



# **INTERGRATION SPECIFICATION**

## **DOMESTIC PAYMENT GATEWAY**

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*Version 2.1*



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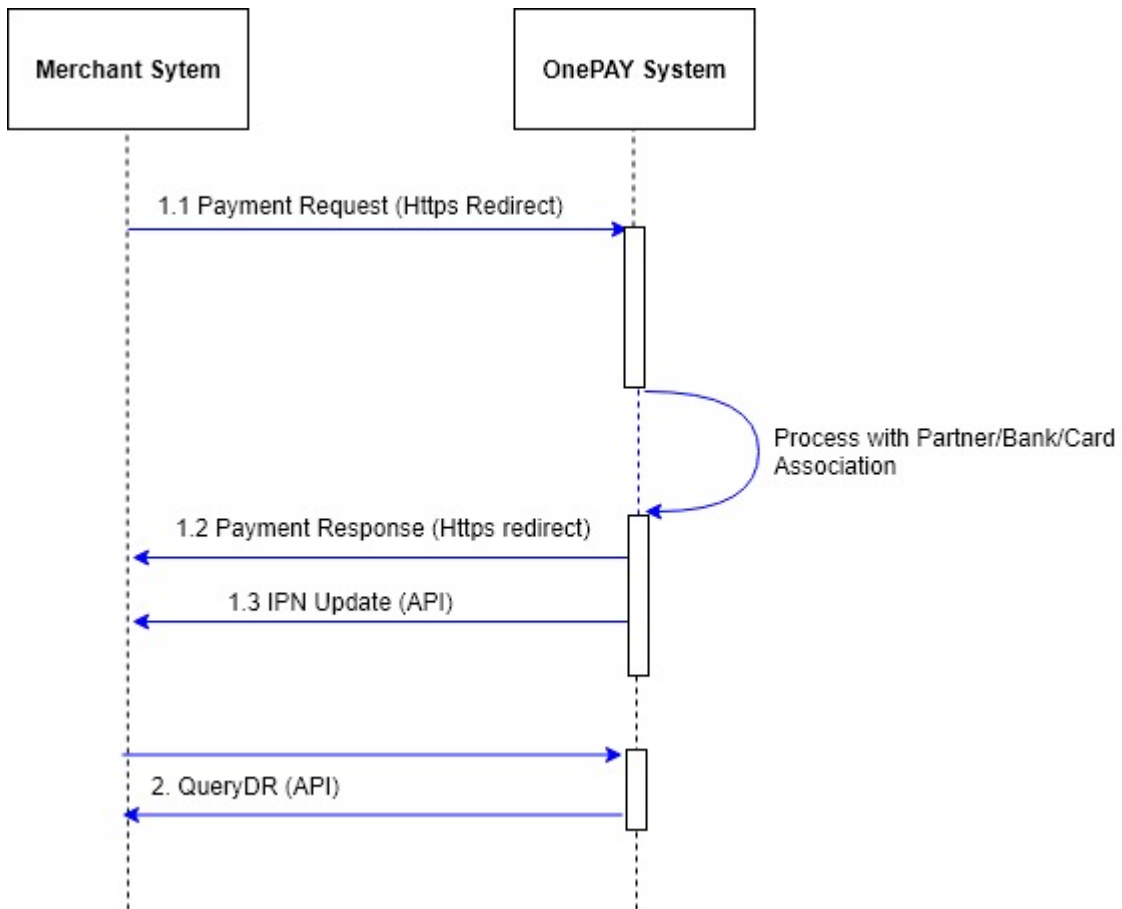
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## I. OVERVIEW

- This document is used for ATM card/Account which is issued by Viet Nam local banks
- This document describes how to integrate merchant's website with OnePAY payment gateway.
- These information, Merchant ID, Hash code, Access code, URL are used for testing purpose only.

## II. TECHNICAL DESCRIPTION

### 1. Transaction flow



- **Step 1: (1.1) Payment request:** Merchant sends payment request to OnePAY using https Redirect GET protocol to process transaction.
- **Step 2: (1.2) Payment response:** OnePAY will process and response the transaction result back to Merchant site using https Redirect GET. Merchant also receives the transaction result by back-end as the same with URL front-end return (https redirect). Merchant should implement IPN update (**flow 1.3**)

**Note:**

- **(2)** Moreover, OnePAY also provide QueryDR function, which allow Merchant calls OnePAY to get the current transaction status

## 2. Payment Request

- Payment URL structure: [https://mf.onepay.vn/onecomm-pay/vpc.op?\[key=value\]&\[Key=value\]&...](https://mf.onepay.vn/onecomm-pay/vpc.op?[key=value]&[Key=value]&...) (Keys and Values are described in the table below, not required in order.
- Keys and Values are used in Payment URL:

| Key   | Value                |           |        |  |
|---|----------------------|-----------|--------|--|
|   | Required or Optional | Data type | Length | Description  |
| <b>Static parameters: OnePAY Account, payment gateway parameter</b> |                      |           |        |  |
| vpc_Version   | M                    | Number    | 2      | Version module of payment gateway, default is "2"  |
| vpc_Currency  | M                    | String    | 3      | Payment Currency, default is VND   |
| vpc_Command   | M                    | String    | 16     | Payment Function, value is "pay"   |
| vpc_AccessCode  | M                    | String    | 8      | Unique value for each merchant provided by OnePAY  |
| vpc_Merchant  |                      | String    | 12     |  |
| vpc_Locale  | M                    | String    | 2      | Language is used on the payment site Vietnamese: vn, English: en   |
| vpc_ReturnURL   | M                    | String    | 128    | Merchant's URL Website for redirect response   |
| <b>Website parameters have active value: Price, Order ID, ...</b>   |                      |           |        |  |
| vpc_MerchTxnRef   | M                    | String    | 40     | A unique value is created by merchant then send to OnePAY.   |
| vpc_OrderInfo   | M                    | String    | 34     | Order information, it could be an order number or brief description of order   |
| vpc_Amount  | M                    | String    | 12     | The amount of the transaction, this value does not have decimal comma. Add "00" before redirect to payment gateway. If transaction amount is VND 25,000 then the amount is 2500000 |
| vpc_TicketNo  | M                    | String    | 15     | IP address of customer – Do not set a fixed IP   |
| AgainLink   | M                    | String    | 64     | The link of website before redirecting to OnePAY.  |
| Title   | M                    | String    | 64     | Title of payment gateway is shown on the cardholder's browser  |
| <b>Parameter encryption string, encrypted from above parameters</b> |                      |           |        |  |
| vpc_SecureHash  | M                    | String    | 64     | Hash encryption is for merchant to authenticate and ensure data integrity.   |
| <b>Customer info - Optional</b>                                     |                      |           |        |  |
| vpc_Customer_Phone  | O                    | String    | 16     | Customer's phone   |
| vpc_Customer_Email  | O                    | String    | 24     | Customer's email   |
| vpc_Customer_Id   | O                    | String    | 64     | Customer's Id  |

**Note:**

- M: Mandatory
- O: Optional
- Value of parameters using Vietnamese fonts and special characters are not accepted.

### 3. Payment Response

- Payment Response URL structure:  
[vpc\_ReturnURL]?[key=value]&[Key=value]&... (Keys and values are described in the table below, not required in order.)
- Keys and Values are used in Payment Response URL:

| Key                 | Value     |        |   |
|---------------------|-----------|--------|---|
|                     | Data type | Length | Description   |
| vpc_Command         | String    | 3      | The value of the vpc_Command from DO that is returned in the DR   |
| vpc_Locale          | String    | 2-5    | Language is used on the payment site Vietnamese: vn, English: en  |
| vpc_CurrencyCode    | String    | 3      | Payment currency, default is VND  |
| vpc_MerchTxnRef     | String    | 1-40   | The value of the vpc_MerchTxnRef from DO that is returned in the DR   |
| vpc_Merchant        | String    | 1-12   | The value of the vpc_Merchant from DO that is returned in the DR  |
| vpc_OrderInfo       | String    | 1-34   | The value of the vpc_OrderInfo from DO that is returned in the DR   |
| vpc_Amount          | String    | 3-12   | The value of the vpc_Amount from DO that is returned in the DR  |
| vpc_TxnResponseCode | String    | 3      | A response code that is generated by the Payment Server to indicate the status of the transaction. Value is "0" indicates that the transaction was processed successfully. Any other value indicates that the transaction was delined. For a list of values, see Response code table. |
| vpc_TransactionNo   | String    | 1-12   | A unique number generated by payment gateway for each transaction. It is saved on payment gateway as mapping to allow users doing function as refund or capture. This information is used in Merchant portal as a reference to perform refund or capture transaction                  |
| vcp_Message         | String    | 1-200  | Indicate transaction error maybe available when making payment  |
| vpc_AdditionData    | String    | 6      | 6 identification number of Acquirer Bank (similar to the first 6 number of the card) BIN - Bank Identification Number, First 6 digits of card number.   |

|                |        |    |   |
|----------------|--------|----|---|
| vpc_SecureHash | String | 64 | This value allows merchant to check whether Payment Response is valid or not. |
|----------------|--------|----|---|

A transaction is successful if 2 conditions are correct

- vpc\_TxnResponseCode Response = 0 and
- Secure hash is valid (hash validate)

**In case of vpc\_TxnResponseCode <> 0:** refers to response code table to show message detail to customer.

#### 4. QueryDR API

- Using this function to call OnePAY after 15 minutes since Merchant sent payment request
- Using redirect, type GET
- URL Query of test system: <https://mf.onepay.vn/onecomm-pay/Vpcdps.op>

##### 4.1. Request

| Key             | Value                |           |        |  |
|-----------------|----------------------|-----------|--------|--|
|                 | Required or Optional | Data type | Length | Description  |
| vpc_Command     | M                    | String    | 16     | Default is "queryDR"   |
| vpc_Version     | M                    | String    | 2      | Default is 1   |
| vpc_MerchTxnRef | M                    | String    | 40     | Value of vpc_MerchTxnRef send to OnePAY                      |
| vpc_Merchant    | M                    | String    | 12     | Unique value for each merchant, which are provided by OnePAY |
| vpc_AccessCode  | M                    | String    | 8      |  |
| vpc_User        | M                    | String    | 32     | User OnePAY issued with account                              |
| vpc_Password    | M                    | String    | 50     | Password OnePAY issued with account                          |
| vpc_SecureHash  | M                    | String    | 64     | Secure Hash value  |

##### 4.2. Response

| Key          | Value     |        |   |
|--------------|-----------|--------|---|
|              | Data type | Length | Description   |
| vpc_DRExists | String    | 1      | Confirm whether transaction is existed or not<br>✓ N: Not exist transaction<br>✓ Y: Exist payment transaction |

|                     |        |   |   |
|---------------------|--------|---|---|
| vpc_TxnResponseCode | String | 3 | Response code, confirm whether transaction is successful or not<br>✓ 0: Successful transaction<br>✓ <> 0: Unsuccessful transaction<br>✓ 300: Pending transaction<br>✓ 100: Transaction is in progress or unpaid |
|---------------------|--------|---|---|

## 5. IPN Update API (Instant Payment Notification)

- Merchant creates a WebService which has function as transfered URL in vpc\_ReturnURL. This WebService is called by OnePAY gateway to update transaction status
- Protocol: GET through URL

### 5.1. Parameter when OnePAY calls IPN Update:

- Similar to Payment Response parameter, type Key=Value&Key=Value&...

### 5.2. Parameter responses to OnePAY when calls IPN Update:

- Response responsecode=1&desc=confirm-success string
  - o Responsecode = 1: received
  - o Responsecode = 0: received and invalid hash

## III. TEST ENVIRONMENT INFORMATION AND REFERENCE

### 1. How to check SecureHash (vpc\_SecureHash)

- Format: Hexa value UPPERCASE, 64 digits
- Use encryption parameter HMAC-SHA256 (parameter string, key)

#### Rules of creating SecureHash:

- Beginning with“?” mark after Payment URL or Return URL
- Parameter have prefix “vpc\_”
- Parameter is sorted in **alphabetical order**.
- Key used for Hash is hexa string which provided by OnePAY for each Merchant ID (Hash code or SECURE\_SECRET)

#### How to check response from OnePAY:

- Create Hash string as above rules then compare with vpc\_SecureHash in response.

### 2. Test enviroment information

- Merchant ID (vpc\_Merchant): ONEPAY
- Access code (vpc\_AccessCode): D67342C2

- Hash Key: A3EFDFABA8653DF2342E8DAC29B51AF0

- Card information

| Card Type | Card Holder Name  | Card Number      | Date (MM/YY) | OTP    |
|-----------|-------------------|------------------|--------------|--------|
| ABB       | NGUYEN HONG NHUNG | 9704250000000001 | 12/08        | 123456 |

### 3. Response Code table (vpc\_TxnResponseCode)

| RC | Response code description – English/Vietnamese   |  |
|----|--|--|
| 0  | The transaction is successful.   | Giao dịch thành công   |
| 1  | The transaction is unsuccessful.<br>This transaction has been declined by issuer bank.<br>Please contact your bank for further clarification.          | Giao dịch không thành công. Ngân hàng phát hành thẻ từ chối cấp phép cho giao dịch. Vui lòng liên hệ ngân hàng theo số điện thoại sau mặt thẻ để biết chính xác nguyên nhân Ngân hàng từ chối. |
| 3  | The transaction is unsuccessful.<br>A technical error has occurred during the transaction.<br>Please contact OnePAY for details (Hotline 1900 633 927) | Giao dịch không thành công, có lỗi trong quá trình cài đặt cổng thanh toán. Vui lòng liên hệ với OnePAY để được hỗ trợ (Hotline 1900 633 927)  |
| 4  | The transaction is unsuccessful.<br>A technical error has occurred during the transaction.<br>Please contact OnePAY for details (Hotline 1900 633 927) | Giao dịch không thành công, có lỗi trong quá trình cài đặt cổng thanh toán. Vui lòng liên hệ với OnePAY để được hỗ trợ (Hotline 1900 633 927)  |
| 5  | The transaction is unsuccessful.<br>Transaction amount invalid.<br>Please contact OnePAY for details (Hotline 1900 633 927)                            | Giao dịch không thành công, số tiền không hợp lệ. Vui lòng liên hệ với OnePAY để được hỗ trợ (Hotline 1900 633 927)  |
| 6  | The transaction is unsuccessful.<br>Invalid Currency Code.<br>Please contact OnePAY for details (Hotline 1900 633 927)                                 | Giao dịch không thành công, loại tiền tệ không hợp lệ. Vui lòng liên hệ với OnePAY để được hỗ trợ (Hotline 1900 633 927)   |
| 7  | The transaction is unsuccessful.<br>The transaction has been declined by issuer bank.<br>Please contact your bank for further clarification.           | Giao dịch không thành công. Ngân hàng phát hành thẻ từ chối cấp phép cho giao dịch. Vui lòng liên hệ ngân hàng theo số điện thoại sau mặt thẻ để biết chính xác nguyên nhân Ngân hàng từ chối. |
| 8  | The transaction is unsuccessful.<br>You have entered incorrect card number.<br>Please try again.   | Giao dịch không thành công. Số thẻ không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại   |
| 9  | The transaction is unsuccessful.<br>You have entered incorrect card holder name.<br>Please try again.  | Giao dịch không thành công. Tên chủ thẻ không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại  |
| 10 | The transaction is unsuccessful.<br>The card is expired/locked.<br>Please try again.   | Giao dịch không thành công. Thẻ hết hạn/Thẻ bị khóa. Vui lòng kiểm tra và thực hiện thanh toán lại   |
| 11 | The transaction is unsuccessful.<br>You have been not registered online payment services.<br>Please contact your bank for details.                     | Giao dịch không thành công. Thẻ chưa đăng ký sử dụng dịch vụ thanh toán trên Internet. Vui lòng liên hệ ngân hàng theo số điện thoại sau mặt thẻ để được hỗ trợ.                               |



|     |  |  |
|-----|--|--|
| 12  | The transaction is unsuccessful.<br>You have entered incorrect Issue date or Expire date.<br>Please try again.   | Giao dịch không thành công. Ngày phát hành/Hết hạn không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại             |
| 13  | The transaction is unsuccessful.<br>The transaction amount exceeds the maximum transaction/amount limit. Please try another card.                      | Giao dịch không thành công. thẻ/ tài khoản đã vượt quá hạn mức thanh toán. Vui lòng kiểm tra và thực hiện thanh toán lại |
| 21  | The transaction is unsuccessful.<br>This transaction cannot be processed due to insufficient funds in your account.<br>Please try another card.        | Giao dịch không thành công. Số tiền không đủ để thanh toán. Vui lòng kiểm tra và thực hiện thanh toán lại                |
| 22  | The transaction is unsuccessful.<br>This transaction cannot be processed due to invalid account.<br>Please try again.                                  | Giao dịch không thành công. Thông tin tài khoản không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại                |
| 23  | The transaction is unsuccessful.<br>This transaction cannot be processed due to account locked.<br>Please contact your bank for further clarification. | Giao dịch không thành công. Tài khoản bị khóa. Vui lòng liên hệ ngân hàng theo số điện thoại sau mặt thẻ để được hỗ trợ  |
| 24  | The transaction is unsuccessful.<br>You have entered incorrect card number.<br>Please try again  | Giao dịch không thành công. Thông tin thẻ không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại                      |
| 25  | The transaction is unsuccessful.<br>You have entered incorrect OTP. Please try again.  | Giao dịch không thành công. OTP không đúng. Vui lòng kiểm tra và thực hiện thanh toán lại                                |
| 253 | The transaction is unsuccessful.<br>Transaction timed out.<br>Please try again.  | Giao dịch không thành công. Quá thời gian thanh toán. Vui lòng thực hiện thanh toán lại                                  |
| 99  | The transaction is unsuccessful.<br>The transaction has been cancelled by card holder.<br>Please try again.  | Giao dịch không thành công. Người sử dụng hủy giao dịch  |

#### 4. Abbreviations of the Document

| # | Abbreviations | Description   |
|---|---------------|---|
| 1 | OnePAY        | OnePAY payment gateway  |
| 2 | Bank          | Card/Bank Account management system and transaction processing  |
| 3 | Merchant      | Merchant and website accept online payment  |
| 4 | URL           | Uniform Resource Locator, link to website   |
| 5 | OTP           | One-time password generated by issuer bank system then sent to customer mobile by SMS to confirm the transaction. |
| 6 | SSL           | Protocol to encrypt and secure information transmitted through the Internet                                       |

|   |     |   |
|---|-----|---|
| 7 | IPN | Instant Payment Notification: Instant notice for Merchant that the transaction is made through OnePAY |
|---|-----|---|