5 Technical Details 46](#_Toc503283540)

[16.6 Limitations 46](#_Toc503283541)

[16.7 Impact Areas 46](#_Toc503283542)

[17 REQC0016 - Statement Date 47](#_Toc503283543)

[17.1 Technical Details 47](#_Toc503283544)

[17.2 Limitations 47](#_Toc503283545)

[17.3 Impact Areas 47](#_Toc503283546)

[18 REQC0017: Credit/Usage Limits 48](#_Toc503283547)

[18.1 Business Requirements 48](#_Toc503283548)

[18.2 Technical Details 49](#_Toc503283549)

[18.2.1 Credit limit 49](#_Toc503283550)

[18.2.2 Usage limiter 49](#_Toc503283551)

[18.3 Limitations 53](#_Toc503283552)

[18.4 Impact Areas 53](#_Toc503283553)

[19 REQC0018 - Accounting Setup 54](#_Toc503283554)

[19.1 Introduction 54](#_Toc503283555)

[19.2 Business requirements 54](#_Toc503283556)

[19.3 Technical Details 54](#_Toc503283557)

[19.4 Accounting Scheme for Prepaid Cards 54](#_Toc503283558)

[19.4.1 Accounts 54](#_Toc503283559)

[19.4.2 Billing Information 55](#_Toc503283560)

[19.4.3 Ageing and Actions 55](#_Toc503283561)

[19.5 Accounting Scheme for Credit Cards 55](#_Toc503283562)

[19.5.1 Accounts 55](#_Toc503283563)

[19.5.2 Billing Information 57](#_Toc503283564)

[19.5.3 Over Limit 58](#_Toc503283565)

[19.5.4 Buckets 58](#_Toc503283566)

[20 REQC0019 – Transaction & Service Fees 59](#_Toc503283567)

[20.1 Business Requirement 59](#_Toc503283568)

[Acquirer Blocking 61](#_Toc503283569)

[20.2 Technical Details 62](#_Toc503283570)

[20.3 Limitations 72](#_Toc503283571)

[20.4 Impact Areas 72](#_Toc503283572)

[21 REQC0020 - Interest 73](#_Toc503283573)

[21.1 Introduction 73](#_Toc503283574)

[21.2 REQC0020.1 – Interest Calculation 73](#_Toc503283575)

[21.2.1 Business Requirements 73](#_Toc503283576)

[21.2.2 REQC0020.1.1 – Current Interest Calculation methodology 74](#_Toc503283577)

[21.2.3 Technical Details 74](#_Toc503283578)

[21.3 REQC0020.2 – Interests Rates 74](#_Toc503283579)

[21.3.1 Business Requirements 74](#_Toc503283580)

[21.3.2 Technical Details 76](#_Toc503283581)

[21.3.3 Limitations 76](#_Toc503283582)

[21.4 REQC0020.3 – Calendar 76](#_Toc503283583)

[21.4.1 Technical Details 76](#_Toc503283584)

[21.5 Limitations 76](#_Toc503283585)

[21.6 Impact Areas 77](#_Toc503283586)

[22 REQC0021 – Payment 78](#_Toc503283587)

[22.1 Business requirements 78](#_Toc503283588)

[22.2 Technical Details 78](#_Toc503283589)

[22.3 Limitations 78](#_Toc503283590)

[22.4 Impact Areas 78](#_Toc503283591)

[23 REQC0022 - Fraud/Risk Management: 79](#_Toc503283592)

[23.1 Business requirements 79](#_Toc503283593)

[23.2 Technical Details 79](#_Toc503283594)

[23.2.1 Stop-Lists 80](#_Toc503283595)

[23.2.2 Online Risk Monitoring 80](#_Toc503283596)

[23.2.3 Risk Reports 84](#_Toc503283597)

[23.2.4 Alerting 85](#_Toc503283598)

[23.2.5 White List 85](#_Toc503283599)

[23.2.6 Fraudulent Attack 85](#_Toc503283600)

[23.3 Limitations 86](#_Toc503283601)

[23.4 Impact Areas 86](#_Toc503283602)

[24 REQC0023 - Dispute Management 87](#_Toc503283603)

[24.1 Business Requirements 87](#_Toc503283604)

[24.2 Technical Details 88](#_Toc503283605)

[24.2.1 Basic Dispute Management 88](#_Toc503283606)

[24.3 Limitations 88](#_Toc503283607)

[24.4 Impact Areas 88](#_Toc503283608)

[25 REQC0024 – Instalments 89](#_Toc503283609)

[25.1 Business Requirements 89](#_Toc503283610)

[25.2 Technical Details 89](#_Toc503283611)

[25.2.1 Instalment Schemes 90](#_Toc503283612)

[25.2.2 Instalments 90](#_Toc503283613)

[25.2.3 Instalments Reports 91](#_Toc503283614)

[25.2.4 Convert Contract Balance into Instalment 91](#_Toc503283615)

[25.3 Limitations 91](#_Toc503283616)

[25.4 Impact Areas 91](#_Toc503283617)

[26 REQC0025 - 3-D Secure Issuing 92](#_Toc503283618)

[26.1 Business Requirement 92](#_Toc503283619)

[26.2 Technical Details 92](#_Toc503283620)

[26.2.1 REQC0025.1 - WAY4™ 3-D Secure ACS Functionality 93](#_Toc503283621)

[26.2.2 REQC0025.2 - Components 94](#_Toc503283622)

[26.2.3 REQC0025.3 - Pre-Enrolment 94](#_Toc503283623)

[26.2.4 REQC0025.4 - Enrolment – ADS (Activation during Shopping) 95](#_Toc503283624)

[26.2.5 REQC0025.5 - Authentication 96](#_Toc503283625)

[26.3 Migration Requirement 97](#_Toc503283626)

[26.4 Limitations 97](#_Toc503283627)

[26.5 Impact Areas 97](#_Toc503283628)

[27 REQC0026 – Loyalty (Optional) 98](#_Toc503283629)

[27.1 Introduction 98](#_Toc503283630)

[27.2 Business Requirement 98](#_Toc503283631)

[27.3 Technical Details 98](#_Toc503283632)

[27.4 Limitations 98](#_Toc503283633)

[27.5 Impact Areas 98](#_Toc503283634)

# Introduction

This document contains the Configuration Details based on 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 the Setup and Configuration needed to be done in them.

In case a Business Requirements cannot be solved by a simple system configuration then the same will have to be solved as an Enhancement to the System.

## Discovery Review Acceptance

On completion of the first draft, this report will be submitted to for review. Comments and corrections provided will be incorporated in agreement with OpenWay, following this review.

Acceptance of this document by does not constitute the implementation of the system based on the information described below.

## Disclaimer

This report does not represent a commitment by or by **OpenWay** to develop or implement the described system. The purpose of this report is to present an accurate description of the requirements. All development and configuration work to be undertaken on the project will be defined in accordance with the agreement signed between the parties. The contractual documents will take precedence over this document.

## Notations used

| Ref | Description |
| --- | --- |
| N | Numeric digits 0 through 9 |
| AN | Alphabetic and Special Characters |
| DT | Date + Format in field description |
| B | Binary representation of data |
| NVAR | 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 |
| M | Mandatory |
| O | Optional |
| C | Conditional |
| MR | Copy from request |
| CR | Copy if present in request |
| On – us | OCB Card do transaction on OCB ATM/POS |
| Off – us | OCB Card do transaction on other bank ATM/POS;  Other Card do transaction on OCB ATM/POS. |
| CMS | Card Management System |
| ICA | International Card Association |
| DCA | Domestic Card Association |

### 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
  + **N/A** – Not Applicable
* **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)

The amounts of money are stored in the least units (cents, pennies …).

If no data is stored in the field, it should be filled with space characters (spaces).

### Requirements Notation

The following notation is used for identifying the requirements:

* REQI000X –Interface
* REQC000X – Configuration
* REQE000X – Enhancement
* REQR000X – Report
* REQHS000X – Hardware/Software
* REQWS000X – Web Service

### Items Marked as ‘To Be Determined’ (TBD)

Note that all items in the report marked as TBD will be defined during the implementation of the project.

# REQC0001 - Payment Systems

## Introduction

ORIENT COMMERCIAL BANK is currently managing processing for LocalCard. It is required that WAY4 should provide full support for processing transactions through National Payment Switch (Napas). WAY4 will support the following payment schemes:

* Napas

ORIENT COMMERCIAL BANK is currently managing processing for JCB. It is required that WAY4 should provide full support for processing transactions through the international payment schemes (IPS). WAY4 will support the following payment schemes:

* JCB

ORIENT COMMERCIAL BANK is currently managing processing for MasterCard. It is required that WAY4 should provide full support for processing transactions through the international payment schemes (IPS). WAY4 will support the following payment schemes:

* MasterCard

WAY4 will supports all mandatory changes issued by the IPS every 6 months, as well as all required urgent bulletins.

## REQC0001.1 – Napas/MasterCard/JCB Product Support

### Business Requirement

WAY4 will support for all products issued by ORIENT COMMERCIAL BANK as defined below:

* Debit Cards
  + MasterCard (EMV and Magnetic Stripe)
  + JCB
  + Local Card
* Credit Cards
  + MasterCard (EMV and Magnetic Stripe)/Corporate card (EMV and Magnetic Stripe)
  + JCB
  + Local Card
* Prepaid Cards
  + MasterCard (EMV and Magnetic Stripe)
  + JCB
  + Local Card

### Technical Details

These features are fully supported by WAY4 as standard functionality.

### Limitations

N/A

### Impact Areas

N/A

## REQC0001.2 – Napas

### Business Requirement

ORIENT COMMERCIAL BANK requires WAY4 to support Napas’s network connection.

#### Issuer Interface

ATM:

* Balance Inquiry
* Mini statement
* Cash Withdrawal
* Billing/Topup
* IBFT (Inter Bank Fund Transfer)
* Funds Transfer
* PIN Change

POS:

* Purchase
* Reversal/Void

CMS also supports offline/stand-in mode and Payment online transactions or others mandatory transactions followed to Napas’s rules.

#### Settlement

The system complies with the rule of Napas settlement and clearing.

### Technical Details

These features are fully supported by WAY4 as configurable customized functionality.

Online and offline interface between WAY4 and Napas are written in Volume 6. Interface

### Limitations

Must be developed new custom interface.

### Impact Areas

N/A

## REQC0001.3 – JCB

### Business Requirement

WAY4 needs to be able to support JCB’s network connection and IPM message format for clearing files.

Support for all different products provided by JCB and additional services is required.

All received JCB billing system information should be accepted and posted to the GL directly.

WAY4 should also support loading of all files from JCB, including Clearing and Settlement Files, Parameter Update Files as well as sending mandatory Outgoing files to JCB.

#### Issuer Interface

CMS will certify with JCB for issuer mode interface for Credit/Debit/Prepaid BINs. The transactions will be routed to CMS through CMS from MasterCard. Following transactions will be supported in issuer mode for ORIENT COMMERCIAL BANK debit, prepaid and credit cards:

ATM:

* Balance Inquiry
* Cash Withdrawal
* Reversal

POS:

* Purchase
* Void
* Cash Advance
* Balance Inquiry
* Pre auth
* Auth completion
* Reversal
* Partial Reversal

CMS also supports offline/stand-in mode and E-Commerce transactions or others mandatory transactions followed to JCB’s rules.

#### Settlement and Clearing

The system complies with the rule of JCB settlement and clearing.

### Technical Details

These features are fully supported by WAY4 as standard functionality.

### Limitations

N/A

### Impact Areas

N/A

## REQC0001.4 – MasterCard

### Business Requirement

WAY4 needs to be able to support MasterCard’s network connection and IPM message format for clearing files.

Support for all different products provided by MasterCard (including Priority Pass) and additional services is required.

All received MasterCard billing system information should be accepted and posted to the GL directly.

WAY4 should also support loading of all files from MasterCard, including Clearing and Settlement Files, MCBS, Parameter Update Files as well as sending mandatory Outgoing files to MasterCard.

#### Issuer Interface

CMS will certify with MasterCard for issuer mode interface for Credit/Debit/Prepaid BINs. The transactions will be routed to CMS through CMS from MasterCard. Following transactions will be supported in issuer mode for ORIENT COMMERCIAL BANK debit, prepaid and credit cards:

ATM:

* Balance Inquiry
* Cash Withdrawal
* Reversal
* Money Send

POS:

* Purchase
* Void
* Cash Advance
* Money Send
* Balance Inquiry
* Pre auth
* Auth completion
* Reversal
* Partial Reversal

CMS also supports offline/stand-in mode and E-Commerce transactions or others mandatory transactions followed to MasterCard’s rules.

#### Settlement and Clearing

The system complies with the rule of MasterCard settlement and clearing.

### Technical Details

These features are fully supported by WAY4 as standard functionality.

### Limitations

N/A

### Impact Areas

N/A

# REQC0002 - Card Application Workflow

## Business Requirements

ORIENT COMMERCIAL BANK requires that WAY4 provides full support for the card applications workflows.

An Application is a Client request to create a contract or change its properties. All prospects complete an application form and submit this information for approval. All customer information will be registered through one of the request channels below:

* Batch File Input (Refer to Volume 6. Interface)
* Manual entry

The requests are analysed in order to determine the products and credit limits which will be given to the customer before they are entered in WAY4 (if apply ‘Batch File Input’). The application is approved following the issuer defined customer approval workflow process and the approved application is passed to the system to create the contract with the associated products and card production.

Note that the default limit will be taken from the defined product. However, limits can be defined at the contract and card level as well.

## Technical Details

Applications are loaded into WAY4 using either the standard WAY4 XML Advanced Application File Interface.

### REQC0002.1 - Workflow Schemes

There will be two Workflow Schemes in the Project:

* Manual Application Entry
* File Import (using WAY4 XML Advanced Application File)

### REQC0002.2 - Workflow Steps

Once the Applications are loaded into the WAY4 system, a step to verify the applications before they are approved is created. The applications can also be entered into the WAY4 System manually. In this case, the credit limit value will be set manually. A validation stage will be included in the workflow. This step will be performed by officers with special permissions. These users should be different than the ones who will do the manual data entry.

#### REQC0002.2.1 – Manual Entry Workflow Steps

| Stage No. | Stage Type | Expiry Period | Call Scheme | Decline Scheme |
| --- | --- | --- | --- | --- |
|  | Manual Entry | 0 | N/A | N/A |
|  | Verification | 0 | N/A | N/A |
|  | Accept | 0 | N/A | N/A |

#### REQC0002.2.2 - File Import Workflow Steps

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Stage No. | Stage Type | Expiry Period | Call Scheme | Decline Scheme |
|  | File import | 0 | N/A | N/A |
|  | Accept | 0 | N/A | N/A |

## Limitations

N/A

## Impact Areas

N/A

# REQC0003 – Card Production

## Introduction

ORIENT COMMERCIAL BANK requires the functionality to produce cards both in-house and through a 3rd party personalization office. In-house, WAY4 will calculate security value for personal data. Currently ORIENT COMMERCIAL BANK generates personal data for both magnetic stripe cards and EMV and sends all data to 3d party personalisation bureau.

ORIENT COMMERCIAL BANK also provides some of the EMV parameters to the 3rd party. This is fully configurable per product. In addition ORIENT COMMERCIAL BANK also provides directly the ISO tracks information including the Track 2 equivalent data (i.e. the iCVV) for the EMV cards.

It should be possible to issue cards as inactive. There should be different possibilities in WAY4 to activate the card – manually or automatically.

It is required to have the ability to issue new card urgently (or replace existing). Different fee might be specified for urgent card production.

ORIENT COMMERCIAL BANK would like the ability to issue inactive Cards and configure card activation according to different criteria such as per product or product and distribution.

There is an additional requirement to be possible to define (at the product level) how the card number, expiry date, and sequence number are generated for the first card. Another parameter of the product should define the management when the card is replaced and a third one when the card is renewed.

ORIENT COMMERCIAL BANK would like the ability to issue single card/batched cards/unnamed card per time.

## REQC0003.1 - Card Production Process

### Business Requirements

Card production requires several steps to be performed as prerequisites:

* Configuration
* Key Management

It is assumed, that WAY4 system will have proper configuration of Card Production Parameters an all necessary keys.

### Technical Details

WAY4 can support this functionality. Card production keys are managed in WAY4 by product (not by expiration date). When ORIENT COMMERCIAL BANK will introduce new key sets, a new product will need to be configured in WAY4 for the new key set to be supported. For newly issued cards, a new product will be assigned to the contract/card in order to use a new key set for card issuing and authorisation.

### Limitations

## REQC0003.2 - Personalisation outsourced to 3d Party

### Business Requirements

ORIENT COMMERCIAL BANK will generate personal data. EMV Keys diversification will be also performed by 3d Party Personalisation Bureau.

ORIENT COMMERCIAL BANK needs to be able to provide some EMV parameters like velocity checking parameters for instance to the 3rd party personalization bureau.

### Technical Details

In this case WAY4 will generate the same set of data for Magnetic Stripe and EMV cards. The rest of data, Personalisation data will be performed by 3d Party Personalisation Bureau. The currently defined interface will be supported in Volume 6- Interface. The format of embossing file is referred to Volume 4. Interface.

Personalisation data is exported to file and data is sorted by below priority:

EMV/Magstripe

Prepaid/Debit/Credit

Platinum/Gold/Classical

OCB develops the customization to convert WAY4 Personalisation file format to 3d Party Personalisation file format.

### Limitations

## REQC0003.3 - Urgent card issuing

For urgent cards it is required to have full cycle of card issuing performed at ORIENT COMMERCIAL BANK premises in order to speed-up the process. While issuing urgent card special production event can be specified which trigger different fee then standard card production.

WAY4 can issue card by selection. When a request for an urgent card is received, the user can identify the unique card to be produced in WAY4 and mark it for production.

At present, ORIENT COMMERCIAL BANK did not apply the urgent card issuing.

## REQC0003.4 – Card Numbering

WAY4 supports Random Number, Sequential Number generation, and manual card number entry as standard options.

Card Sequence number for a new card starts from 1 and automatically increments upon renewal if the renewed card is issued with the same card number but with different expiration date.

WAY4 will support configurable card number templates. The following card number generation template will be used by ORIENT COMMERCIAL BANK:

1st 6 digits – BIN

2nd to 15th 9 digits – running sequence number

16th – Check digit as per LUHN algorithm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Card Type** | **BIN** | **Min** | **Max** | **Product** |
| Debit Card | 970448  528643  357112 | 0000000000  0000000000  0000000000 | 1299999999  0299999999  0000200000 | LC Standard/Gold/Priority  MC Standard/Gold  JCB Standard |
| Credit Card | 530572  542172  542172  520980  970448  356505 | 0000000000  0000000000  9900000000  0000000000  1400000000  0000000000 | 9999999999  0299999999  9999999999  0000200000  1499999999  0000200000 | MC Standard  MC Gold  MC Gold Priority  MC Platinum  Local Credit  JCB Standard/Gold/Platinum |
| Prepaid Card | 546278  970448 | 0000000000  1300000000 | 0000200000  1399999999 | MC Prepaid  Local Prepaid |
| Corporate Card | 510511  521317  520070  546278 | 0000000000  0000000000  0000000000  0000000000 | 0000200000  0000200000  0000200000  0000200000 | Credit Platinum  Credit World  Debit  Prepaid |
| Admin Card | 888888 | 8800000000 | 8899999999 | Service Card for ATM |

More detail of sub-bin is listed in attached file

## REQC0003.5 – Card Expiration Date

WAY4 can compute the expiry date of a new, replacement or renewal Card depending on the Product Setup. The following options will be supported:

* fixed date,
* card life time,
* same as previous card

Each Product has a configuration parameter which enable the definition of the expiration period for new cards, replaced cards, and for the renewed card (card with the same card number or different number but different expire date).

There is also a custom procedure available which can be customized to redefine expiration date based on a predefined algorithm and/or additional product parameters.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Card Type** | **BIN** | **Expire** | **Renew Expire** | **Product** |
| Debit Card | 970448  528643  357112 | 360  36  36 | 360  36  36 | Local Card Standard/Gold  MC Standard/Gold  JCB Standard |
| Credit Card | 530572  542172  520980  970448  356505 | 36  36  36  36  36 | 36  36  36  36  36 | MC Standard  MC Gold  MC Platinum  Local Credit  JCB Standard/Gold/Platinum |
| Prepaid Card | 546278  970448 | 36  36 | 36  36 | MC Prepaid  Local Prepaid |
| Corporate Card | 510511  521317  520070  546278 | 36  36  36  36 | 36  36  36  36 | Credit Platinum  Credit World  Debit  Prepaid |
| Admin Card | 88888888 |  |  | Service Card for ATM |

Detail is listed in attached file

## REQC0003.6 – Card Track

WAY4 supports configuration of Card Track 1 and Track 2 in the database per card range

Please, describe track 1 and track 2

### Limitations

There will be no migration of RSA Keys from Legacy system. All RSA Keys (Issuer Key) for EMV cards will be generated in WAY4 and signed with IPS CA Keys.

### Impact Areas

Key Management

# REQC0004 – PIN Mailer

## Business Requirements

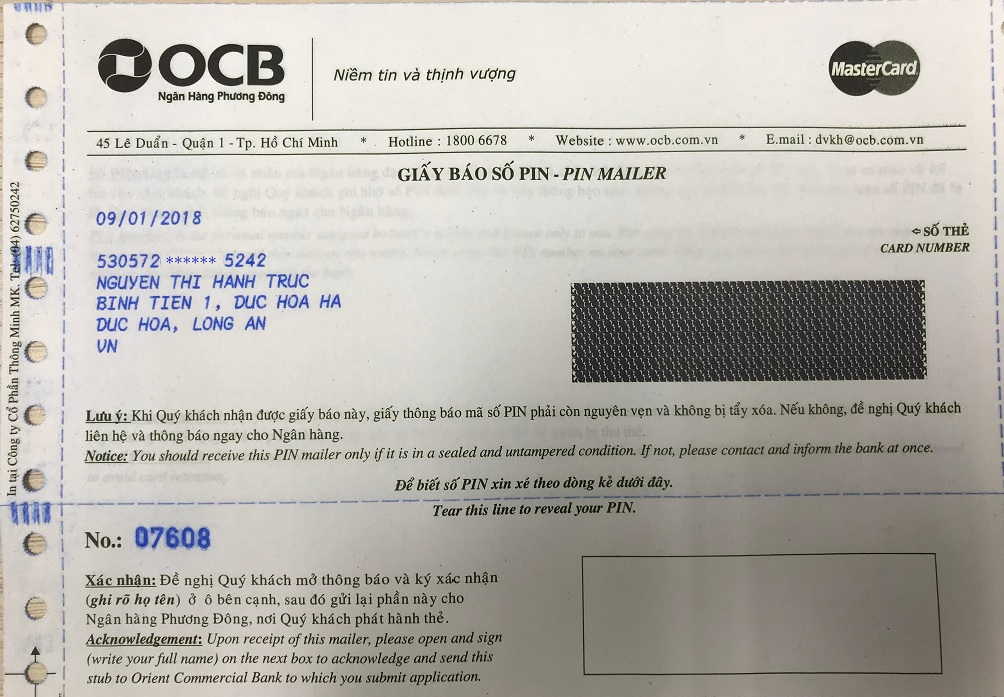
ORIENT COMMERCIAL BANK would like to have the ability to define a dedicated PIN letter layout.

PIN letters will be generated based on the following parameters:

* + - Client name
    - Client Address
    - Pin

|  |  |
| --- | --- |
| **Mail Format** | **Description** |
| CARD\_NUMBER | In mask format |
| CLIENT\_NAME |  |
| CLIENT\_ADDRESS |  |
| CLEAR\_PIN |  |

Below is sample of PIN mailer



CMS supports option for Re-PIN. This can be used in case the card holder forgets his/her credit card ATM PIN. Re-PIN option will also follow the Random PIN process, same as the one for new pin generation.

Bank can run the card production and PIN generation batches, multiple times a day.

## Technical Details

WAY4 will define the PIN Mailer layout through standard configuration. All the necessary data for configuration and production of the PIN Mailer will be generated and stored by WAY4. The PIN Mailer will be printed via the WAY4/HSM standard functionality (for in-house production).

## Limitations

HSM can’t print bitmaps. Bitmaps will have to be pre-printed (or post-printed) on the other printer machine not connected to HSM. Special commands could be sent to the HSM Printer to format the layout of the Pin Mailer.

## Impact Areas

N/A

# REQC0005 – Card Blocking

## Business Requirements

ORIENT COMMERCIAL BANK would like the ability to block/un-block cards by changing the Card status:

* From a Normal Status to a Blocked Status and
* From a Blocked Status to a Normal Status

The Status on the Blocked Cards should denote the reason why the Card was blocked. Some of the status codes that ORIENT COMMERCIAL BANK would like to use are:

|  |  |  |
| --- | --- | --- |
| **Card Status** | **Allow unlock** | **ISO response code** |
| Cancelled | N |  |
| Replaced | N |  |
| Lost | Y |  |
| Stolen | Y |  |
| Counterfeit | N |  |
| Returned | Y |  |
| Upgrade | N |  |
| Returned Card Renewal | N |  |
| Not activated Card | Y |  |
| Expired | N |  |

|  |  |  |
| --- | --- | --- |
| **Account Status (Credit Card)** | **Allow unlock** | **ISO response code** |
| CANCLED | N |  |
| TRANSFERED | N |  |
| CLOSED | N |  |
| FRAUD | Y |  |
| RESERVE | N |  |
| LEGAL | N |  |
| NON PERFORMING | Y |  |

Cards shall be blocked automatically in the following cases:

Invalid PIN attempts are exceeded pre-configured limit

Cards shall be blocked/unblocked manually by users in the following cases:

Upon cardholder’s request

As soon as decision to block/unblock card is made by bank

Bank has facility to set up event to change Account status automatically following delinquency status.

## Technical Details

In WAY4 we can define an unlimited number of Blocked Card Statuses and map them to an ISO Response Code. WAY4 allows the addition and deletion of Card Statuses. Using the WAY4 Manager Screens, the user can change the Card Status to any one of the Blocked Card Statuses as defined in WAY4.

New statuses can be defined at any time as needed.

Access rights can be set on WAY4 screen so that only administrators have permission to update the list of Card Statuses.

## Limitations

N/A

## Impact Areas

N/A

# REQC0006 – Card Blocking Events

## Business Requirements

ORIENT COMMERCIAL BANK would like the ability to link an appropriate action to each status of a Blocked Card. That is when the Card changes to some specific status an action should be executed automatically. For example, charge fee.

## Technical Details

In WAY4 we can define unlimited number of events. We can define an event to trigger some action when the Card Status changes to Blocked and another Event to trigger a different Action when the Card Status changes to Unblocked. In WAY4 we have the ability to attach these events on different Products and different Financial Institutions to generate different actions for the same Status.

## Limitations

N/A

## Impact Areas

N/A

# REQC0007 - Card Activation

## Business Requirements

ORIENT COMMERCIAL BANK is applying the flow of card activation as bellows:

All produced card has got locked-plastic status as initial status.

The produced card will be delivered to cardholder.

Cardholder will sign off on card delivery slip and card delivery slip will be carried back to bank.

Bank staff collects card delivery slip and re-call to cardholder for confirmation. If confirmation is yes then bank staff will active card for cardholder.

Otherwise, cardholder can call to 24/7 service to active his/her cards.

Some card products are requested to setup first PIN CHANGE then cardholder need to go to ORIENT COMMERCIAL BANK ’s ATM to change first PIN. After that, cardholder can use card to do the transaction.

## Technical Details

WAY4 supports the following activation channels and options:

In WAY4 we can set the Validation type field to value INITIAL\_LOCK. The system will issue inactive cards.

Manual activation by operator (by phone call, card delivery slip)

## Limitations

Activating the card through IVR and SMS is not currently supported by WAY4 by default.

## Impact Areas

N/A

# REQC0008 - Card Renewal/Replacement

## Business Requirements

ORIENT COMMERCIAL BANK would like the ability to supports card renewal option for the existing customers. Cards can be renewed before expiry date on card to card basis.

The flow for Card renewal is below:

WAY4 will provide “to be renewed report” that will list “to be renewed cards” in 1 month ahead.

Bank can review the report and decide on cards that are not being renewed for the current month.

Old card will be inactivated once new card is activated.

Alternatively, CMS also supports auto renewal batch where all the cards expiring in current month are made ready for renewal in form of a batch.

Way4 also supports stop renewal option for cards that are not to be renewed after expiry/closed/marked for non renewal.

Way4 supports separate validity periods for new cards and renewed cards.

Principal for card renewal/replacement:

Validity period for renewal is as same as the first validity one is.

Validity period for renewal/replacement is calculated from renew/replaced date. For example, we assume that validity period is 3 years. The expired date is 15 of Aug 2015 and card is renewed on 16 of July 2015 then new expire date for renewal card is 31 of July 2018.

No change card number for renewal/replacement.

Way4 supports Card Replacement option for existing cards on the database. One can replace cards with the existing card number or with a new card number

Various reason codes are available for replacement.

Customer can configure different set of fees for different reason codes of replacement.

Principal for new card number:

In case, card is lost or stolen.

In case, cardholder requests.

At the time of renewing, Way4 supports end-user to change expired date for a particular card.

## Technical Details

We apply standard function of WAY4.

## Limitations

## Impact Areas

N/A

# REQC0009 - Cardholder Notifications

## Business Requirements

ORIENT COMMERCIAL BANK would like the ability to communicate with the Cardholder over three different channels: letter, SMS and email.

## Technical Details

Events can be defined in WAY4 and initiate an action when the status of the card contract changes. An event can be configured to send a letter, an SMS or an Email.

For Web-service specification, we refer to the document Volume 5 – SOA and Notification

## Limitations

Way4 cannot send email being attached statement. Way4 will process and export Statement in pdf/xml format.

## Impact Areas

N/A

# REQC0010 – Card Operations/Customer Service

## Business Requirement

ORIENT COMMERCIAL BANK needs to support Card Operations/Customer Services. Cardholder requests are handled directly by ORIENT COMMERCIAL BANK.

The following functionality is required:

* Identify Cardholders and retrieve data
* Ability to create new/replacement/supplementary cards
  + Ability to create multiple cards under the same contract at the same time (product package)
* Ability to view/update (based on user permissions) the following:
  + Card Status verification
  + Card Blocking Code and Reason Details
  + Verification and Unblocking of Card and PIN Try counter
  + Check of Limits
  + Check Card Production Date
  + Check of Transaction Details (like Transaction Date, Merchant Location, MCC, etc.)
  + Check of Declined Authorizations
  + Print/Review of Card Operations Statements
  + Change cardholder information (name, address, etc.)

## Technical Details

### Cardholder Identification

Cardholder can be identified by operator by asking personal questions like security word and ID number in order to verify the person. WAY4 shows the cardholder personal details on a customer support screen.

The following information is available:

* Cardholder’s Name, Surname
* Company or Bank name (if business card)
* Cardholder’s DOB (date of Birth)
* Cardholder’s HOME address (street name, zip code, country)
* Cardholder’s billing (card statement) address (street name, zip code, country)
* Cardholder’s home telephone number and mobile GSM number
* EMAIL address
* ID and Passport number (minimum 1 mandatory)

### Cardholder Information Update

Bank has facility to update information of client, account or card by form following as below:

* Permanent/Current Address
* Mailing address
* E-mail address
* Home phone/Mobile phone number
* Company’s name/address/phone number
* Any others information of client, account and card.

Bank also has facility to change credit limit after issuing card.

## Limitations

N/A

## Impact Areas

N/A

# REQC0011 – Card Closure

## Business Requirement

Way4 supports end user for changing the card status on form whenever the card holder request or the bank decide base on internal policy.

## Technical Details

Apply WAY4 standard function

## Limitations

N/A

## Impact Areas

N/A

# REQC0012 – Corporate Card

## Business Requirements

Bank can issue corporate cards with individual or Corporate liability.

Individual cards will have individual accounts, statements would be separate for every card and would be mailed to the cardholders. There needs to be a summary statement for corporate which will give details of outstanding of all cards under that corporate.

In Corporate Profile any change in Corporate Name or address, the history to be stored.

There need to be a linkage of all Corporate Cards issued to a Corporate to block all Cards of the Same Corporate if any one of same defaults in payment. The blocking has to be done manually by the bank.

At present, OCB applied the Product’s feature of corporate card similar to product of private credit card and client.

## Technical Details

## Limitations

N/A

## Impact Areas

N/A

# REQC0013 - Statements

## Introduction

ORIENT COMMERCIAL BANK requires support for the production of statements for the cardholders on each cycle closure.

* Cardholder statements will be both printed on stationary and sent as mail or Statement by Email option can also be used. CMS also supports to generate a statement file.
* WAY4 support to configure the statement format following the bank requirement.
* Statement re-generation facility will also be supported by CMS.
* Bank can configure promotion messages that will be printed on the statement.
* Statement message facility will be provided by CMS.
* The statement printing format will be provided by Bank, CMS will adhere to those formats.
* CMS provides facility to capture the preferred statement delivery option at card level. System captures this information as statistical data and does not take any action based on this information.
* CMS will support only one statement template across products.
* Statement printing to be skipped for those cardholder who have no activity during the billing cycle and balance is zero, this is configurable at the time of statement printing.
* CMS will support sending of statements via E-Mail for customers whose email address is available.

## Technical Details

## Limitations

N/A

## Impact Areas

N/A

# REQC0014 –Financial Institution

## Business Requirement

ORIENT COMMERCIAL BANK needs to handle Multi financial institutions (issuers) in WAY4. The Financial Institution is an accounting object, used in the system for reflecting the financial activities of the organization. The Financial Institution contains properties that regulate rules for operations between contracts in the WAY4 System.

## Technical Details

### REQC00014.1 – Financial Institutions Definitions

In the current setup, ORIENT COMMERCIAL BANK has got Multi financial Institutions. These financial Institutions include:

| Information Type | Description |
| --- | --- |
| Institution Name | ORIENT COMMERCIAL BANK |
| Bank Code | 0001 |
| Branch Code | 0001 |
| CB Code | OCB |
| Clearing In | ORIENT COMMERCIAL BANK |
| Parent Institution | N/A |
| Clearing Scheme | Normal |
| Local Currency | VND – Vietnam Dong |
| Country | Vietnam |
| Interest Scheme | 365 |

### REQC00014.2 – Management of Calendar

ORIENT COMMERCIAL BANK needs to schedule and generate files for the issuers defined in the calendars. In WAY4 system, this information is defined. Banking holidays are marked in the default calendar.

Banking holidays should be automatically checked and WAY4 will automatically change the Banking date to next day or previous working date.

### REQC00014.3 – Financial Institutions Currencies

Currencies are defined at the institution level. WAY4 supports all ISO defined currencies. Local Currency is VND. Foreign currency is USD.

#### REQC00014.3.1 – FX Rates and Currency Conversion

All Currency Conversions not handled by the International Payment Schemes will be handled by the WAY4 System. WAY4 will be updated daily with the FX rates based on the standard WAY4 functionality.

All amounts must be converted to Account Currency if the account currency is different than transaction currency before they are sent to the GL.

WAY4 supports the following functionalities as standard out-of-the-box:

* Currency precision of 14 digits.
* Automatic apply of the exchange rate table provided by the schemes
* Use of either the “mid-rate” or the “buy and sell” rates
* Import and use of rates directly provided by the issuer using WAY4 Standard Interface Format

### REQC00014.4 – Financial Institution Language

The language to be enabled as part of WAY4 general configuration is English.

### REQC00014.5 – Financial Institution Branch Management

ORIENT COMMERCIAL BANK needs to manage different branches for an institution. WAY4 can be configured to manage multiple branches if needed as dependent financial institutions and manage the addresses and contact person for each one.

Head office will be used as Financial Instituition – 0001: Card Center/HO…

|  |  |
| --- | --- |
| **Branch code** | **Branch name** |
| 0001 | ORIENT COMMERCIAL BANK |
| 0002 | CN PHU LAM |
| 0003 | CN THU DUC |
| 0004 | PGD LY THUONG KIET |
| 0005 | CN PHU NHUAN |
| 0007 | PGD GO VAP |
| 0008 | CN TAN THUAN |
| 0009 | PGD KHANH HOI |
| 0010 | CN BINH DUONG |
| 0011 | CN KHANH HOA |
| 0012 | PGD XOM MOI |
| 0013 | PGD PHU THO |
| 0014 | CN DONG NAI |
| 0015 | PGD QUAN 8 |
| 0016 | PGD TAN PHU |
| 0017 | CN CHO LON |
| 0018 | CN DAK LAK |
| 0019 | PGD NGUYEN THAI BINH |
| 0020 | CN BEN THANH |
| 0021 | PGD TU XUONG |
| 0022 | CN LONG AN |
| 0023 | CN GIA DINH |
| 0024 | PGD DAO DUY TU |
| 0025 | PGD CAT LAI |
| 0026 | PGD BAY HIEN |
| 0027 | PGD DONG KHOI |
| 0028 | PGD LAI THIEU |
| 0029 | PGD BACH DANG |
| 0030 | CN HA NOI |
| 0031 | PGD TRANG AN |
| 0032 | PGD DONG DO |
| 0033 | PGD KINH TE |
| 0034 | PGD SAO VIET |
| 0035 | CN VINH LONG |
| 0036 | PGD DUY TAN |
| 0037 | CN TAN BINH |
| 0038 | PGD PHU MY HUNG |
| 0039 | PGD SAI GON |
| 0040 | CN CAN THO |
| 0041 | PGD AN HOA |
| 0042 | CN HAU GIANG |
| 0043 | PGD THOT NOT |
| 0044 | PGD PHUOC THOI |
| 0046 | CN KIEN GIANG |
| 0047 | PGD AN PHU |
| 0048 | CN BAC LIEU |
| 0049 | CN AN GIANG |
| 0050 | CN TRUNG VIET |
| 0051 | PGD LIEN CHIEU |
| 0052 | PGD HAI CHAU |
| 0053 | PGD THANH KHE |
| 0054 | PGD PHAN CHAU TRINH |
| 0055 | PGD DUC HOA |
| 0056 | PGD BEN LUC |
| 0057 | CN DONG THAP |
| 0058 | PGD PHAN NGOC HIEN |
| 0059 | PGD NGUYEN TRAI |
| 0060 | CN CA MAU |
| 0061 | CN SOC TRANG |
| 0062 | PGD HO PHONG |
| 0063 | PGD CU CHI |
| 0064 | PGD NGUYEN VAN TROI |
| 0065 | CN QUAN 4 |
| 0066 | PGD DI AN |
| 0067 | PGD PHAN DINH PHUNG |
| 0068 | PGD CHAU VAN LIEM |
| 0071 | PGD QUAN 11 |
| 0072 | PGD HOC MON |
| 0073 | PGD GANH HAO |
| 0074 | PGD BINH CHANH |
| 0098 | PGD HAM NGHI |
| 0100 | CN TP HO CHI MINH |
| 0101 | CN QUANG NAM |
| 0102 | PGD TRAN PHU |
| 0103 | PGD BIEN HOA |
| 0104 | PGD TAN CHAU |
| 0105 | PGD PHUOC LONG |
| 0106 | PGD NGO QUYEN |
| 0107 | PGD THU THIEM |
| 0108 | PGD LONG XUYEN |
| 0109 | PGD CHAU DOC |
| 0110 | PGD DONG DA |
| 0111 | TRUNG TAM KINH DOANH |
| 0112 | PGD BINH TAN |
| 0113 | PGD SON TRA |
| 0114 | PGD TAN HIEP |
| 0115 | PGD CAN GIUOC |
| 0116 | PGD TAN PHUOC KHANH |
| 0117 | CN THANG LONG |
| 0118 | CN HAI PHONG |
| 0119 | CN QUANG NINH |
| 0120 | CN VUNG TAU |
| 0121 | CN NGHE AN |
| 0122 | CN THANH HOA |
| 0123 | PGD TAN SON |
| 0125 | CN QUANG NGAI |
| 0126 | PGD HO NAI |
| 0127 | PGD BEN CAT |
| 0128 | PGD EAKAR |
| 0133 | KHACH HANG DAI CHUNG |
| 0134 | PGD VAN MY |
| 0135 | PGD LACH TRAY |
| 0136 | PGD BA RIA |
| 0137 | PGD QUANG TRUNG |
| 0138 | PGD CAM PHA |
| 0139 | PGD VINH |
| 0140 | PGD THOAI SON |
| 0141 | PGD SONG DOC |
| 0142 | PGD VINH PHUOC |
| 0143 | PGD EA HLEO |
| 0144 | PGD LE CHAN |
| 0145 | PGD LAM SON |
| 0146 | PGD PHU QUOC |
| 0147 | PGD DAM DOI |
| 0148 | PGD LE VIET THUAT |
| 0149 | PGD HOANG DIEU |
| 0150 | PGD UONG BI |
| 0151 | PGD HOI AN |
| 0152 | PGD RACH SOI |
| 0153 | PGD CAM RANH |
| 0154 | PGD DIEN CHAU |
| 0155 | PGD VUNG LIEM |
| 0168 | TRUNG TAM THE |
| 3002 | PGD BINH PHU |
| 3003 | PGD EATAM |
| 3004 | TRUNG TAM BAN HANG TRUC TIEP |

### REQC00014.6 – Financial Institution Hierarchy

ORIENT COMMERCIAL BANK has a requirement to define the Institution Hierarchy of at least 2 levels:

* Issuer/F\_I – branches

## Limitations

## Impact Areas

# REQC0015 – Issuing Product Configuration

## Business Requirements

ORIENT COMMERCIAL BANK requires support for all products currently defined in their system. A product profile defines the manufacturing Technology (magnetic stripe, emv, etc), all related fees (mark-up/processing), the product working mode, renewal parameters, services allowed, limits, card lifetime (expiry/renewal), PIN and card distribution methods, associated calendars (closing/statement generation etc), the issuer, product currency, interest rates (if applicable), BIN ranges, and personalization parameters (embossing/plastic codes etc).

At the moment, ORIENT COMMERCIAL BANK requests the ability to define the following product types:

* Debit cards
* Credit cards
* Pre-paid

Such flexible and parameterized product definition system provides customer with:

* Unlimited number of user defined products
* Unlimited number of products within a BIN
* Unlimited number of user defined billing and statement rules
* User defined interest posting rules
* User defined fee structure (min, percentage, base/flat, max)
* User defined Usage limits structure (One-time limits, cyclic limits, stand-in limits)
* User defined credit service(service package) and repayment scenarios(Accounting scheme)
* Grace periods and Billing periods
* Flexible minimum repayment and repayment priority scenarios (priority of account when repayment)
* Debit Cards:
* Multi account/multicurrency Cards (unlimited number of accounts linked to the card, with Issuer defined flexible prioritization of account usage by transaction parameters)
* Credit Cards:
* Revolving credit
* Overdraft
  + Instant Issue Cards (Instant Issue, preauthorized cards, gift cards)
  + Virtual Cards for Internet payments
  + Flexible payment plans (support many kinds of payment)

## WAY4 Product Definitions

Products will be setup based on the Product settings of existing ORIENT COMMERCIAL BANK products. However, setup will be done based on WAY4 Product Configuration.

In the WAY4 system a product is a special entity defined by the Accounting Scheme, the Service Package, the Contract Sub-type, and others, that determine basic contract characteristics, operation rules, and accounting. Using products, users can pre-define a hierarchy of subordinated contracts.

Each contract can have multiple cards (main/supplementary) defined under it. The product types will be defined when an application is received by WAY4 from the external system, using the product code. Corporate Product will have same behaviour as private products.

The WAY4 product configuration has an advanced set of features. In addition to Card entity and Client (Customer) entity, WAY4 has one more additional entity which is called “Issuing Account Contract”. On the level of Issuing Account Contract, we keep Credit Limit associated with Card and all Accounting related information. This approach simplifies some operational issues. For example in case of lost card, it can be simply closed and new card issued with a linkage to the same Issuing Account Contract. Operator does not need to transfer any balance because it keeps the Issuing Account Contract level. Another benefit is related to Supplementary Cards which is also linked to Issuing Account Contract (not to the Principal Card as you may think). Each of the Supplementary Card has its own product associated with it with daily/monthly usage limits. All transactional amounts are consolidated on the Issuing Account Contract level. Statements/Bills are generated at the level of Issuing Account Contract as well. So for the Private Credit Card, Credit Limit and Statements/Bills are at the Issuing Account Contract level.

In addition to the features (that is, Credit Limit, Accounting information, consolidation of transactions, statements, and linkage of Principal and Supplementary Cards) that are presented above, the Issuing Account Contract provides these other features:

* Credit scheme parameters definition (including Amount Available, cardholder payments, and delinquency)
* Tariff parameters definition
* Usage Limits definition

## Client/Contract hierarchy

One Issuing Account Contract is created (in WAY4) for each new Principal Card. All subsequent replacement/renewal Principal Cards (of the same Principal Card) are linked to the same Issuing Account Contract. Many new Supplementary Cards can be linked to the same Issuing Account Contract. Similar to Principal Card, all subsequent replacement/renewal Supplementary Cards are linked to the same Issuing Account Contract. The Issuing Account Contract is always linked to the Principal Client.

At the Card Contract level, one Principal Card Contract is created for each replacement/renewal/new Principal/Supplementary plastic. These are the features at Card Contract level:

* Usage Limits definition
* Tariff Parameters definition

The Card Contract (of a Principal Card) is always linked to the Principal Client, whereas the Card Contract (of a Supplementary Card) can either be linked to the Supplementary Client or the Principal Client (in this case, this is an Additional Card). The Private Card Contract structure is presented as belows



**Figure 11: Private Credit Card Account Contract**



**Figure 12. Private Debit Card Account Contract**



**Figure 13. Private Prepaid Card Account Contract**

## Customer and contract classifiers

Customer classifiers – set up manually:

* + Regular (default)/normal
  + Staff
  + VIP/Special.

At present, ORIENT COMMERCIAL BANK will setup product configuration separately based on Customer type. One customer type is corresponding to one product. The legacy system did not have Customer classifier.

## Technical Details

Product setups might be done by configuration. Products might be duplicated to construct a new product with new product currency, and same or different values of above settings. Specific details and product configuration will be added in during Design and System Build based on the Migration plan that will be defined between OpenWay and ORIENT COMMERCIAL BANK.

## Limitations

N/A

## Impact Areas

N/A

# REQC0016 - Statement Date

Statement date is the last day of the Billing cycle.

The following actions are performed at statement date (when Banking day defined as Statement date is opened).

* + - Interests are accrued
    - Minimum To Pay (MTP) amount is calculated
    - Ageing between Delinquency buckets is processed (Current Min Due Amount becomes delinquent)

|  |  |  |  |
| --- | --- | --- | --- |
| **Product Group** | **Billing date** | **Due date** | **MTP%** |
| All Credit Product | 15 | 25 days from billing date | 4%, min 100,000 VND |

At present, all credit product of OCB is applied one billing date only. It is monthly 25. Bank can configure the different billing date for each product.

## Technical Details

We will apply standard function of WAY4

## Limitations

N/A

## Impact Areas

N/A

# REQC0017: Credit/Usage Limits

## Business Requirements

ORIENT COMMERCIAL BANK requires having flexible mechanism to assign, change and control limits:

**18.1.1 Credit Limit**

* Credit Limit: Official limit assigned to the cardholder (Liability, issuing contract, card contract)
* Temporary Credit Limit (overrides credit limit for a specific time period) (can be applied on any limit defined). Bank can charge exceed limit.

**18.1.2 Usage Limit (Transaction Limit)**

* Usage limiters (Open-To-Buy): This scheme can be set up on product level, but it can be overridden on a particular card.
* Activity Limits (Different limits for domestic/foreign or daily/monthly/periodic or number of transaction per period). These limits can be set for various transaction types. For example:
  + ATM
  + POS
  + Cash Advance
  + E-commerce
  + Travel and Entertainment transactions
  + Fund transfer transactions
* Usage Limiter has got period options:
  + Billing: Usage counter is reset to initial value after each billing cycle
  + Forever: Usage counter is reset by cardholder activities (e.g. Cardholder did payment then Cash usage counter is reset)

ORIENT COMMERCIAL BANK requires ability to manage activity limits (including temporary limits) based on

* Period:
  + Number of Days
  + Sliding period
  + Fixed period
* Authorization origin:
  + SIC
* **Configurable responses:** CMS provides configurable response codes for periodic limits.

## Technical Details

### Credit limit

WAY4 has the capability to setup Credit Limit for Card and/or Contract. The Credit Limit update can be done by WAY4 administrators via screen forms, batch files update.

Credit Limit can be configured at product level as a default value and then redefined on Account Contract or Card level for particular card using WAY4 Advanced Tariff Management option.

WAY4 also has the capability to define and manage a temporary credit limit for particular Card/Account for the specified period of time.

### Usage limiter

WAY4 allows various limits to be setup using Usage Limiters at the product level (service package) which can be overridden at the contract level or setup directly at the contract level.

Usage limiter parameters are set in either general templates configured in Service Packages or personal templates configured for contracts. General templates determine limiter parameters for all contracts using this Service Package. Personal templates determine limiter parameters for the contract for which they are configured.

Limiters are set for a group of transactions meeting certain conditions, such as certain values in fields:

* Channel (e.g. VISA, MasterCard, On-Us ATM)
* SIC Group (e.g. Hotels, Retail, etc.)
* Operation (e.g. Retail, Cash, etc.)
* Other

Limiters have two counters that designate maximum allowed values: maximum quantity counters (Max #) and maximum transaction amount counters (Max Amount). Limits on the single transaction amount (Max Single Amount) may also be set up in limiter templates.

WAY4 uses limiters by determining a set of limiters whose conditions fit the current transaction parameters; this includes limiters selected on the basis of:

* Parameters of the current contract
* Usage limiters inherited from the contract's Service Package
* Personal usage limiters of the contract
* Usage limiters that form a hierarchical structure with the limiters mentioned above

The usage counters are active during the time period indicated in limiter parameters (fields Period and Period Type), after which it resets its values.

When processing a financial document for which no authorisation document is found, values of transaction usage limiter counters increase the same way as when processing an authorisation request for the financial document amount. When processing a reversal document for an operation that has increased counter values, the counters will automatically turn back their values.

**MC Credit Card for Enterprise Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Single amount: 20,000,000 VND  Daily max amount: 100,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Single amount: 300,000,000 VND  Daily max amount: 500,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Single amount: 300,000,000 VND  Daily max amount: 500,000,000 VND |
| Transaction Numbers/Amount  (*Số lần giao dịch*) | Daily | Daily max number: 30  Daily max amount: 500,000,000 VND |

**MC Credit Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Standard:  Single Amount: 5,000,000 VND  Max Amount: 30,000,000 VND  Gold:  Single Amount: 10,000,000 VND  Max Amount: 50,000,000 VND  Platinum:  Single Amount: 20,000,000 VND  Max Amount: 100,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Standard:  Single Amount: 10,000,000 VND  Max Amount: 30,000,000 VND  Gold:  Single Amount: 20,000,000 VND  Max Amount: 50,000,000 VND  Platinum:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND  Platinum:  Single Amount: 300,000,000 VND  Max Amount: 500,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND  Platinum:  Single Amount: 300,000,000 VND  Max Amount: 500,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch, không bao gồm giao dịch tại quầy*) | Daily | Standard:  Daily max number: 30  Daily max amount: 70,000,000  Gold:  Daily max number: 30  Daily max amount: 100,000,000  Platinum:  Daily max number: 30  Daily max amount: 500,000,000 |

**JCB Credit Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Standard:  Single Amount: 5,000,000 VND  Max Amount: 30,000,000 VND  Gold:  Single Amount: 10,000,000 VND  Max Amount: 50,000,000 VND  Platinum:  Single Amount: 20,000,000 VND  Max Amount: 100,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Standard:  Single Amount: 10,000,000 VND  Max Amount: 30,000,000 VND  Gold:  Single Amount: 20,000,000 VND  Max Amount: 50,000,000 VND  Platinum:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND  Platinum:  Single Amount: 300,000,000 VND  Max Amount: 500,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single Amount: 50,000,000 VND  Max Amount: 100,000,000 VND  Platinum:  Single Amount: 300,000,000 VND  Max Amount: 500,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch, không bao gồm giao dịch tại quầy*) | Daily | Standard:  Daily max number: 30  Daily max amount: 70,000,000  Gold:  Daily max number: 30  Daily max amount: 100,000,000  Platinum:  Daily max number: 30  Daily max amount: 500,000,000 |

**Local Credit Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Single amount: 5,000,000 VND  Daily max amount: 30,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Single amount: 10,000,000 VND  Daily max amount: 30,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Single amount:30,000,000 VND  Daily max amount: 70,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch*) | Daily | Daily max number: 30  Daily max amount: 70,000,000 VND |

**MC Debit Card for Enterprise Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Single amount: 10,000,000 VND  Daily max amount: 50,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Single amount: 20,000,000 VND  Daily max amount: 50,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Single amount:50,000,000 VND  Daily max amount: 100,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| IntraBank Transfer  (*Chuyển tiền trong ngân hàng*) | Daily | Single amount: 50,000,000 VND  Daily max amount: 200,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch*) | Daily | Daily max number: 30  Daily max amount: 100,000,000 VND |

**MC Debit and Prepaid Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Standard:  Single amount: 5,000,000 VND  Daily max amount: 30,000,000 VND  Gold:  Single amount: 10,000,000 VND  Daily max amount: 50,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Standard:  Single amount: 10,000,000 VND  Daily max amount: 30,000,000 VND  Gold:  Single amount: 20,000,000 VND  Daily max amount: 50,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| IntraBank Transfer  (*Chuyền khoản trong ngân hàng*) | Daily | Standard:  Single amount: 20,000,000 VND  Daily max amount: 100,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 200,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Standard:  Single amount:30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch*) | Daily | Standard:  Daily max number: 30  Daily max amount: 70,000,000 VND  Gold:  Daily max number: 30  Daily max amount: 100,000,000 VND |

**JCB Debit and Prepaid Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Single amount: 5,000,000 VND  Daily max amount: 30,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Single amount: 10,000,000 VND  Daily max amount: 30,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND |
| IntraBank Transfer  (*Chuyển tiền trong ngân hàng*) | Daily | Single amount: 20,000,000 VND  Daily max amount: 100,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch*) | Daily | Daily max number: 30  Daily max amount: 70,000,000 VND |

**Local Debit and Prepaid Card for Private Client**

|  |  |  |
| --- | --- | --- |
| **Transaction Criteria** | **Usage Type** | **Usage Value** |
| ATM Transaction  (*Rút tiền tại ATM*) | Daily | Standard:  Single Amount: 5,000,000 VND  Max Amount: 30,000,000 VND  Gold:  Single Amount: 10,000,000 VND  Max Amount: 50,000,000 VND |
| POS Cash Transaction  (*Rút tiền tại quầy*) | Daily | Standard:  Single amount: 10,000,000 VND  Daily max amount: 30,000,000 VND  Gold:  Single amount: 20,000,000 VND  Daily max amount: 50,000,000 VND |
| POS Retail/Purchase  (*Giao dịch mua hàng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| E-Commerce  (*Giao dịch thanh toán qua mạng*) | Daily | Standard:  Single amount: 30,000,000 VND  Daily max amount: 70,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 100,000,000 VND |
| IntraBank Transfer  (*Chuyển khoản trong hệ thống OCB*) | Daily | Standard:  Single amount: 20,000,000 VND  Daily max amount: 100,000,000 VND  Gold:  Single amount: 50,000,000 VND  Daily max amount: 200,000,000 VND |
| IBFT  *(Chuyển khoản liên ngân hàng)* | Daily | Standard:  Single amount: 10,000,000 VND  Daily max amount: 50,000,000 VND  Gold:  Single amount: 15,000,000 VND  Daily max amount: 100,000,000 VND |
| Transaction Numbers  (*Số lần giao dịch, không bao gồm giao dịch tại quầy*) | Daily | Standard:  Daily max number: 30  Daily max amount: 70,000,000  Gold:  Daily max number: 30  Daily max amount: 100,000,000 |

## Limitations

N/A

## Impact Areas

N/A

# REQC0018 - Accounting Setup

## Introduction

The WAY4 system will be performing Accounting for the Credit Cards and also the Prepaid Cards.

Accounting Schemes is a product component that is composed of a set of account templates defining properties of each account under a Contract. It is used to create a set of analytic accounts for the contract and automatic posting of macro-transactions to contract accounts. The Accounting Scheme is a mandatory element of the Contract. The Accounting Scheme includes Standing Orders and Events and can be used to setup Billing information, Interest Calculation, Bucket Ageing, Messages etc.

## Business requirements

## Technical Details

## Accounting Scheme for Prepaid Cards

### Accounts

| **GL Number** | **Account Name** |
| --- | --- |
| **Accounts Opened for a Client Contract** | |
|  | CL Deposit |
|  | Dispute |
| **Bank Accounts** | |
|  | Fine, penalty and fee revenues |
|  | Account for correspondence with passive accounts |
|  | Account for correspondence with active accounts |
|  | Fee reserves |
|  | Restore Reserve |
|  | Reserve Expense |

Please note that the exact set of accounts will be finalised only during the Implementation Phase.

### Billing Information

* Billing cycle
  + Monthly
  + Daily send Financial flows
* Statement Date
  + Monthly
  + Can be setup as any day in the Month
* Settlement
  + Daily Auto Settlement or Import settlement file

### Ageing and Actions

* No Aging for Prepaid Cards

## Accounting Scheme for Credit Cards

### Accounts

| **GL Number** | **Account Name** | **Payment Piority** |
| --- | --- | --- |
| **Accounts Opened for a Client Contract** | |  |
|  | Cl Deposit | 0 |
|  | Open Sale | 1 |
|  | Open Cash | 2 |
|  | Open Sale Fee | 3 |
|  | Open Cash Fee | 4 |
|  | Grace Sale | 5 |
|  | Grace Cash | 6 |
|  | Grace Sale Fee | 7 |
|  | Grace Cash Fee | 8 |
|  | Grace Sale Interest | 9 |
|  | Grace Cash Interest | 10 |
|  | Close Sale | 11 |
|  | Close Cash | 12 |
|  | Close Sale Fee | 13 |
|  | Close Cash Fee | 14 |
|  | Close Sale Interest | 15 |
|  | Close Cash Interest |  |
|  | Close Overlimit |  |
|  | Dispute |  |
|  | Loyalty |  |
|  | OVD Sale |  |
|  | OVD Cash |  |
|  | OVD Sale Fee |  |
|  | OVD Cash Fee |  |
|  | OVD Sale Interest |  |
|  | OVD Cash Interest |  |
|  | OVD Overlimit |  |
|  | *Shadow payment due* |  |
|  | *Shadow overdue 00b* |  |
|  | *Shadow overdue 30b* |  |
|  | *Shadow overdue 60b* |  |
|  | *Shadow overdue 90b* |  |
|  | *Shadow overdue 120b* |  |
| **Bank Accounts** | |  |
|  | Revenue account for fees |  |
|  | Revenue interests |  |
|  | Provision accounts |  |

Higher number, higher priority.

Please note that the exact set of accounts used for every product are described in the Product configuration Document for each relevant Product Template.

| **Operation description** | **Period** | **GL Transfer** | |
| --- | --- | --- | --- |
| *1. Starting contract and operation processing* | | | |
| ***1.1. Operations with contract*** | | | |
| ***1.1.1. Retail/cash transactions*** | | | |
| Transaction amount | At the moment of posting the operation | Db  Ct | |
| 1.1.2. Payment operation | | | |
| Amount of operation | At the moment of retail/cash/balance transfer operation posting | | Db  Ct |
| 1.1.3. Loan payment | | | |
| Loan amount | At the moment of account credit operation posting | | Db  Ct |
| 1.1.4. Interests payment | | | |
| Interest amount | At the moment of account credit operation posting | | Db  Ct |
| 1.1.5. Fee payment | | | |
| Fee amount | At the moment of account credit operation posting | | Db  Ct |
| 1.1.6. Overlimit payment | | | |
| Overlimit amount | At the moment of account credit operation posting | | Db  Ct |
| **2. Interests operations accounting** | | | |
| 2.1. Balance interests accrual | In the last working day of billing period. | Db  Ct | |
| **3. Credit card fees accounting** | | | |
| 3.1. Fee amount | At the moment of fee operation posting | Db  Ct | |
| **4. Provisions accounting** | | | |
| 4.1. Provision creation | | | |
| For provisioning amount | When provision accrual procedure is executed | Db  Ct | |
| 4.2. Provisions correction – increasing | | | |
| For provisioning amount | When provision accrual procedure is executed | Db  Ct | |
| 4.3. Provisions correction – decreasing | | | |
| For provisioning amount | When provision accrual procedure is executed | Db  Ct | |
| **5. Dispute operation management.**  **All dispute operations are posted and processed manually.** | | | |
| **6. Reversing.**  **Reversing of retail/cash processed as credit operations (payments).** | | | |

### Billing Information

* Billing cycle
  + Monthly
  + Fixed day in the month
* Statement Date
  + Fixed day in the month (currently is *15 monthly, bank can re-configure later*)
* Grace Period
  + 0 days
  + Fixed day in the month
* Due Date
  + Based on the Statement day (currently is *15 days is from statement days, bank can re-configure later*)
  + Fixed day in the month

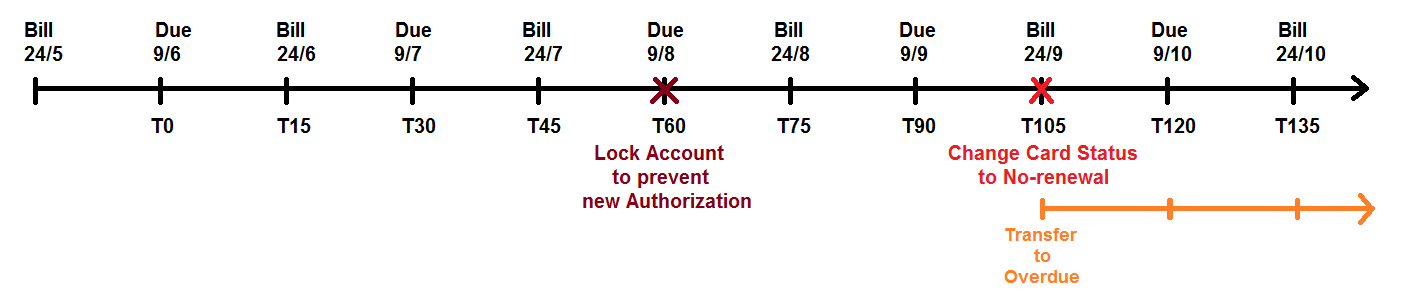
### Over Limit

* Over Limit Fees will not be charged.
* Interest rate of over-limit - Refer to the section Interest.
* Bank allows any over-limit amount.

### Buckets

For Credit Card

After 2 consequent late cycles then card/issuing contract will be locked to stop new authorization (at T60). If cardholder still did not pay amount for next cycle and a half (at T105) then all cards under issuing contract will be locked to no-renewal status. At no-renewal status, end-user cannot change to other status. It means that card is closed forever.



OCB did not apply to lock card, apply to lock the issuing contract level at T60.

What is card status to be changed to Lock by Debt?

Card Ok

Card do not honor

(Bank can re-configure later)

Bank has facility to set up event to change Account status automatically following delinquency status.

# REQC0019 – Transaction & Service Fees

## Business Requirement

ORIENT COMMERCIAL BANK needs the ability to define the fees in the system. Fee can be defined as a charge to a cardholder or it can be some sort of incentive to a cardholder.

ORIENT COMMERCIAL BANK needs to have several fees combined for a single operatione.g. fee for ATM withdrawal + processing fee + mark-up on authorization.

ORIENT COMMERCIAL BANK requires two main types of fees:

#### REQC0019.1 - Misc Fees

Misc fees are fee which is configured for management or event. They are non-transaction based fees. For example: annual fee, re-issue PIN, re-print statement.

At Account Contract, Late Payment Fee will be charged once cardholder pays less than min amount before due date.

#### REQC0019.2 - Transaction Fees

Transaction Fees are fees applied on financial transactions, e.g. card loading fee, mark-up, processing fee.

ORIENT COMMERCIAL BANK needs the transaction fee as a combination of:

* Fixed amount (F):
* Percentage of the transaction amount (P).
* Minimum amount (m): Corresponding to the fee applied if the result of the fee computation is lower than itself
* Maximum amount (M): Corresponding to the fee applied if the result of the fee computation is higher than itself

Transaction fees are set up for different transactions (cash withdrawal, fund transfer,…) and different products.

**Note:** Here variable fee is a percentage of billing amount in the transaction.

Bank will have facility to configure separate transaction fees for on us, domestic and international transactions.

Bank can configure various transaction fee plans which can then be attached at product level. Card will inherit the transaction fee set at product level. Alternately user can override the transaction fee plan at card level.

**Currency Conversion fees:** Applied for international transactions only as a percentage of billing amount. Option to include the currency conversion fees with the billing amount should be available in the system.

**Forex Markup Fees:** Applied when transactions are posted to card accounts with the following conditions:

* The transactions are made at not on-us merchants.
* The transaction currency is different from VND.
* FOREX Markup = x% of settlement amount (VND)

Bank can set these types of fee are online fee or offline fee.

**Cross-border fee:**

**Unique fee:**

**Late Payment Fees:** Calculated when the cardholder doesn’t make a minimum payment by the due date.

**Interest Charges:** Applied for non cash transactions.

**Cash Interest Charges:** Applied for cash transactions.

**Credit Interest:** Applied for all credit balances.

The interest on a transaction type can be configured to be:

* Calculated from either of the following:
* P – Posting Date (Settlement Date).
* B – Transaction Date.
* But Bank can change from posting date to transaction date and vice-versa at a later stage.
* Bank has facility to configure not calculate Interest Charge for a certain transaction or transaction type. *For this requirement, WAY4 cannot support but we can use alternative solution by using [Account Transfer] function to move transaction amount from interested account to non-interested account.*

#### REQC0019.3 – Allowed Transaction and Restriction

* The following transactions are allowed at Account (Issuing contract) level:
  + Payment to Contract.
* The following transactions are allowed at Card level:
  + Cash
  + Retail
  + Unique
  + Refund
  + Mini statement
  + Balance Inquiry
  + Pin change

The set of transaction types permitted on Product. For example, the card belong to Product CREDIT DOMESTIC can do purchase, PIN change, Balance transactions, but cannot do cash withdraw transaction.

* The following transaction sources are allowed:
  + Own devices
  + Foreign devices (MC Acquire)
* The following restrictions take place for card:
  + ON/OFF ecommerce transaction (ON by default)
  + ON/OFF Moto transaction (OFF by default)

The solution will provide functionality to configure issuer and acquirer restrictions before transaction authorization. ORIENT COMMERCIAL BANK can configure flexible restriction rules based on the following:

* BIN/BIN Range
* Country
* Currency
* MCC
* Acquirer Code
* Issuer Code
* Terminal Type
* CVV/CVV2 presence
* PIN Presence
* Transaction Type
* The mask of the value of the POS data code field

Transaction restrictions are considered ‘pre-fraud’ analysis tool, which allow to filter out unwanted transactions before actual fraud checking takes place (for example to block e-commerce transactions, ATM cash withdrawals for greater then USD 1000).

### Acquirer Blocking

WAY4 has out-of-the-box functionality "Merchant Stop List" which allows to block transactions with the following conditions:

* Specified Acquirer by Acquirer ID
* Transaction conditions
* SIC/MCC
* Country Area
* Merchant Name

ORIENT COMMERCIAL BANK will be able to provide a timeframe (date from and date to) for this blocking and specify the response code for the response message.

## Technical Details

**Allowed Transaction and Restriction**

In WAY4, we register services in service package. WAY4 service is as same as Rule which is mentioned above, service package is as same as transaction scheme. The algorithm for searching service in way4 is bellows:

Service with higher priority will be searched first

With same priority service, service is selected if number of matched parameters is the biggest.

#### REQC0036.1 - Misc Fees

**Master Credit Card for Corporate Client (\*)**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*) | 699,000 | Yearly, ~~from 2th year we charge fee if first transaction of year is executed.~~ First year is free; 2nd/3st.. year will be charged or free by volume based. | Apply | Not apply |
| 2 | Card Production  (*Phí phát hành*) | 0 | When producing card; auto | Not apply | Not apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*) | 200,000 | Per card/time; auto | Apply | Not apply |
| 4 | Credit Limit Change  (*Thay đổi hạn mức tín dụng*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Guarantee Type Change  (*Phí thay đổi hình thức đảm bảo*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Not apply  Not apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*) | 0 | Per time; manually | Apply | Not apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (*Phí nâng hạng*) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  *(Phí hạ hạng)* | 100,000 | Per time; manually |  |  |

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Late Payment Fee  (*Phí chậm trả*) | 4%; min 100,000 | Per every late cycles; auto | Apply | Not apply |

Every late cycles, cardholder will be charged late payment fee. And Late payment fee is posted on next working day after due date.

**Master Credit Card for Private Client (\*)**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*)  Standard  Gold  Platinum | 200,000  300,000  699,000  (499k for sub card) | Yearly, ~~from 2th year we charge fee if transaction of first year is executed. (free is for the first year)~~  First year is free; 2nd/3st.. year will be charged or free by volume based. | Apply  Apply  Apply | Not apply  Not apply  Not apply |
| 2 | Card Production  (*Phí phát hành*) | 0 | When producing card; auto | Not apply | Not apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*)  Standard/Gold/Platinum | 100,000  150,000  200,000 | Per card/time; auto | Apply | Not apply |
| 4 | Credit Limit Change  (*Thay đổi hạn mức tín dụng*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Guarantee Type Change  (*Phí thay đổi hình thức đảm bảo*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Apply  Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*) | 0 | Per time; manually | Apply | Not apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (*Phí nâng hạng*) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  *(Phí hạ hạng)* | 100,000 | Per time; manually |  |  |

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Late Payment Fee  (*Phí chậm trả*) | 4%; min 100,000 | Per every late cycles; auto | Apply | Apply |

Every late cycles, cardholder will be charged late payment fee. And Late payment fee is posted on next working day after due date.

**JCB Credit Card for Private Client**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*)  Standard  Gold  Platinum | 200,000  300,000  699,000  (499k for sub card) | Yearly, ~~from 2th year we charge fee if transaction of first year is executed. (free is for the first year)~~  First year is free; 2nd/3st.. year will be charged or free by volume based. | Apply  Apply  Apply | Not apply  Not apply  Not apply |
| 2 | Card Production  (*Phí phát hành*) | 0 | When producing card; auto | Not apply | Not apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*)  Standard/Gold/Platinum | 100,000  150,000  200,000 | Per card/time; auto | Apply | Not apply |
| 4 | Credit Limit Change  (*Thay đổi hạn mức tín dụng*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Guarantee Type Change  (*Phí thay đổi hình thức đảm bảo*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Apply  Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*) | 0 | Per time; manually | Apply | Not apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (*Phí nâng hạng*) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  *(Phí hạ hạng)* | 100,000 | Per time; manually |  |  |

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Late Payment Fee  (*Phí chậm trả*) | 4%; min 100,000 | Per every late cycles; auto | Apply | Apply |

Every late cycles, cardholder will be charged late payment fee. And Late payment fee is posted on next working day after due date.

**Local Credit Card for Private Client (\*)**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*) | 100,000 | Yearly, ~~from 2th year we charge fee if transaction of first year is executed~~  First year is free; 2nd/3st.. year will be charged or free by volume based. | Apply | Apply |
| 2 | Card Production  (*Phí phát hành*) |  | When producing card; auto | Not apply | Not apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*) | 50,000 | Per card/time; auto | Apply | Not apply |
| 4 | Credit Limit Change  (*Thay đổi hạn mức tín dụng*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Guarantee Type Change  (*Phí thay đổi hình thức đảm bảo*) | 0 | Per time; manually | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 50,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  30,000 | Per receipt; manually  Per receipt; manually | Not Apply  Not Apply | Not Apply  Not Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*) | 0 | Per time; manually | Apply | Not apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 30,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (Phí nâng hạng) | 50,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  (Phí hạ hạng) | 50,000 | Per time; manually |  |  |

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Late Payment Fee  (*Phí chậm trả*) | 4%; min 100,000 | Per late cycles; auto | Apply | Apply |

Every late cycles, cardholder will be charged late payment fee. And Late payment fee is posted on next working day after due date.

**MC Debit Card for Enterprise Client**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*) | 200,000 | Yearly, First year is free; Charge from 2nd year | Not Apply | Not Apply |
| 2 | Card Production  (*Phí phát hành*)  Magnetic stripe  EMV | 0  0 | When producing card; auto | Not apply  Apply | Not apply  Apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*) | 100,000 | Per card/time; auto | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Apply  Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*)  At ORIENT COMMERCIAL BANK  At Other Bank | 0  0 | Per time; manually | Apply  Apply | Apply  Apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (Phí nâng hạng) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  (Phí hạ hạng) | 100,000 | Per time; manually |  |  |

**Master Card Debit and Prepaid Card for Private Client (\*)**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*)  Prepaid/Debit standard  Debit Gold | 150,000  200,000 | Yearly, First year is free; Charge from 2nd year | Not Apply | Not Apply |
| 2 | Card Production  (*Phí phát hành*)  Magnetic stripe  EMV | 0  0 | When producing card; auto | Not apply  Apply | Not apply  Apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*) | 100,000 | Per card/time; auto | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Apply  Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*)  At ORIENT COMMERCIAL BANK  At Other Bank | 0  0 | Per time; manually | Apply  Apply | Apply  Apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (Phí nâng hạng) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  (Phí hạ hạng) | 100,000 | Per time; manually |  |  |

**JCB Debit and Prepaid Card for Private Client**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Card Yearly Fee  (*Phí thường niên*)  Debit standard | 150,000 | Yearly, First year is free; Charge from 2nd year | Not Apply | Not Apply |
| 2 | Card Production  (*Phí phát hành*)  Magnetic stripe  EMV | 0  0 | When producing card; auto | Not apply  Apply | Not apply  Apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*) | 100,000 | Per card/time; auto | Apply | Not apply |
| 5 | Cardholder’s Confirmation Request  (*Phí xác nhận theo y/c chủ thẻ*) | 80,000 | Per page; manually | Apply | Not apply |
| 6 | Transaction Receipt Copy  At own acquirer  At other acquirer  (*Phí cấp bản sao hóa đơn giao dịch*) | 0  50,000 | Per receipt; manually  Per receipt; manually | Apply  Apply | Apply  Apply |
| 7 | ChargeBack Request  (*Phí khiếu nại*)  At ORIENT COMMERCIAL BANK  At Other Bank | 0  0 | Per time; manually | Apply  Apply | Apply  Apply |
| 8 | Re-order PIN  (*Phí cấp lại PIN*) | 50,000 | Per time; auto | Apply | Not apply |
| 9 | Card Upgrade Fee  (Phí nâng hạng) | 100,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  (Phí hạ hạng) | 100,000 | Per time; manually |  |  |

**Local Debit and Prepaid Card for Private Client (\*)**

| No | Fee Type | Fee Amount | Frequency & Response | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | Normal | Special |
| 1 | Card Yearly Fee  (*Phí thường niên*)  Debit standard/prepaid  Debit Gold | 100,000  150,000 | Yearly, First year is free; Charge from 2nd year | Not Apply | Not Apply |
| 2 | Card Production  (*Phí phát hành*) | 0 | When producing card; auto | Not apply | Not apply |
| 3 | Card Replacement  (*Phí thay thế thẻ*)  Debit standard/prepaid  Debit Gold  Debit Gold Priority | 50,000  100,000  0 | Per card/time; auto | Apply | Apply |
| 4 | Lock or Unlock Card  (*Phí mở/khóa thẻ*) | 0 | Per card/time; | Not apply | Not apply |
| 5 | Clear PIN Attempt  (*Phí mở khóa PIN*) | 0 | Per card/time; auto | Not apply | Not apply |
| 6 | Re-order PIN  (*Phí cấp lại PIN*)  Debit standard/prepaid  Debit Gold  Debit Gold Priority | 30,000  30,000  0 | Per time; auto | Apply | Apply |
| 7 | Suspend Card  (*Phí ngưng sử dụng thẻ*) | 0 | Per time; | Not apply | Not apply |
| 8 | Change Linked Account  (*Phí thay đổi tài khoản liên kết*) | 0 | Per time; | Not apply | Not apply |
| 9 | Return Retained Card  At own ATM  At other ATM  (*Phí trả thẻ ATM do lỗi KH*) | 0  0 | Per time; manually  Depends on Napas’s bank charge | Not apply  Apply | Not apply  Apply |
| 10 | ChargeBack Request  (*Phí khiếu nại*) | 0 | Per time; manually | Apply | Apply |
| 9 | Card Upgrade Fee  (Phí nâng hạng) | 50,000 | Per time; manually |  |  |
| 10 | Card Downgrade Fee  (Phí hạ hạng) | 50,000 | Per time; manually |  |  |

(\*): Bank can change later

#### Transaction Fees

WAY4 can be configured to support as many transaction fees as required by ORIENT COMMERCIAL BANK out-of-the-box.

Transaction fee can be one of the types defined below or a combination of:

* Fixed amount (F):
* Percentage of the transaction amount (P).
* Minimum amount (m): Corresponding to the fee applied if the result of the fee computation is lower than itself
* Maximum amount (M): Corresponding to the fee applied if the result of the fee computation is higher than itself.

Fees can be configured to be charged at the time of authorization and transaction posting (default mode) or it can be configured to be charged only at the time of authorization or to be charged only at the time of transaction posting.

In case a fee is configured to be charged at the time of authorization, then in case there is not enough amount available on the contract to cover for the transaction amount and the fee amount, then the authorization will be rejected. The alternative is to configure a fee to be charged only at the time of transaction posting. This however has a risk since it is possible for the contract to go Over-limit since the fee amount was blocked from the amount available of the contract at the time of authorization.

The following table defines some examples of the possible transaction fees that can be applied:

**Master Credit Card for Corporate Client (\*)**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *World*  *Platinum* | 2.5%  2.5% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

n/a = not apply; means that is default value of classifier = normal.

**Master Credit Card for Private Client (\*)**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard*  *Gold*  *Gold Priority*  *Platinum* | 2.95%  2.8%  2.8%  2.5% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | 0  0  0 | 2%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | 0  0  0 | 2%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

n/a = not apply; means that is default value of classifier = normal.

**JCB Credit Card for Private Client**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard*  *Gold*  *Platinum* | 2.95%  2.8%  2.5% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | 0  0  0 | 2%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 4%, min 100K  4%, min 100K  4%, min 100K | 0  0  0 | 2%, min 100K  4%, min 100K  4%, min 100K | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

n/a = not apply; means that is default value of classifier = normal.

**Local Credit Card for Private Client (\*)**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*) | n/a | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | n/a | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

n/a = not apply; means that is default value of classifier = normal.

**MC Debit Card for Enterprise Client**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard* | 2.95% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | n/a | n/a | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | n/a | n/a | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

**Master Card Debit and Prepaid Card for Private Client (\*)**

**Debit Card**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard*  *Gold* | 2.95%  2.8% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | 0  3%, min 60K  3%, min 60K | n/a | n/a | 0  3%, min 60K  3%, min 60K | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | 0  3%, min 60K  3%, min 60K | n/a | n/a | 0  3%, min 60K  3%, min 60K | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

**Prepaid Card**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  At own ATM  At other ATM | 0  0  0 | n/a | n/a | n/a | n/a | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard* | 2.95% | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | Master Card Funds Transfer  (*Chuyển tiền qua MC*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | 0  3%, min 60K  3%, min 60K | n/a | n/a | n/a | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 1,100  3%, min 60K  3%, min 60K | 0  3%, min 60K  3%, min 60K | n/a | n/a | n/a | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |

**JCB Debit and Prepaid Card for Private Client**

Same as above **Master Card Debit and Prepaid Card for Private Client**

**Local Debit and Prepaid Card for Private Client (\*)**

**Debit Card**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  On-us  Domestic  International | 0  0  0  550 | 0  0  0  550 | n/a | n/a | 0  0  0  550 | n/a |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard* | n/a | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | n/a | n/a | n/a | n/a | n/a | n/a |
| 4 | IntraBank Transfer  (*Chuyển tiền*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 1,100  3,300  0 | 0  3,300  0 | n/a | n/a | 0  0  0 | n/a |
| 6 | Unique  *On-us*  *Domestic*  *International* | 1,100  3,300  0 | 0  3,300  0 | n/a | n/a | 0  0  0 | n/a |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Mini statement  (Phí tra cứu số dư)  On-us  Domestic  International | 0  0  550  550 | 0  0  550  550 | n/a | n/a | 0  0  550  550 | n/a |
| 9 | InterBank Transfer | 11,000 | 11,000 | n/a | n/a | 11,000 | n/a |

**Prepaid Card**

| No | Fee Type | Client Classifier | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Normal | Staff | KHDC | Cash card | Payroll | Student |
| 1 | Balance Inquiry  (*Phí tra cứu số dư*)  On-us  Domestic  International | 0  0  0  550 | 0  0  0  550 | n/a | n/a | n/a | 0  0  0  550 |
| 2 | Transaction Processing  (*Phí xử lý giao dịch*)  *Standard* | n/a | n/a | n/a | n/a | n/a | n/a |
| 3 | Currency Exchange  (*Phí chuyển đổi ngoại tệ*) | 0 | n/a | n/a | n/a | n/a | n/a |
| 4 | IntraBank Transfer  (*Chuyển tiền*) | 0% | n/a | n/a | n/a | n/a | n/a |
| 5 | Cash Withdrawal  *On-us*  *Domestic*  *International* | 1,100  3,300  0 | 0  3,300  0 | n/a | n/a | n/a | 0  0  0 |
| 6 | Unique  *On-us*  *Domestic*  *International* | 1,100  3,300  0 | 0  3,300  0 | n/a | n/a | n/a | 0  0  0 |
| 7 | Cross border | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Mini statement  (Phí tra cứu số dư)  On-us  Domestic  International | 0  0  550  550 | 0  0  550  550 | n/a | n/a | n/a | 0  0  550  550 |
| 9 | InterBank Transfer | 11,000 | 11,000 | n/a | n/a | n/a | 11,000 |

(\*): Bank can change later

## Limitations

N/A

## Impact Areas

# REQC0020 - Interest

## Introduction

Currently, ORIENT COMMERCIAL BANK Interest calculation is performed at the accounting contract level and only if the contract is a revolving credit (no interest is calculated for debit contracts).

ORIENT COMMERCIAL BANK requires support for the current interest calculation methodology. It is also required to support interest computation methodology based on the transaction date (daily interest calculation).

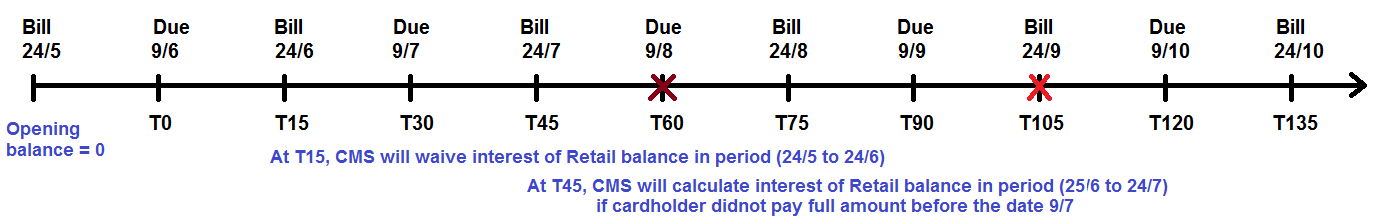
The contract will use the interest rate defined at the product level but it can also be defined at the contract level.

## REQC0020.1 – Interest Calculation

### Business Requirements

Purchase transactions for the first cycle are free of interest. Interest calculation is done from statement date to statement date (Closing daily balance interest calculation) and applies if the cardholder does not pay the full amount by the due date.

The periodical (monthly) computation of interest are depending on the real number of days within each period

~~~~

Note: Interest calculated for current cycle will be integrated in the balance of the next cycle. Therefore interest will then also be computed on the interest.

Note: All fees (including annual fees) are included into the balance and therefore subject to interest calculation.

Interest for Purchase transaction will not be calculated in following cases:

* + Opening balance is greater than zero
  + Customer pays full before Due date

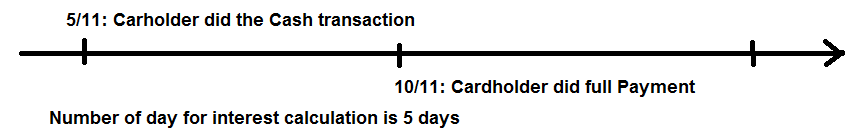
### REQC0020.1.1 – Current Interest Calculation methodology

Interest is accrued for the amount (outstanding balance (including fees)) using the following formula:

***Annual Interest Rate X % \*(Outstanding Balance) \* number of days / days per year***

Interests from the previous cycle are integrated into the balance of the current cycle.

Cash Interest Amount calculated from the date of cash transaction debited on card account until the date that cardholder pays all debited amounts arised by cash transaction. Cash Interest Amount will not be excepted in any case.



Note: we assume that transaction is executed on 5th Nov 2015 and cardholder has paid on 10th Nov 2015 then ORIENT COMMERCIAL BANK want number of days to be 5 when CMS calculating interest.

Interest Amount calculated in case cardholder does not pay or only pays one part of closing balance or pays after min due date.

Min due: calculated in the percent of closing balance

### Technical Details

WAY4 can be configured to support these requirements out-of-the-box.

## REQC0020.2 – Interests Rates

### Business Requirements

It is required to be able to define different interest rates as follows:

* Due Rate for Cash
* Due Rate for Retail
* OverDue Rate
* Overlimit Rate

Accounts can be setup in WAY4 with different priority such that when a payment is received, it is used to first payoff outstanding amount in accounts with a higher priority (typically accounts which have higher interest rate are paid off first).

It is also requested to have the ability to automatically re-compute interests after a transaction reversal in current cycle.

**MC Credit Card for Corporate Client**

| No | Delinquency | Client Classifier | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Staff | Normal | Saving | VIP | CCEH1 | CCEH2 | CCEP1 | Zero |
| 1 | In Due | 10.01% | 24% | 17% | 18% | 25% | 22% | 20% | 0% |
| 2 | Overdue | 150% of In Due rate | | | | | | | |
| 3 | Overlimit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**MC Credit Card for Private Client**

| No | Delinquency | Client Classifier | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Staff | Normal | Saving | VIP | CCEH1 | CCEH2 | CCEP1 | Zero |
| 1 | In Due | 10.01% | 24% | 17% | 18% | 25% | 22% | 20% | 0% |
| 2 | Overdue | 150% of In Due rate | | | | | | | |
| 3 | Overlimit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**JCB Credit Card for Private Client**

| No | Delinquency | Client Classifier | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Staff | Normal | Saving | VIP | CCEH1 | CCEH2 | CCEP1 | Zero |
| 1 | In Due | 10.01% | 24% | 17% | 18% | 25% | 22% | 20% | 0% |
| 2 | Overdue | 150% of In Due rate | | | | | | | |
| 3 | Overlimit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Local Credit Card for Private Client**

| No | Delinquency | Client Classifier | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Staff | Normal | Saving | VIP | CCEH1 | CCEH2 | CCEP1 | Zero |
| 1 | In Due | 10.01% | 24% | 17% | 18% | 25% | 22% | 20% | 0% |
| 2 | Overdue | 150% of In Due rate | | | | | | | |
| 3 | Overlimit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**MC Debit Card for Enterprise Client**

| No | Delinquency | Interest rate |  | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Deposit | 0 |  | Not Apply | Not Apply |

**MC Debit and Prepaid Card for Private Client**

| No | Delinquency | Interest rate |  | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Deposit | 0 |  | Not Apply | Not Apply |

**JCB Debit and Prepaid Card for Private Client**

| No | Delinquency | Interest rate |  | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Deposit | 0 |  | Not Apply | Not Apply |

**Local Debit and Prepaid Card for Private Client**

| No | Delinquency | Interest rate |  | Client Classifier | |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | External | Internal |
| 1 | Deposit | 0 |  | Not Apply | Not Apply |

#### REQE0020.2.1 – Interest Change

ORIENT COMMERCIAL BANK requires the ability to change all interest rates at product level or particular customer.

WAY4 can provide support for this functionality using WAY4 Advance Tariffs module.

### Technical Details

WAY4 can be configured to support these requirements.

Bank can configure interest base on different account.

### Limitations

No apply back-dated payment.

## REQC0020.3 – Calendar

System should be able to have a configurable annual period length for the accounting schemes/interest calculation methodologies used (360/365). For the current methodology, the annual period length is always 365 days.

### Technical Details

WAY4 can be configured to support these requirements out-of-the-box.

## Limitations

N/A

## Impact Areas

N/A

# REQC0021 – Payment

## Business requirements

Way4 support for uploading file payment (Payment file A)

Auto payment for credit card

* Cardholder registers payment type (minimum or full payment)
* CMS will export offline file of cardholder debt to import to Core Banking System (Debt File B).
* Core Banking System will settle cardholder’s debt.
* Core Banking System will export offline file to import to CMS (Payment File C).

Format of payment file A, B and C should be applied WAY4 file format that refer to Volume 6. Interface

## Technical Details

Apply standard file format of WAY4.

Way4 supports end-user to key-in payment slip on form for transaction:

Payment from Client contract (debit)

Payment to Client contract (credit)

## Limitations

N/A

## Impact Areas

N/A

# REQC0022 - Fraud/Risk Management:

## Business requirements

ORIENT COMMERCIAL BANK requires support for fraud management and risk monitoring.

The Fraud Prevention module provides detection of various fraud types in the transaction authorization environment. The solution provides a comprehensive toolset including user-defined rules technology for efficient and timely detection and online blocking of suspicious transactions. The technology quickly adjusts to detect new types of fraud, dramatically reducing the risk of financial loss and increasing the efficiency of overall security and risk management system. The solution monitors transactions from both traditional and emerging delivery channels such as POS and ATM terminal devices, e-commerce, and m-commerce etc. Configurable actions are then assigned to detect and prevent fraud before it occurs, such as:

* Placing suspicious transactions
* Alerting operators and customers to suspicious transactions
* Declining suspicious transactions
* Blocking the card/BIN or merchant/terminal
* Adding card to the stop list

Risk weighting is assigned to each transaction, helping to make decisions about when and where to intervene to mirror internal risk management policies. When suspicious activity is detected, CMS sends alerts to issuers, acquirers, or cardholders by email or SMS text.

CMS monitors transactions during authorization, based on a set of configurable rules. Customers can flexibly set and modify these detection rules.

## Technical Details

WAY4 provides a wide range of Risk Management and Fraud detection capabilities which reduces the risk, including:

* Stop-lists,
* Risk Monitoring reports,

Apply WAY4 Risk Management



### Stop-Lists

WAY4 provides the capability to maintain an internal Stop-List and provide interface to IPS Stop-Lists. Interface to International Payment Scheme’s stop-list allow Banks to send request to VISA/MasterCard to set Card into international stop-lists. Cards are inserted into the stop list manually by the users.

### Online Risk Monitoring

WAY4 is capable of validating transaction at the moment of authorization and decline the authorization if it is suspicious. Every operation is verified as per predefined risk rules. If, according to the rules, a transaction is considered suspicious, the module calculates a risk factor of the transaction. Depending on it, the module can take various actions described in the Adjusting Authorisation Scenarios section below:

* Additional checks: Apart from standard checks performed during authorisation, the module carries out additional checks described in the Risk Management Rules section above.
* Various reactions to transgressions As a result of detection a suspicious transaction, WAY4 automatically:
  + Reject the operation
  + Charge fee
  + Change the card status
  + Pick up the card
  + Execute other preconfigured actions invoked by special triggers
* Notifications: WAY4 can notify the bank and/or ORIENT COMMERCIAL BANK staff on suspicious operations through SMS or e-mail. You can also configure message templates containing variables that will be auto-completed by WAY4 while generating messages. To this end, WAY4 provides a large number of variables, among them:
  + Card/merchant information
  + Terminal data
  + Transaction details
  + Operation conditions

Each risk rule is based on transaction parameters, such as:

* Transaction channel
* Transaction type
* Region, country
* MCC
* Amount tier
* Operation conditions, for instance PBT/SBT, Automatic/manual data entry, MSR/Chip/Fallback, e-Commerce

Apart from transaction parameters, risk rules can be based on the transaction activity history of a card or a terminal within a given time period, for example:

* Average amount of a single operation
* Average number/value of operations
* Total operation value

Risk rules can be applied to authorisations being processed or to transactions that have already been processed. This allows banks both to monitor suspicious operations in real-time and to analyse risks in offline mode.

The risk factor can be calculated not only for original transactions but also for reversals and chargebacks. This means banks can detect merchants with high volumes of disputed transactions and cards with high volumes of reversals.

The basic set of rules as defined by VISA and MasterCard is implemented in WAY4 by default (out-of-the-box). Additional rules may be configured in WAY4 as needed by ORIENT COMMERCIAL BANK ’s WAY4 Administrator.

Rules can be applied for a specific period of time (start/end date).

Note that this is very sensitive to the performance of WAY4 system. The risk rules which not properly optimized for performance may decrease performance.

WAY4 has an additional module (special pl/sql procedure + menu item) to simulate risk rule on TEST system for efficiency of the risk rules. Once configured, the new rules can be checked against existing authorizations to evaluate time consumption for the risk monitoring.WAY4 will provide the execution time for each rule tested/simulated.

The following table presents the standard MasterCard risk monitoring/management rules:

| **Limiter code** | **Rule** | **Configurable parameters** |
| --- | --- | --- |
| 101\_RM\_NUM | The total number of authorisations exceeds the limit set for a specific time period. | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 102\_RM\_AMOUNT | The total amount of authorisations exceeds the limit set for a specific time period. | MAX AMNT and AMNT CURR: maximum amount and its currency  PERIOD and PERIOD TYPE: limitation period |
| 103\_RM\_IND\_AMOUNT | Amounts of specific authorisations exceed the limit set for a specific time period. | MAX SNGL AMOUNT and AMNT CURR: maximum amount and its currency |
| 104\_RM\_NUM\_MCC | The total number of authorisations exceeds the limit set for a specific time period and a specific merchant category (-ies). | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period  SIC GROUP: group of suspicious MCC |
| 105\_RM\_AMOUNT\_MCC | The total authorisation amount exceeds the limit set for a specific time period and a specific merchant category (-ies). | MAX AMNT and AMNT CURR: maximum amount and its currency  PERIOD and PERIOD TYPE: limitation period  SIC GROUP: group of suspicious MCC |
| 106\_RM\_IND\_MCC | Amounts of specific authorisations exceed the limit set for a specific merchant category (-ies). | MAX SNGL AMOUNT and AMNT CURR: maximum amount and its currency  SIG GROUP: group of suspicious MCC |
| 107\_RM\_NUM\_COUNTRY | The total number of authorisations exceeds the limit set for a specific period and a specific country. | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period  AREA: group of suspicious countries |
| 108\_RM\_AMOUNT\_COUNTRY | The total amount of authorisations exceeds the limit set for a specific period and a specific country. | MAX AMNT и AMNT CURR: maximum amount and its currency  PERIOD и PERIOD TYPE: limitation period  AREA: group of suspicious countries |
| 109\_RM\_IND\_COUNTRY | Amounts of specific authorisations exceed the limit set for a specific country. | MAX SNGL AMOUNT и AMNT CURR: maximum amount and its currency  AREA: group of suspicious countries |
| 110\_PARTIAL\_TRACK | Total number of transactions with the POS 02 indicator for a specified period | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 111\_RM\_KEY\_ENTERED | The percentage of key entered authorisations in the total number of authorisations for a specified period exceeds the limit set for this period. | MAX #: maximum number of transactions during the first cycle  MAX PCNT: percentage of transactions (number of such transactions divided by the total number of transactions in the previous cycle)  PERIOD and PERIOD TYPE: limitation period |
| 112\_RM\_INVALID\_PIN | Total number of wrong PIN entries over a specified period | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 113\_RM\_SAME\_MERCHANT | The total number of authorisations exceeds the limit set for a specific merchant and a specific period. | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 114\_RM\_TWO\_COUNTRIES | A card is authorised in two or more countries during a specified period. | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 115\_RM\_AMOUNT\_FITTING | An authorisation for a large amount is performed and one or more authorisation attempts for a smaller amount follow. | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |
| 116\_UTILIZATION | The total authorisation amount exceeds the limit set for a specific period as a percentage of the amount available. | MAX PCNT: percentage of the balance specified in "Balance Type"  PERIOD and PERIOD TYPE: limitation period  BALANCE\_TYPE: balance |
| 117\_RM\_AV\_AMNT | The total authorisation amount exceeds average expenses for the same time period. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation |
| 118\_RM\_AV\_AMNT\_MCC | The total amount of authorisations in a specific merchant category exceeds average expenses for the same time period. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation  SIG GROUP: group of suspicious MCC |
| 119\_RM\_AV\_AMNT\_ COUNTRY | The total amount of authorisations in specific countries exceeds average expenses for the same time period. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation  AREA: group of suspicious countries |
| 120\_RM\_AV\_SINGLE\_AMNT | Separate authorisation amounts exceed the average transaction amount for previous cycles. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation |
| 121\_ RM\_AV\_SINGLE\_AMNT\_MCC | Separate authorisation amounts in a specific merchant category exceed the average transaction amount for previous cycles. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation  SIG GROUP: group of suspicious MCC |
| 122\_RM\_AV\_SINGLE\_AMNT\_COUNTRY | Separate authorisation amounts in specific countries exceed the average transaction amount for previous cycles. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation  AREA: group of suspicious countries |
| 123\_RM\_NUM\_AV | The total number of authorisations exceeds the average number of authorisations for the same time period. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation |
| 124\_RM\_NUM\_MCC\_AV | The total number of authorisations exceeds the average number of authorisations for the same time period in a specific MCC. | MAX PCNT: excess percentage  PERIOD and PERIOD TYPE: limitation period  CYCLES: number of cycles for calculation  SIC GROUP: group of suspicious MCC |
| 125\_RM\_INVALID\_EXPIRY\_DATE | Number of requests with an invalid card expiration date for a specified period | MAX #: maximum number of transactions  PERIOD and PERIOD TYPE: limitation period |

Rule Analysis can be performed as a batch process on the back up db in order to avoid consuming resources from the production system. Rules can be simulated before application to the production system on the test platform to verify performance.

### Risk Reports

WAY4 provides a set of standard reports for Risk Monitoring including:

* Daily Authorization Monitoring Parameters
* Total number of authorisations exceeds pre-defined limits in a given period
* Total number of authorisations exceeds pre-defined limits in a given period in a specific MCC
* Total number of authorisations exceeds pre-defined limits in a given time in the same merchant
* Total number of authorisations exceeds pre-defined limits in a given period in a specific country
* Total authorization value exceeds the limit pre-set for a certain period as a percentage of the available amount
* Total number of invalid PIN attempts in a pre-determined period
* Total number of POS 02 transactions received in a pre-determined time
* Total authorisation value exceeds pre-determined limit in a pre-determined time
* Total authorisation value exceeds pre-determined limit in a pre-determined time in specific MCC's
* Total authorisation value exceeds pre-determined limit in a pre-determined time in specific country
* Individual authorisations exceed pre-defined limit
* Individual authorisations exceed pre-defined limit in specific MCC
* Individual authorisations exceed pre-defined limit in specific Country
* The percentage of Key Entered authorisations as a percentage of all authorisations, within a defined period exceeds a pre-determined limit
* The percentage utilisation of available "to spend" in a pre-determined period
* Any card with authorisations in 2 or more countries in pre-determined time period
* Any card with high value authorisations proceeded by one or more declined authorisation attempts with x% of the original authorisation value

Additional reports can be defined and configured in WAY4 as needed at any time by ORIENT COMMERCIAL BANK staff.

### Alerting

WAY4 is capable of configuring notification for Risk Management rules violation via E-mail or SMS to system administrators. This functionality is provided as out-of-the-box configuration.

WAY4 can also send encrypted email to related institutions can be send to notify them of any fraud related activity.

### White List

WAY4 can have a ‘white list’ of cards on which risk management rules will not apply. Cards will be added to this list by ORIENT COMMERCIAL BANK by generating a file in standard WAY4 format (WAY4 XML Advanced Application) and uploading the cards into WAY4 or manually.

### Fraudulent Attack

WAY4 will be have a special monitoring screen configured which will show the percentage of success operations for the last hour (in green) and percentage of declined operations by response code (in red). This form will be provided during implementation using the WAY4 form designer (out-of-the-box functionality.

## Limitations

* WAY4 does not support intelligent fraud monitoring (neural network)
* WAY4 is integrated with public PGP encryption. Does not support PKI as out-of-the-box functionality.
* Case Management is not supported at the moment. An enhancement is required in WAY4 to support this.
* Integration with 3rd party risk-management tools is possible. Specific Software/Interface needs to be defined. In case of interface with a third party risk management system in real time mode. WAY4 will be able to manage timeouts by providing an answer to authorization on behalf of if the external risk monitoring system does not respond within the timeout period.

## Impact Areas

N/A

# REQC0023 - Dispute Management

## Business Requirements

ORIENT COMMERCIAL BANK requires ability to manage dispute cases. The following functionality is required:

* Bank can raise retrieval requests using CMS. These transactions will be sent to ICA in IPM Outgoing files.
* Bank will have facility to charge configurable fees to the card holder for any disputes.
* CMS will provide facility to raise chargeback against the disputed transactions. Bank will also have an option to cancel a previously raised chargeback or a previously raised retrieval request.
* CMS provides a screen view for review of the incoming second presentments and retrieval request response.
* If bank wants, chargeback to hold and post it to the cardholder after chargeback is won/lost. At the end of a dispute case, Bank can do chargeback Posting, using CMS.
* System will support to pass credit to the customer account in case the chargeback is aged off.(We give expired chargeback vouchers)
* Frontend will be available to enter pre-arbitration, compliance, pre-compliance and arbitration cases.
* CMS will support a single window view for viewing the chargeback history for a particular card or ARN, Using this screen One can see all the first presentments and dispute related history for a cardholder or based on ARN.
* Detailed and summary reports are available in chargeback module for all steps of dispute management cycle in Issuer and Acquirer mode scenarios.
* These reports can be taken day wise.
* CMS will provide support for raising partial chargebacks and responding to partial chargebacks
* Way4 will support, process chargeback followed to MasterCard rules.
* Follow MasterCard’s Request related to Dispute

## Technical Details

### Basic Dispute Management

WAY4 provides the capability to handle incoming disputed transactions and generate outgoing disputed transactions according to IPS rules. There is also a possibility to handle On-Us dispute cases in case of external Acquiring system. External Acquiring System will be treated as affiliated.

In addition, as part of Dispute Assistance module, WAY4 is capable of handling Dispute Cases and define rules for Dispute Case resolutions.

The following dispute transactions are supported:

* Presentments (original transaction)
* Retrieval request
* Fulfilment
* Chargeback (1st Chargeback, full or partial)
* Re-presentment (2nd Presentment, full or partial)
* Arbitration chargeback (2nd Chargeback, full or partial)
* Fee Collection
* Funds Disbursement

Service fee can be charged from cardholder account for dispute initiation, sends retrieval request, and sends chargeback.

Due date is assigned for retrieval request. If there is no fulfillment received from IPS/Acquirer/Merchant until due date, chargeback will be generated automatically.

Follow MasterCard’s requirements.

## Limitations

* Dispute Management for acquiring transactions is out of scope

## Impact Areas

* Card Operations

# REQC0024 – Instalments

## Business Requirements

ORIENT COMMERCIAL BANK requires the ability to create Instalments in WAY4. The following features are required:

* Ability to define instalment agreement
* Define time of reimbursement
* Convert Contract Balance into Instalment
* Ability to produce reports on instalment to the issuer and/or the cardholder
* Summary of reimbursement at the end or on demand
* Interest is not charged for the instalment transaction.
* The periods can be 3 months, 6 months, 9 months, 12 months or other periods defined by ORIENT COMMERCIAL BANK.
* Card Holder can register one or more instalment transaction(s)
* Bank has option to configure apply fee charge in case Card Holder request to terminate the instalment transaction(s) by due date.

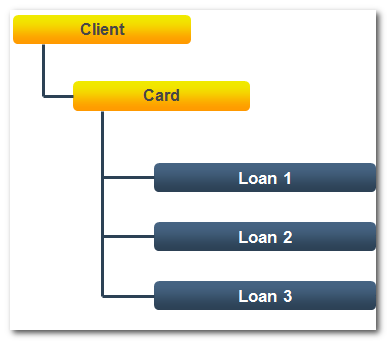
ORIENT COMMERCIAL BANK want to apply WAY4 standard instalment. For instalment flow is brief as below:

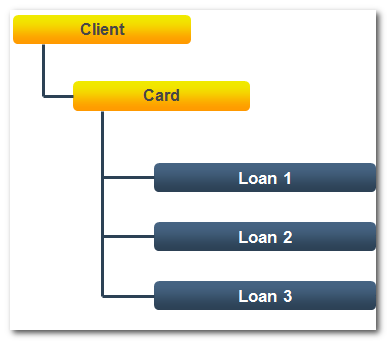
* Cardholder did the purchase transaction
* Cardholder can call/contact to bank to request his/her transaction to convert to instalment transaction
* Teller will convert the transaction to instalment scheme
* Instalment scheme will be applied the period as 3,6,9,12 month…
* WAY4 will create total instalment amount in Total Principal waiting account and principal waiting for each billing cycle. Number of principal waiting record is number of month of particular instalment scheme which cardholder want to apply
* Each billing cycle, system will change one principal waiting from WAITING status to OPEN.
* If Cardholder did not pay then status of principal waiting will be changed to OVERDUE
* If Cardholder pays partial amount the status of principal waiting will be changed to PARTIAL
* If Cardholder pays full amount the status of principal waiting will be changed to CLOSE

## Technical Details

WAY4 Instalments module has the ability to create and manage instalments for the cardholders.

A client can have multiple Instalments under a single card as shown in the example below:





**Figure 21: Instalment example**

### Instalment Schemes

WAY4 allows the definition of different kinds of Instalment schemes per Institution with the following properties:

* Instalment Scheme Name
* Minimum and Maximum Limit Amount
* Minimum, Maximum and Default Instalment period
* Minimum, Maximum and Default Instalment Free period
* Billing Mode, can be as per Contract Billing period
* Validity Date From and Date To
* Instalment Related Fees and interest

### Instalments

WAY4 allows defining an instalment agreement with the Cardholder to specify the following:

* Total Instalment amount
* Instalment period in terms of months
* Monthly Instalment repayment amount
* Currently outstanding amount
* Status

Each installment will have to fit one of the Instalment schemes defined above.

### Instalments Reports

WAY4 has the following standard Instalment related Reports:

* Instalment Posting Report
* Instalment Outstanding Report
* Summary Instalment Transaction Report
* Outstanding Instalment Transaction Report

### Convert Contract Balance into Instalment

To convert the Contract Balance (or part of Contract Balance) into an Instalment, the operator can post a manual Payment transaction on the Issuing contract and then convert this transaction into an Instalment transaction

## Limitations

N/A

## Impact Areas

N/A

# REQC0025 - 3-D Secure Issuing

## Business Requirement

ORIENT COMMERCIAL BANK requires 3-D Secure functionality to enable online e-purchases for their customers, which are becoming more and more widespread in the world.

This feature is implemented in Phase 2 of Project so we don’t describe the requirement here. Requirement will be written in Phase 2 Discovery Report.

## Technical Details

## Limitations

## Impact Areas

# REQC0026 – Loyalty

## Introduction

ORIENT COMMERCIAL BANK will be using the standard WAY4 Loyalty Module. Detailed requirements will be provided only during the first implementation of the Loyalty Module**.** WAY4 Loyalty is a module that enables users to design and manage diverse host-based loyalty programmes on both magnetic stripe and EMV smart cards. The functionality of the module covers all stages of a loyalty programme lifecycle.

## Business Requirement

ORIENT COMMERCIAL BANK is requesting a loyalty system which will handle the basic functions

## Technical Details

Apply standard WAY4 Loyalty function

## Limitations

* WAY4 does not offer any behaviour analysis features
* WAY4 cannot send a separate statement for loyalty point only
* Promotions per merchant, merchant location cannot be done since WAY4 will not be handling acquiring

## Impact Areas

* The impact can only be analysed once we have complete requirements for Loyalty Module implementation.