**Discovery Report**

ORIENT COMMERCIAL BANK

Volume 6 - Interfaces

WAY4 Implementation

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# Introduction

The volume contains all the interfacing requirements and specifications of **ORIENT COMMERCIAL BANK**.

## Discovery Review Acceptance

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

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

## Disclaimer

This report does not represent a commitment by **ORIENT COMMERCIAL BANK** 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 |
| NV(x) | Numeric with variable length : min length = 0 and max length = x |
| ANV(x) | Alpha-Numeric with variable length : min length = 0 and max length = x |
| 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 |
| DECIMAL 18\*\* | Each amount is formatted with a length of 18 characters. The first 17 positions represent the amount right justified and left completed with zeroes on the left. The 18th position represents the sign of amount (+ or -). The character “,” represents the decimal separator and the number of decimals is determined by the currency exponent.  -34.56 EUR corresponds to 00000000000034,56-  0 corresponds to 00000000000000,00+ |
| DEC | DECIMAL: Number with decimal value. |
| DATETIME | Oracle’s Date data |
| G | Group of fields (number of fields in group). Group of fields type is used to describe information wich contains sub-element.  e.g. B02 information contains 2 sub-elements : B02.1 N(4) and B02.2 AN(5). Type of B02 will be G(2) |
| M | Mandatory |
| O | Optional |
| C | Conditional |
| MR | Copy from request |
| CR | Copy if present in request |
| HEXA | Hexadecimal value: Number from 0 to 9 and character form A to F. always defined with an even length. |

### 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** – Non 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
* REQHS – Hardware/Software
* REQWS – 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.

## XML common requirements:

The XML file name should have the following characteristics:

* Each file generated should have a unique file name using timestamp: YYYYMMDDHHMMSS
* Issuer code must be in the file name
* Layout to use must be in the file name
* File name must include a file sequence number
* Information in the file name separated by « - »
* Ex.: 20090818123012-00010-XYZ99-03.xml

WAY4 will provide metadata (into content file) to enable layout management into the layout engine using Unicode (UTF-8) format. The following information will be included as an header part:

* Layout code
* Channel distribution code (email, print, etc.)
* Output format (in this case always pdf)
* Language to be printed (based on cardholder language. The default language in WAY4 will be used if the value is not defined at cardholder level from issuer)
* Reference ID (xml file unique id)
* Number of copies (based on type of document to be printed. Configurable)
* Requester identification (userid, organisation and place in organisation) except for Batch processing

# REQI0001 – Magnetic Stripe Card Embossing File

## Business Requirements

BANK has a file interface with embosser machine to emboss magnetic stripe cards

## Technical Details

The format of embossing file will be followed the description in section “OpenWay STANDARD INTERFACE FILE FORMAT” of document Tracks\_Of\_Plastic\_Cards.pdf



## Impact Areas

N/A

# REQI0002 – EMV Embossing file format

## Business Requirements

Orient Commercial Bank need export personalization file and then EMV personalization vendor will use it to personalize EMV MC Card

## Technical Details

The format of file will follow document PM\_XML\_File\_for\_External\_Perso.pdf



## Impact Areas

N/A

# REQI0003 – Napas Interface

## Business Requirements

ORIENT COMMERCIAL BANK requires a H2H ISO8583 interface and a reconciliation between the WAY4 system and Napas. WE will apply new specification of Napas

## Technical Details

New Technical Spec of Napas includes:

Techspec NAPAS-Part I-Transaction Processing-v1.0.pdf

Techspec NAPAS-Part II-Message Format-v1.0\_Final.pdf

Techspec NAPAS-Part III-File Format-v1.0.pdf

Techspec NAPAS-Part IV-Security & Communication-v1.0.pdf

Techspec NAPAS-Part V-Annex-v1.0.pdf

Techspec NAPAS-Part VI-Annex-International Transaction Processing\_v1.0\_Final.pdf

And Billing/Topup service will use existing technical specification

Napas VAS1 Technical Specification 2.1 - vi\_publish.pdf

## Impact Areas

Need to develop new customized interface

# REQI0004 – Core Banking Interface

## Business Requirements

Core Banking System is managing all of accounts and balance of Debit Cards. Orient Commercial Bank will need an H2H Online interace between WAY4 system and Core Banking System

## Technical Details

Refer to below technical specification: T24 - OCB Card Specification 1.2.5 REV 1.pdf



## Impact Areas

Need to develop the new customized interface.

# REQI0005 – External H2H Interface

## Business Requirements

N/A

## Technical Details

N/A

## Impact Areas

N/A

# REQI0006 – POS Interface

## Business Requirements

Orient Commercial Bank existing POS devices are using ISO 8583 Protocol Technical Details

## Technical Details

Refer to POS message formats Specifications Document for current PIN change



Refer to POS message formats Specifications Document for new transactions including new PIN change.



## Impact Areas

Need to build new interface in POS controller.

# REQI0007 – SMS Notification Interface

## Business Requirements

Orient Commercial Bank need send SMS OTP to customer. Therefore, Webservice interface between WAY4 and Orient Commercial Bank SMS Gateway is necessary.

## Technical Details

The application level format will be OW XML-based “CCom” protocol. The description of this protocol is in the attached document CCOM Specification



For given project following specifics of the CCom protocol is applicable:

* The "Text" field will have "tag=value;" format and constist of following tags:

OTP=<OTP value>;

For instance:

<Text> OTP=24342;</Text>

* The unique client number will be sent in <To> data element.
* Financial institution
* delivery method (SMS\_ONLY or BOTH\_SMS\_EMAIL) will be defined as value of Subject element.
* Following response codes are applicable:

0 – success

100 - failure

If needed following variables can be also propagated as part of <Text> data element.

| **Variable** | **Description** |
| --- | --- |
| %1 | One-time password |
| %date% | Transaction date |
| %merchantname% | Merchant name |
| %description% | Transaction description |
| %pam% | Personal assurance message |
| %pan% | Full card number |
| %pan4% | Last 4 digits of card number |
| %amount% | Transaction amount + currency, i.e. 100$ |
| %amnt% | Transaction amount |
| %curr% | Transaction currency |
| %language% | User language, i.e. “ru” |
| %code% | Authentication method request (Challenge) code (if used) |
| %loginTries% | Number of login tries left |
| %maxLoginTries% | Maximum number of login attempts |

## Impact Areas

N/A

# REQI0008 – MasterCard Interface

## Business Requirements

Support MC Transactions and 3D-Secure

## Technical Details

Following MC Standard Specifications

## Impact Areas

N/A

# REQI0009 – JCB Interface

## Business Requirements

Support JCB transactions and J-Secure

## Technical Details

Following JCB Standard Specifications

## Impact Areas

N/A

# REQI0010 – GL File Interface between Way4 and Core Banking

## Business Requirements

GL interface between Way4 and CBS need to be supported in following cases:

* In some transactions have one of source account or target account is not belong to Way4 system, Way4 has to make accounting entry to suspended account. At the EOD procedure, Way4 will export data to GL file and import to CBS later.
* When merchant do settlement or after a period the money of merchant in Way4 has been transferred from Merchant Received Account to Merchant Current Account. At the EOD procedure, Way4 will export this data to GL file and import to CBS.

## Technical Details

Refer to WAY4 standard function



## Impact Areas

N/A

# REQI0011 – Offline file Interface

## Business Requirements

* Merchant payment: merchant payment file exported from CMS and imported to CBS for POS acquiring transactions.
* Payment: files exported from CBS and imported to CMS to credit for credit and prepaid account.
* STIP balance: export from CBS and imported to CMS
* Balance of Credit Card for auto payment:

## Technical Details

Following WAY4 Standard Specifications

***Merchant Payment specification***



***Payment Import specification***

 

***STIP balance (2 options)***

Update stip balance by offline file



Update stip balance by calling API cbg\_trn.contract\_balance. STIP balance will be update at main contract level: issuing contract.

***Balance of Credit Card for auto payment:***

CREDIT\_PAYMENT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ISSUE\_BRANCH |  | VARCHAR2 (3 Byte) |  | Mã chi nhánh phát hành, way4 insert |
| RBS\_ACCOUNT |  | VARCHAR2 (20 Byte) |  | Số tài khoản thanh toán trên corebanking, way4 insert |
| CARD\_NO |  | VARCHAR2 (26 Byte) |  | Số thẻ, way4 insert |
| DUE\_AMOUNT |  | NUMBER(24,4) |  | Số tiền phải thu (dư nợ đến hạn), way4 insert |
| FULL\_DUE\_AMOUNT |  | NUMBER(24,4) |  | Tổng dư nợ hiện thời của thẻ |
| PAID\_AMOUNT |  | NUMBER(24,4) |  | Số tiền đã trả (gateway tự quản lý) |
| CURRENCY |  | VARCHAR2 (3 Byte) | 'VND' | Loại tiền, way4 insert |
| DUE\_DATE |  | DATE |  | Ngày đến hạn thanh toán, way4 insert |
| OVER\_DUE |  | NUMBER(2) |  | 0: Normal, 1: Overdue, 2: Overdue30, 3: Overdue60, cấu hình trên gateway để map với GL, way4 insert |
| LAST\_PAID\_DATE |  | DATE |  | Ngày trả cuối cùng (gateway tự quản lý) |
| PAYMENT\_ORDER |  | NUMBER (2) | 1 | Thứ tự thanh toán, way4 insert |
| CARD\_CAT |  | CHAR(1 BYTE) | V' | V: Visa; M: Master; J: JCB; A: Amex, way4 insert |
| PAYMENT\_FLAG |  | CHAR(1 BYTE) | A' |  |
| RECORD\_ID | PK | NUMBER (32) |  | Seq |
| EXPORT\_DATE |  | DATE | sysdate | default |
| REPL\_PROCESS\_DATE |  | DATE |  | gateway update |
| REPL\_STATUS |  | VARCHAR2 (1 Byte) | 'I' | default |
| REPL\_ERRMSG |  | VARCHAR2 (255 Byte) |  | Thông báo lỗi từ gateway |
| CARD\_TYPE |  | VARCHAR2 (1 Byte) |  | M/S cho thẻ Main và Sub (Way4 insert) |
| ISS\_ID |  | NUMBER (24) |  | ID của VISA contract (Way4 insert) |

CREDIT\_PAYMENT\_RESPONSE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ISSUE\_BRANCH |  | VARCHAR2 (3 Byte) |  | gateway insert |
| CARD\_NO |  | VARCHAR2 (26 Byte) |  | gateway insert |
| PAID\_AMOUNT |  | NUMBER(24,4) |  | gateway insert |
| CURRENCY |  | VARCHAR2 (3 Byte) |  | gateway insert |
| PAID\_DATE |  | DATE |  | gateway insert |
| PAYMENT\_METHOD |  | CHAR(1 BYTE) | A' | A: thu từ tài khoản, C: thu qua nộp tiền mặt, F: thu qua chuyển khoản, H: thu từ Internet banking, gateway insert |
| COREBANKING\_REF |  | VARCHAR2 (16 Byte) |  | Bút toán trích nợ tài khoản khách hàng để thanh toán, gateway insert |
| REF\_RECORD\_ID |  | NUMBER (32) |  | Record id của bản ghi cần thanh toán, gateway insert |
| CARD\_CAT |  | CHAR(1 BYTE) | V' | V: Visa; M: Master; J: JCB; A: Amex, way4 insert |
| RECORD\_ID | PK | NUMBER (32) |  | Seq |
| EXPORT\_DATE |  | DATE | sysdate | default |
| REPL\_PROCESS\_DATE |  | DATE |  | Way4 cập nhật khi xử lý |
| REPL\_STATUS |  | VARCHAR2 (1 Byte) | I' | Way4 chuyển sang 'S' |
| REPL\_ERRMSG |  | VARCHAR2 (255 Byte) |  | Way4 cập nhật nếu có lỗi khi xử lý |

## Impact Areas

Need to develop the new java pipe to export and import autopay file.