



DISBURSEMENT VIR ACCOUNT INTERGRATION MANUAL

(Version: 1.10)

Hà nội: 10/2017

1 Updates History

Version	Updated	By	Updated content
1.0	30-10-2017	Truong Duc Thuan	Created
1.1	24-01-2018	Truong Duc Thuan	Update error code 129 and add return message of disburse function
1.2	06-10-2018	Tang Hoang Anh	Update data request AccountName of disburse function
1.3	19-10-2018	Tang Hoang Anh	Update data request ContractNumber of disburse function
1.4	16-01-2019	Tang Hoang Anh	Update function 9004 and new ResponseCode
1.5	14-02-2019	Tang Hoang Anh	Update ResponseCode when all data request Null
1.6	08-03-2019	Tang Hoang Anh	Update function check balance account
1.7	20-03-2019	Bui Van Luan	- Add SubResponseCode for Transfer response and Look up response
1.8	21-03-2019	Bui Van Luan	- Change document format
1.9	30-03-2019	Bui Van Luan	Restriction special character of memo field
1.10	08-04-2019	Tang Hoang Anh	Update length accept AccNo

2 Contents

1	Updates History	2
2	Contents	2
3	Definition & Abbreviation	4
4	Purpose	4
5	Regulations and requirements	4
6	Introduction to Resful and digital signature	5
6.1	Restful Web Service	5
6.2	Digital signature	5
6.2.1	Architechture	5
6.2.2	Generating private key and public key:	6
7	System overview	7
7.1	Process flowchart	7
7.2	API information	7
8	API list functions	8
8.1	Customer info authentication function	8
8.1.1	Sending message	8
8.1.2	Return message	10
8.2	Transfer money function	11
8.2.1	Sending message	11
8.2.2	Return message	14
8.3	Look up for transferinfo function	17
8.3.1	Sending message	17
8.3.2	Return message	18
8.4	Check balance Account function	19
8.4.1	Sending message	19
8.4.2	Return message	20
9	Processing incase transaction Timeout	21
10	List of responsecodes	23
11	List of banks accepting disbursement via account	26



3 Definition & Abbreviation

Definition	Description
EPAY	VNPT Electronic Payment JSC
PARTNER	Who sends detailed request to EPAY
BANK	Destination bank

4 Purpose

This is a detailed description of the API for PARTNER to connect to EPAY. This document describes transmission info in customer authentication, money transfer, and transactional verification.

5 Regulations and requirements

Architecture: The transfer API that EPAY deploys will be built on the RESTFUL architecture and the data transfer between two sides should be JSON

Digital signatures: In order to ensure the security and authentication of data transmission between the parties, all data will be encrypted and digitally signed .

IP: EPAY will restrict access to the API by one or more Ips based on each PARTNER. PARTNER therefore should send EPAY with list of IP to request access.

SSL/HTTPS: EPAY uses an SSL / HTTPS. SSL will create a secure connection between PARTNER and EPAY where all transmitted data shall be encrypted.

6 Introduction to Resful and digital signature

6.1 Restful Web Service

REST (Representational State Transfer) has been widely used based on SOAP and WSDL instead of Web services. REST figures out architectural rules for designing Web services, which focus on system resources including how resource statuses are formatted and transmitted via HTTP through a large number of users and is written in different languages.

To connect REST with the tool and test with EPAY, PARTNER can download and use one of the two popular tools as below:

- POSTMAN: <https://www.getpostman.com/>
- SOAP UI: <https://www.soapui.org/>

6.2 Digital signature

6.2.1 Architechture

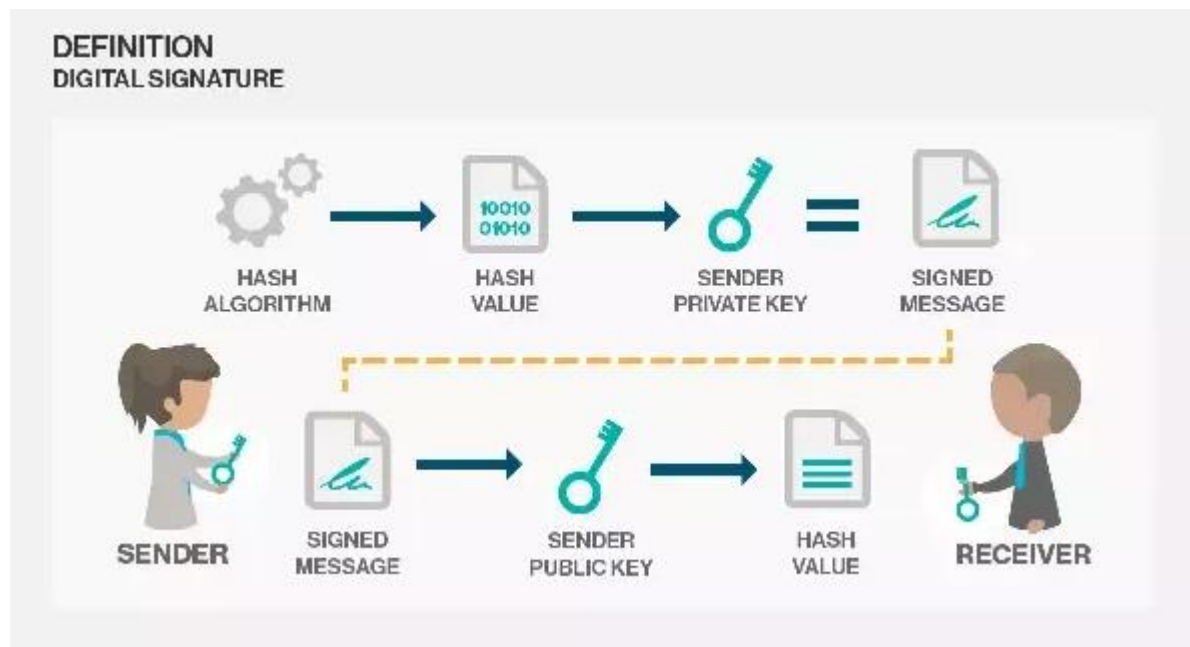


Image 1: Digital signature flow chart



6.2.2 **Generating private key and public key:**

Currently EPAY is using the RSA (algorithm), which is used not only for digital signature but also for encryption and decryption.

Here below are ways to generate an RSA key pair. Currently EPAY is using OpenSSL for Windows in this API:

Step 1: Download software at: <http://slproweb.com/products/Win32OpenSSL.html>.

PARTNER should download “OpenSSL_Light-1_0_2k” installer and install it in any directory such as “C:\OpenSSLWin64”

Step 2: Access “C:\OpenSSLWin64\bin” and open command prompt. Type the command below to declare environment config

- *set OPENSSL_CONF=C:\OpenSSL-Win64\bin\openssl.cfg*

Step 3: Generate private key and public key

- Private key:
 - *openssl genrsa -aes256 -out c:\opensslkeys\partner\partner_privatekey.pem 2048*
- Private key (certificate)
 - *openssl rsa -in c:\opensslkeys\partner\partner_privatekey.pem -pubout > c:\opensslkeys\partner\partner_publickey.pem*

After successfully generating the key pair, PARTNER shall send EPAY the public key for the authentication of signature sent by PARTNER via API.

7 System overview

7.1 Process flowchart

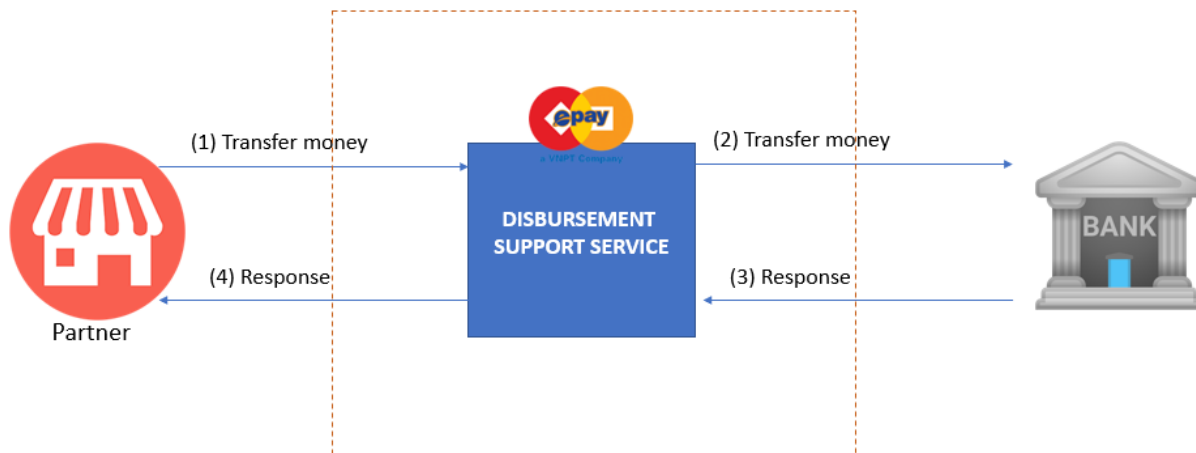


Image 2: Overall process flowchart

7.2 API information

PARTNER calls only one API link for all functions: lookup, confirmation of disbursement and transaction statuslookup.

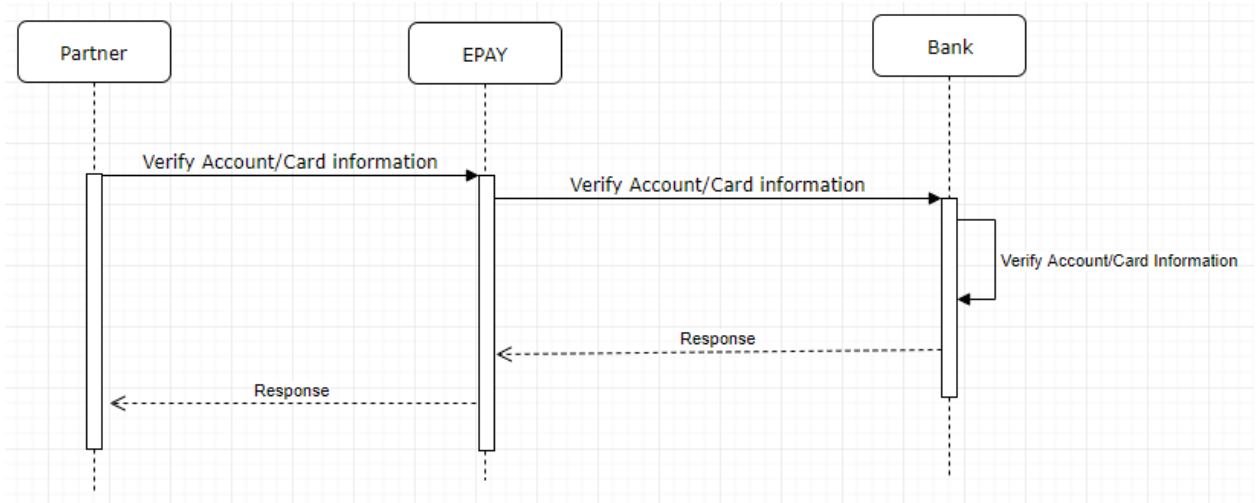
Environment	Method	Url
Test	POST	https://domain/Sandbox/PartnerMoneyTransfer
Production	POST	https://domain/Golive/PartnerMoneyTransfer

8 API list functions

8.1 Customer info authentication function

8.1.1 Sending message

No.	Parameter	Data type	Requirement	Description
1	RequestId	String (50)	Required	The only code that corresponds to a sent request. Proposed format: PartnerCode+EP+YYYYMMDD+Uniqueld
2	RequestTime	String (18)	Required	Time of request sent from PARTNER, formatted as: YYYY-MM-DD HH:MM:SS
3	PartnerCode	String (20)	Required	Partner Code as defined in EPAY's system. This code shall be sent to PARTNER in integration phase.
4	Operation	Int (4)	Required	This parameter shall determine which function is called. For the function of disbursement confirmation, it is fixed as "9001"
5	BankNo	String (20)	Required	Bank no. as defined by EPAY in section 8. List of banks accepting the transfer
6	AccNo	String (22)	Required	Customer's account no. or card number
7	AccType	Int (1)	Required	Account No. type: 0: Account number 1: Card number
8	Signature	String (200)	Required	PARTNER shall digitally sign the sent data by the algorithm of RSACryptoServiceProvider and encrypt base64 before sending. Data should be signed in the form as: RequestId RequestTime PartnerCode Operation BankNo AccNo AccType



Process flow:

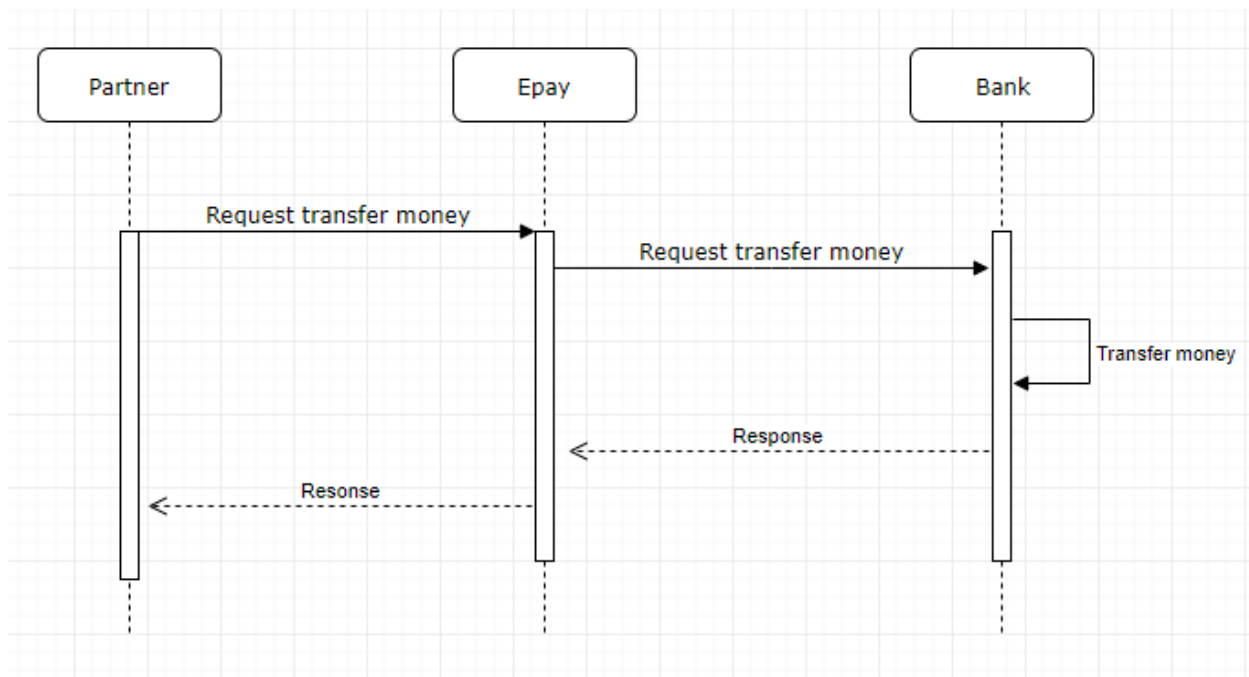
1. PARTNER calls the function of customer authentication. EPAY shall check the data format and confirm the signature.
2. EPAY checks customer info and the corresponding bank.
3. If correct, EPAY return message as success and name of customer.

Example of sample data:

No.	Parameter	Sample data
1	RequestId	PARTNEREP2017033000001
2	RequestTime	2017-03-30 11:20:32
3	PartnerCode	PARTNER
4	Operation	9001
5	BankNo	970436
6	AccNo	0021000382448
7	AccType	0
8	Signature	hBMeZuDNPDD1TE9q3ojo+SswA/FehW3H77y+3JkNHrdpRent PD 1TE9q3ojo FehW3H77y+3JkNHrdpRentPD =

8.1.2 Return message

No.	Parameter	Data type	Description
1	ResponseCode	Int (4)	Response status as defined in section 7. List of response codes
2	ResponseMessage	String (200)	Description of response status as defined in section 7. List of response codes
3	RequestId	String (50)	Request info sent by PARTNER in section 5.3.1
4	BankNo	String (20)	Request info sent by PARTNER in section 5.3.1
5	AccNo	String (22)	Request info sent by PARTNER in section 5.3.1
6	AccType	Int (1)	Request info sent by PARTNER in section 5.3.1
7	AccName	String (50)	Name of customer as returned by EPAY if the sent information is correct
8	Signature	String (200)	EPAY will digitally sign the return data using the algorithm of RSACryptoServiceProvider and encrypt base64 before sending. Data signed in the form as below: ResponseCode ResponseMessage RequestId BankNo AccNo AccType AccName



Process flow:

1. PARTNER calls the function of money transfer. EPAY shall check the format of data, verify the signature and check customer info and amount of transfer.



Example of sample data:

No.	Parameter	Sample data
1	RequestId	PARTNEREP2017033000002
2	RequestTime	2017-03-30 11:20:32
3	PartnerCode	PARTNER
4	Operation	9002
5	ReferenceId	5CBCAB920C63CED5E0540010E099E090
6	BankNo	970436
7	AccNo	0021000382448
8	AccType	0
9	RequestAmount	20000000
10	Memo	Chuyen tien cho Khach hang
11	AccountName	NGUYEN VAN A
12	ContractNumber	KV2347234
13	Signature	hBMeZuDNPPDD1TE9q3ojo+SSwA/FehW3H77y+3JkN HrdpRent =

8.2.2 Return message

No.	Parameter	Data type	Description
1	ResponseCode	Int (4)	Response status, as defined in section 6. List of response codes
2	ResponseMessage	String (200)	Description of response status, as defined in section 6. List of response codes
3	SubResponseCode	String	Sub response code will be sent only for fail from bank (ResponseCode = "11") or pending transfers
3.1	SubErrorCode	String(4)	Sub response error code will be sent only for fail from bank (ResponseCode = "11") or pending transfers
3.2	SubErrorMessage	String(500)	Sub response error message will be sent only for fail from bank (ResponseCode = "11") or pending transfers
4	ReferenceId	String (50)	Reference ID sent by PARTNER at section 5.4.1
5	TransactionId	String (50)	Transaction ID generate by EPAY's system
6	TransactionTime	String (12)	Time to complete the disbursement at EPAY, formatted as YYYY-MM-DD
7	BankNo	String (20)	EPAY will digitally sign the response code following the format: ResponseCode ResponseMessage ReferenceId TransactionId TransactionTime
8	AccNo	String (22)	Sent data at section 5.4.1
9	AccName	String (50)	Full name of recipient/beneficiary
10	AccType	String (12)	Sent data at section 5.4.1
11	RequestAmount	Int (9)	Sent data at section 5.4.1
12	TransferAmount	Int (9)	The actual amount of money transferred to recipient, which would be smaller if the transfer fee is borne by the recipient
13	Signature	String (200)	EPAY will digitally sign the return data. Data is signed in the form as below: ResponseCode ResponseMessage ReferenceId TransactionId TransactionTime BankNo AccNo AccName AccType RequestAmount TransferAmount

Json sample for response result of Transfer transaction:

- Successful case

```
{
  "ResponseCode": "200",
  "ResponseMessage": "Transaction successful",
  "ReferenceId": "ATOMEVN01234567818",
  "TransactionId": "EP5C91F5AD13BEC_82581937318400",
  "TransactionTime": "2019-03-20 15:11:25",
  "BankNo": "970457",
  "AccNo": "45450000678",
  "AccName": "HOANG THI HA",
  "AccType": 0,
  "RequestAmount": 50000,
  "TransferAmount": 0,
  "Signature": "tOYgLw4qYVMwtX5ViHgHRHzKsvfSCTH4hUhVRW9i9NsePLCnMOBoXW9fA="
}
```

- Failed cases

Fail from bank (With SubResponseCode – Error code return from bank):

```
{
  "ResponseCode": 11,
  "ResponseMessage": "Transaction fail",
  "SubResponseCode":
    {
      "ErrorCode": "0069",
      "Message": "Not enough balance"
    },
  "ReferenceId": "ATOMEVN01234567818",
  "TransactionId": "EP5C91F5AD13BEC_82581937318400",
  "TransactionTime": "2019-03-20 15:11:25",
  "BankNo": "970457",
  "AccNo": "45450000678",
  "AccName": "HOANG THI HA",
  "AccType": 0,
  "RequestAmount": 50000,
  "TransferAmount": 0,
  "Signature": "tOYgLw4qYVMwtX5ViHgHRHzKsvfSCTH4hUhVRW9i9NsePLCnMOBoXW9fA="
}
```

Fail from EPAY (With out SubResponseCode):

```
{
  "ResponseCode": 103,
```



```
"ResponseMessage": "Incorrect signature",
"ReferenceId": "ATOMEVN01234567818",
"TransactionId": "EP5C91F5AD13BEC_82581937318400",
"TransactionTime": "2019-03-20 15:11:25",
"BankNo": "970457",
"AccNo": "45450000678",
"AccName": "HOANG THI HA",
"AccType": 0,
"RequestAmount": 50000,
"TransferAmount": 0,
"Signature": "tOYgLw4qYVMwtX5ViHgHRHzKsvfSCTH4hUhVRW9i9NsePLCnMOBoXW9fA="
}
```

- **Pending cases**

```
{
  "ResponseCode": 99,
  "ResponseMessage": "Transaction timeout",
  "SubResponseCode":
  {
    "ErrorCode": "8000",
    "Message": "An error occurred during processing"
  },
  "ReferenceId": "ATOMEVN01234567818",
  "TransactionId": "EP5C91F5AD13BEC_82581937318400",
  "TransactionTime": "2019-03-20 15:11:25",
  "BankNo": "970457",
  "AccNo": "45450000678",
  "AccName": "HOANG THI HA",
  "AccType": 0,
  "RequestAmount": 50000,
  "TransferAmount": 0,
  "Signature": "tOYgLw4qYVMwtX5ViHgHRHzKsvfSCTH4hUhVRW9i9NsePLCnMOBoXW9fA="
}
```

8.3 Look up for transferinfo function

8.3.1 Sending message

No.	Parameter	Data type	Requirement	Description
1	RequestId	String (50)	Required	The only code corresponding to a sent request. Proposed format as: PartnerCode + EP + YYYYMMDD + UniqueId
2	RequestTime	String (18)	Required	Time to send request by PARTNER, formatted as: YYYY-MM-DD HH:MM:SS
3	PartnerCode	String (20)	Required	Partner code is defined in EPAY's system. This code will be sent to PARTNER in integration phase.
4	Operation	Int (4)	Required	This parameter determines which function is called. For the function of transactioninfo lookup, fig as "9003"
5	ReferenceId	String (50)	Required	Transaction ID sent by PARTNER
6	Signature	String (200)	Required	PARTNER will digitally sign the sent data using the decryption of RSACryptoServiceProvider and encrypt base64 before sending. Data signed in the form as below: RequestId RequestTime PartnerCode Operation ReferenceId

Process flow:

1. PARTNER calls the function of transactioninfo lookup. EPAY shall check the format of data and confirm the signature then check transaction ID.
2. If correct, return transaction info.

Example of sample data:

No.	Parameter	Sample data
1	RequestId	PARTNEREP2017033000003
2	RequestTime	2017-03-30 11:20:32
3	PartnerCode	PARTNER
4	Operation	9003
5	ReferenceId	PARTNEREP2017033000002
6	Signature	hBMeZuDNpDD1TE9q3ojo+SSwA/FehW3H77y+3JkNHrdpRent =

8.3.2 Return message

No.	Parameter	Data type	Description
1	ResponseCode	Int (20)	Return message status as defined in section 7. List of Response code
2	ResponseMessage	String (200)	Description of return status as defined in section 7. List of response code
3	SubResponseCode	String	Sub response code will be sent only for fail from bank (ResponseCode = "11") and pending transfers
3.1	SubErrorCode	String(4)	Sub response error code will be sent only for fail from bank (ResponseCode = "11") and pending transfers
3.2	SubErrorMessage	String(500)	Sub response error message will be sent only for fail from bank (ResponseCode = "11") and pending transfers
4	ReferenceId	String (50)	This is the reference ID of the parameter in section 5.5.1
5	TransactionId	String (50)	Transaction ID recorded at EPAY
6	TransactionTime	String (12)	Time for a complete disbursement at EPAY, formatted as YYYY-MM-DD
7	RequestAmount	Float	Amount disbursed to customer
8	BankNo	String (20)	Bank no. as defined by EPAY
9	AccName	String (50)	Account Name
10	AccNo	String (22)	Account no. or card no. of customer
11	AccType	String (12)	Account No. type: 0: account no. 1: card no.
12	TransferAmount	Int (9)	Amount of transfer.
13	Signature	String (200)	EPAY shall digitally sign the return data, form of which should follow: ResponseCode ResponseMessage ReferenceId TransactionId TransactionTime BankNo AccNo AccName AccType RequestAmount TransferAmount



Note

Json sample for response message of Look up function: similar with Transfer money response

8.4 Check balance Account function

8.4.1 Sending message

No.	Parameter	Data type	Requirement	Description
1	RequestId	String (50)	Required	The only code corresponding to a sent request. Proposed format as: PartnerCode + EP + YYYYMMDD + UniqueId
2	RequestTime	String (19)	Required	Time to send request by PARTNER, formatted as: YYYY-MM-DD HH:MM:SS
3	PartnerCode	String (20)	Required	Partner code is defined in EPAY's system. This code will be sent to PARTNER in integration phase.
4	Operation	Int (4)	Required	This parameter determines which function is called. For the function of transactioninfo lookup, fig as "9004"
5	Signature	String (200)	Required	PARTNER will digitally sign the sent data using the decryption of RSACryptoServiceProvider and encrypt base64 before sending. Data signed in the form as below: RequestId RequestTime PartnerCode Operation

Process flow:

1. PARTNER calls the function of transactioninfo lookup. EPAY shall check the format of data and confirm the signature then check transaction ID.
2. If correct, return balance info.

8.4.2 Return message

STT	Param name	Data type	Description
1	ResponseCode	Int (20)	Return message status as defined in section 7. List of Response code
2	ResponseMessage	String (200)	Description of return status as defined in section 7. List of response code
3	PartnerCode	String(50)	Partner code in our system
4	CurrentBalance	Int	Current balance
5	Signature	String (200)	EPAY shall digitally sign the return data, form of which should follow: ResponseCode ResponseMessage PartnerCode CurrentBalance

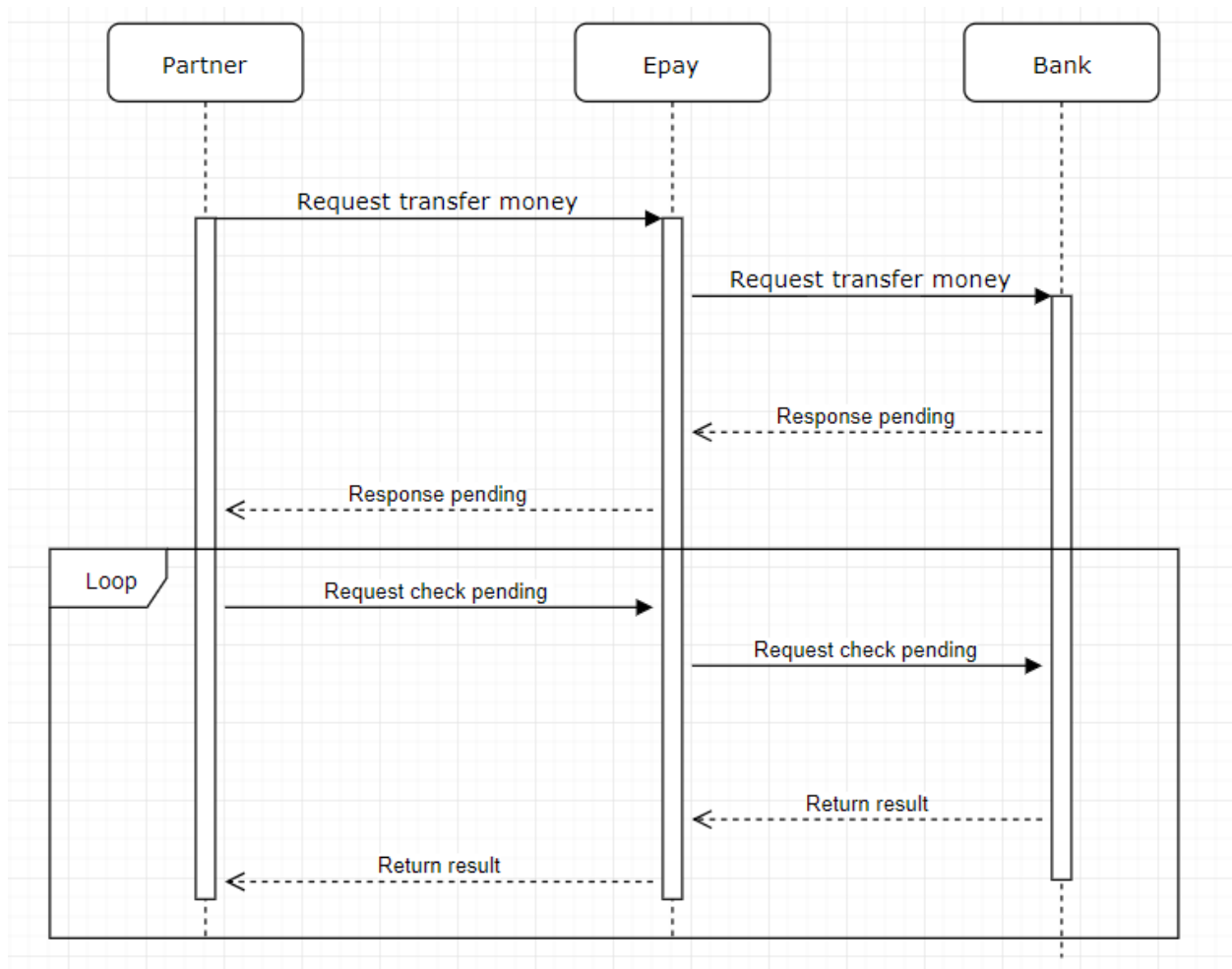
9 Processing incase transaction Timeout



Important

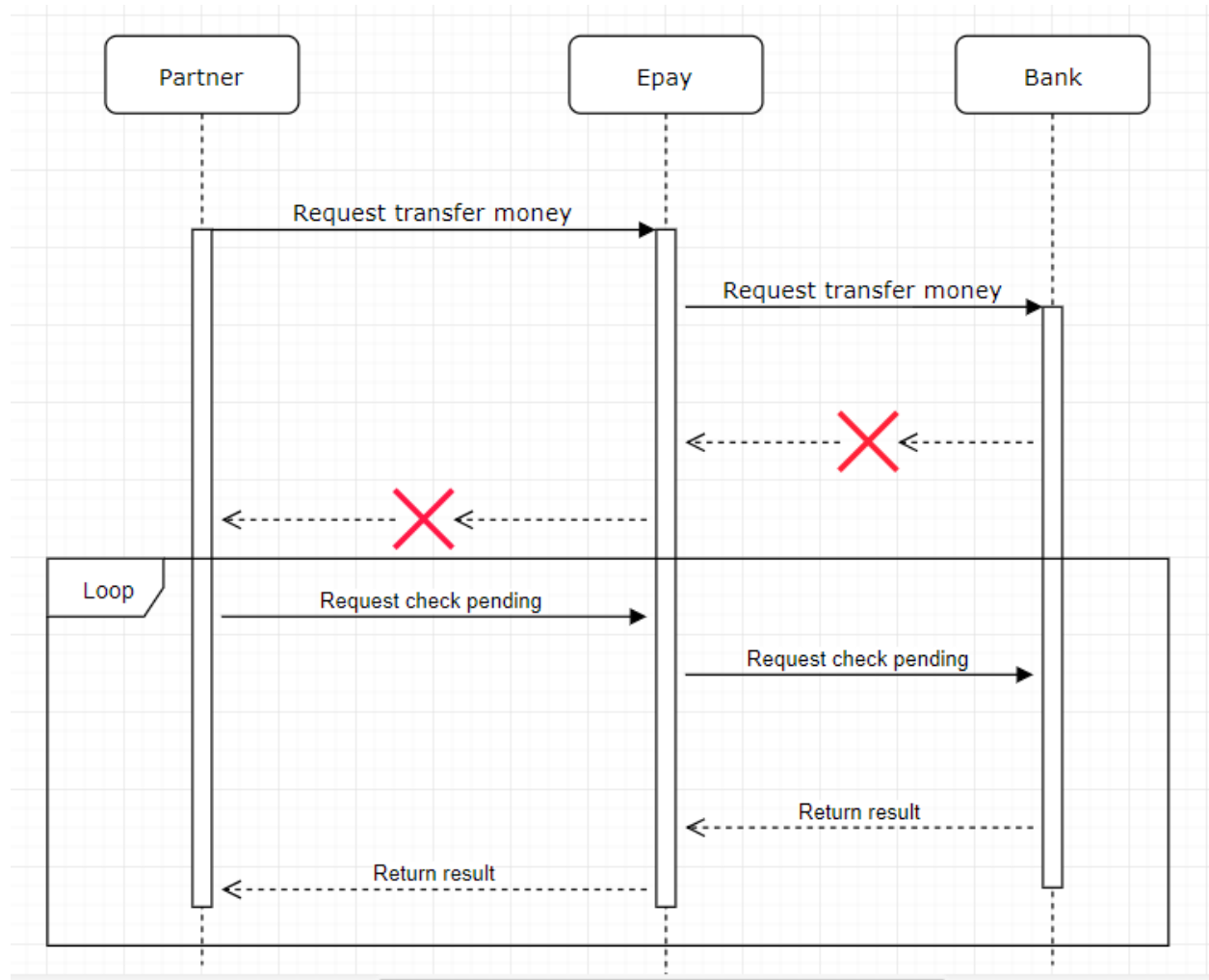
Timeout may arise out of a transmission problem or in processing request at EPAY. Time timeout is 90s (90 seconds). Processing of such two cases shall be described as follows:

Case 1: EPAY returns timeout message with error code 99



- This timeout occurs when EPAY or Bank fails to return the transaction result after a maximum time for processing a transaction as set by the Parties.
- Resolution: Upon receiving the error code as timeout, PARTNER calls the function of transaction info lookup (5.5). EPAY shall return the transaction status in this function to PARTNER.

Case 2: Timeout arising out of a transmission problem hence failure to return transaction result



- Timeout in this case shall come from PARTNER -> EPAY or vice versa. It is therefore should take time to determine whether or not EPAY has recorded the transaction.
- Resolution:
 1. PARTNER calls the function of Transaction Info Lookup (5.5) for the transaction status and update the status if result provided. If timeout persists, proceed to step 2.
 2. In time of persisting transmission problem, the parties shall coordinate troubleshooting. PARTNER shall send request for the transaction status to EPAY via email. EPAY's technical team should help confirm & return the status to PARTNER.

10 List of response codes

#	Error code	Message	Detail	
			Sub Response Code	Sub Response Message
1	99	Transaction pending	0010	WRB internal timeout
2			0011	WRB internal system error
3			0053	Transaction in cut-off time (between 00:00 and 00:05 every day)
4			0062	WRB internal system error
5			0105	WRB internal system error (Firm banking system error)
6			7068	Timeout between NAPAS and Beneficiary bank
7			8000	WRB Firmbanking system error
8			8011	WRB Firmbanking system error
9			8012	WRB Firmbanking system error
10			9900	WRB internal system error
11			9902	WRB internal system error
12			9903	WRB internal system error
13			5101	Timeout between Epay and Woori bank
14	11	Transaction failed	0002	Missing Mandatory Field in the request message
15			0003	Wrong data type
16			0004	WRB Internal data query issue
17			0006	WRB Internal data query issue
18			0009	WRB Internal data query issue
19			0033	WRB beneficiary account issue
20			0036	Currency issue
21			0045	WRB internal system error
22			0063	WRB beneficiary account issue
23			0069	EPAY firm account issue
24			0111	WRB internal system error
25			7001	Beneficiary account issue
26			7005	Beneficiary account issue
27			7012	Error occurred during the internal deposit process of beneficiary bank
28			7013	Invalid amount
29			7014	Wrong beneficiary account information
30			7019	Beneficiary bank system issue
31			7028	Beneficiary bank system issue
32			7030	Beneficiary bank msg format error
33			7034	Beneficiary bank transaction verification error - VIETIN BANK
34			7036	Beneficiary card issue
35			7042	Beneficiary card issue (LIEN VIET POST BANK)

36		7054	Beneficiary card issue (expired card or lost card)
37		7057	Beneficiary account issue
38		7059	Beneficiary bank transaction verification error
39		7063	Beneficiary bank transaction verification error
40		7069	Beneficiary bank system issue - MB BANK
41		7073	Beneficiary bank system issue - OCB
42		7075	Beneficiary card issue (relate length of password)
43		7076	Invalid beneficiary account
44		7088	Beneficiary bank transaction verification error
45		7089	Beneficiary bank transaction verification error
46		7091	Beneficiary bank system error
47		7092	NAPAS system error
48		7093	NAPAS system error
49		7094	Duplicate transaction between WRB and Napas
50		7096	Beneficiary bank system issue
51		7097	Beneficiary bank system issue - MB BANK
52		9901	WRB internal system error
53		5555	Transaction failed (Pending transaction updated to failed)

Error codes below don't have sub response code

#	Error code	Message
54	200	Successful
55	101	Error processing from EPAY
56	102	Duplicated RequestId
57	103	Incorrect signature
58	110	Incorrect PartnerCode
59	111	PartnerCode deleted from the system
60	112	PartnerCode not yet activated
61	113	Operation code is required
62	114	Incorrect Operation code
63	115	BankID is required
64	116	BankID not supported
65	117	Account no. /Card no. should be from 4-22 characters in length
66	118	Invalid account no./Card no.
67	119	Account no./Card no. does not exist
68	120	Incorrect account type
69	121	Transaction ID sent from Partner is required
70	122	Transaction ID sent by Partner is existing
71	123	Transaction not found
72	124	Transfer amount required
73	125	Invalid transfer amount
74	126	Error processing between EPAY and bank



75	127	Error connecting to bank
76	128	Error processing from bank
77	129	Insufficient disbursement limit or expired guarantee period
78	130	This card type is not support
79	131	The contract number already exist
80	133	Contract number is required
81	401	The RequestId is required
82	402	The RequestTime is required
83	403	The RequestTime is invalid
84	404	The PartnerCode is required
85	405	All data request null

11 List of banks accepting disbursement via account

#	BankNo	BankName	BankType
1	970423	TIEN PHONG COMMERCIAL JOINT STOCK BANK	0,1
2	970437	Ho Chi Minh City Development Joint Stock Commercial Bank	0,1
3	970408	Global Petro Sole Member LimitedCommercial Bank	0,1
4	970407	Vietnam Technological and Commercial Joint Stock Bank	0,1
5	970442	Hong Leong Commercial Joint Stock Bank	0,1
6	970414	Ocean Commercial Joint - Stock Bank	0,1
7	970438	Bao Viet Joint Stock Commercial Bank	0,1
8	970422	Military Commercial Joint Stock Bank	0,1
9	970432	Vietnam Prosperity Joint-Stock Commercial Bank	0,1
10	970439	Public Bank Vietnam Limited (PBN)	0,1
11	970415	VIETNAM JOINT STOCK COMMERCIAL BANK FOR INDUSTRY AND TRADE (Vietinbank)	0,1
12	970431	VIETNAM EXPORT IMPORT COMMERCIAL JOINT STOCK BANK (Eximbank)	0,1
13	970440	Southeast Asia Commercial Joint Stock Bank (SeABank)	0,1
14	970429	Sai Gon Joint StockCommercial Bank	0,1
15	970448	Orient Commercial Joint StockBank (OCB)	0,1
16	970425	An BinhCommercial Joint Stock Bank	0,1
17	970426	Vietnam Maritime Commercial Stock Bank (MSB)	0,1
18	970427	Vietnam Asia Commercial Joint Stock Bank (VietA)	0,1
19	970419	National Citizen Commercial Joint Stock Bank (NCB)	0,1
20	970418	Joint Stock Commercial Bank for Investment and Development of Vietnam (BIDV)	0,1
21	970443	Sai Gon- Ha Noi Commercial Joint Stock Bank	0,1
22	970406	DongA Joint Stock Commercial Bank	0
23	970441	Vietnam International Commercial Joint Stock Bank (VIB)	0,1
24	970424	Shinhan Bank Vietnam Limited	0,1
25	970433	Vietnam Thuong Tin Commercial Joint Stock Bank (Vietbank)	0,1
26	970454	VIET CAPITAL COMMERCIAL JOINT STOCK BANK (Ban Viet)	0
27	970452	Kien Long Commercial Joint -Stock Bank	0,1
28	970430	PETROLIMEX GROUPCOMMERCIAL JOINT STOCK BANK	0,1
29	970400	Sai Gon Joint Stock Commercial Bank (Saigon Bank)	0,1
30	970405	Vietnam Bank for Agriculture and Rural Development or	0,1

		Agribank (Agribank)	
31	970403	Sacombank	0,1
32	970412	Vietnam Public Joint Stock Commercial Bank (Vietnam dai chung)	0,1
33	970421	Vietnam-Russia Joint Venture Bank - VRB	0,1
34	970428	Nam A Commercial Joint Stock Bank (Nam A Bank)	0,1
35	970434	Indovina Bank Ltd	0,1
36	970449	LienVietPostJointStockCommercialBank(LienVietPost bank)	0,1
37	970457	Woori Bank Vietnam Limited	0
38	970436	Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank)	0,1
39	970416	Asia Commercial Joint Stock Bank	0