Overview

Bank of Happiness provides the ability to receive payments with or without a card using Express Pay terminals (reference 1).

Integration

To integrate with the pay box, you must contact the Bank of Happiness and request to become a service provider for iPay.

The payment process is straightforward, and, roughly, consists of three steps:

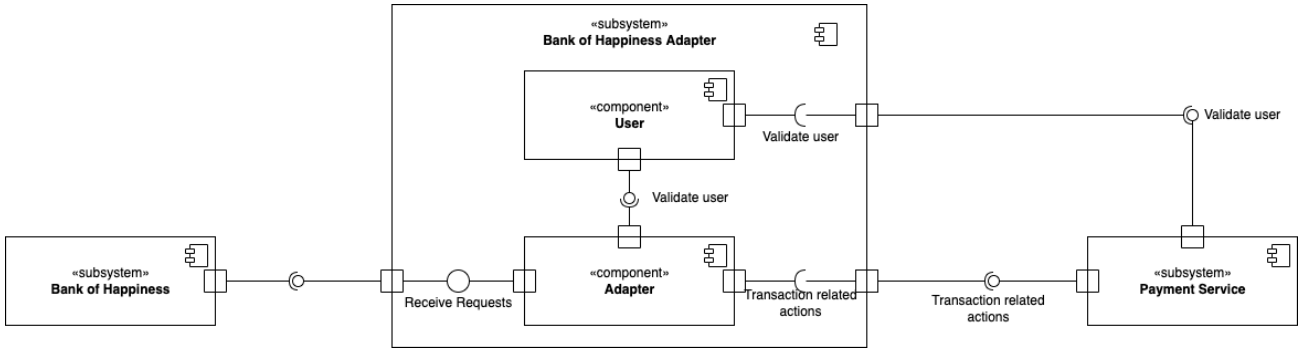
1. getting information about the customer
2. verifying availability of payment
3. receive payment

To authorize request - USERNAME, PASSWORD and HASH_CODE parameters will be sent in the request from the Bank of Happiness.

See reference 4 for details.

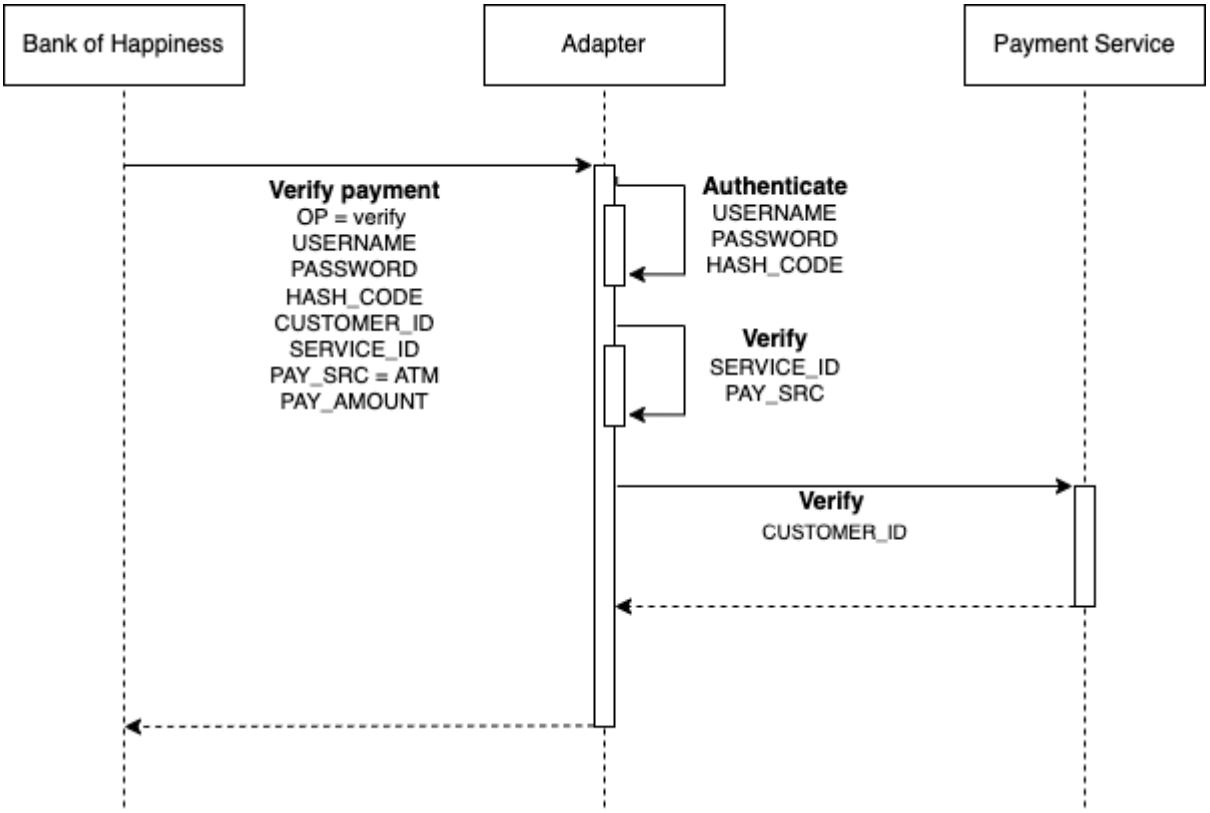
Design

Components Diagrams

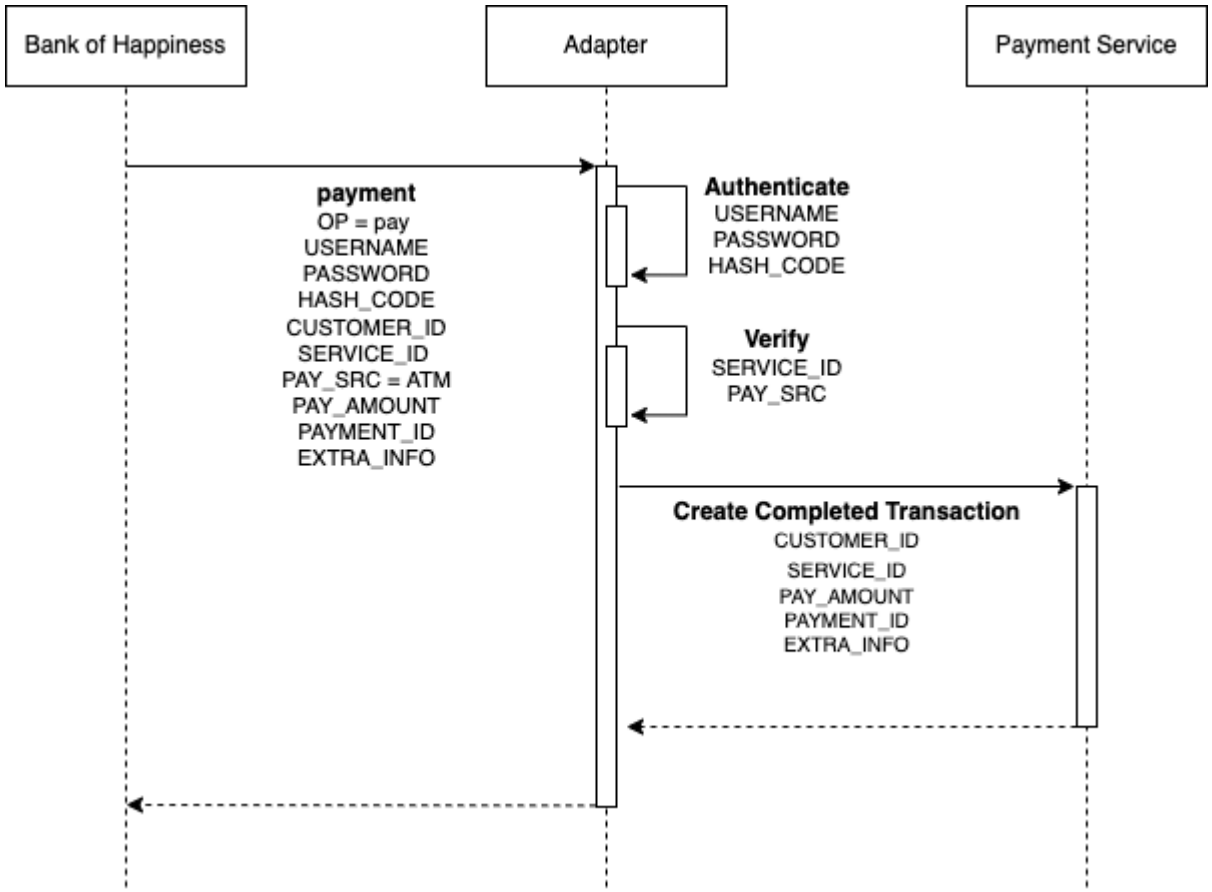


Sequence Diagram

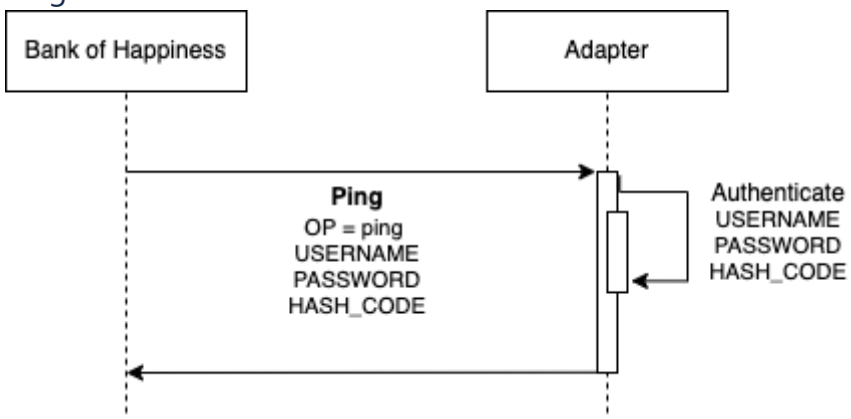
Verify



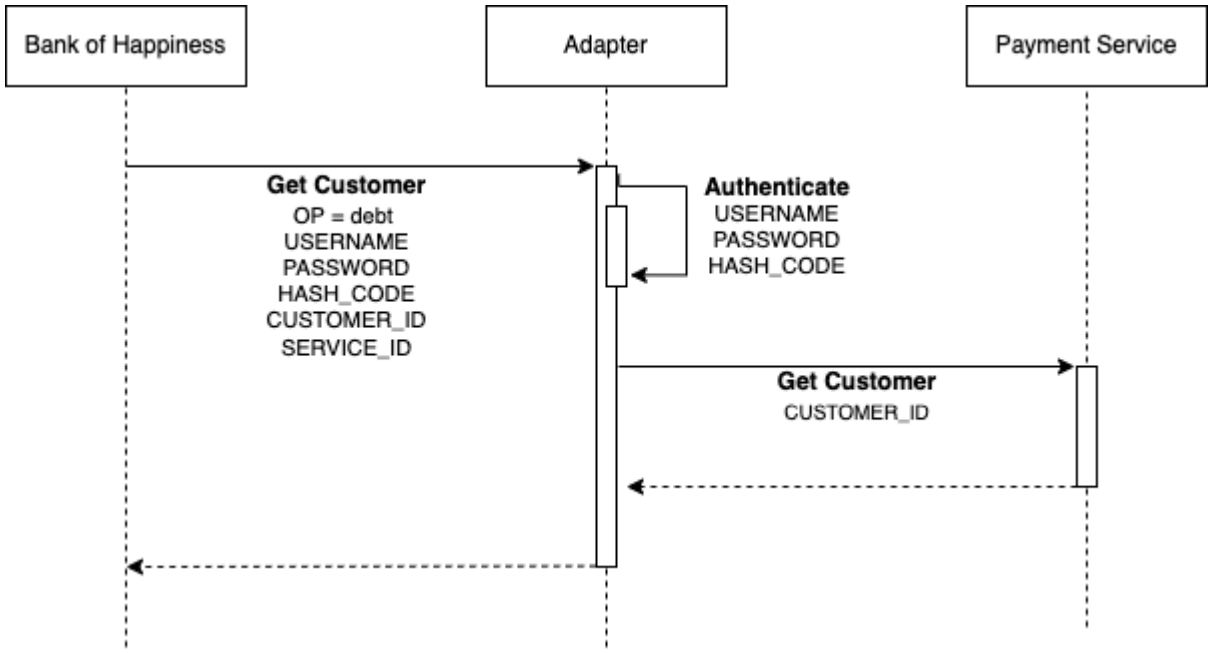
Payment



Ping



Debt



API Specification

Subsystem	Component	Operation	Description	Request	Response

Bank of Happiness Adapter	Adapter	Verify	To conduct the operation, the iPay server shall call the Service-provider method 'verify'	**Url:** https://{adapter_url}/payment
				Method: GET
				Parameters:
				• OP = **verify**
				• USERNAME
				• PASSWORD
				• HASH_CODE
				• CUSTOMER_ID
				• SERVICE_ID
				• PAY_SRC
				• PAY_AMOUNT
				(see Parameters)
					In response, the server shall generate a document of the following form:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="0">OK</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`
					In case of an error, the server returns the error code (see Error Codes) and text. E.g.:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="7">Payment amount must be greater than the debt</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`

		Payment	On successful payment, the iPay server shall call the Service-provider method 'pay'.	**Url:** https://{adapter_url}/payment
				Method: GET
				Parameters:
				• OP = **pay**
				• USERNAME
				• PASSWORD
				• HASH_CODE
				• CUSTOMER_ID
				• SERVICE_ID
				• PAY_SRC
				• PAY_AMOUNT
				• PAYMENT_ID
				• EXTRA_INFO
				(see Parameters)
					In response, the server shall generate a document of the following form:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="0">OK</status>`
					`<timestamp>123456789</timestamp>`
					`<receipt-id>1234</receipt-id>`
					`</pay-response>`
					In case of an error, the server returns the error code (see Error Codes) and text. E.g.:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="7">Payment amount must be greater than the debt</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`

		Ping	Inspecting the service's health.
			If it is impossible to connect to the server the iPay server notifies the Officers in Charge of the Service to eliminate the system issue.
				Url: https://{adapter_url}/payment
				Method: GET
				Parameters:
				• OP = **ping**
				• USERNAME
				• PASSWORD
				• HASH_CODE
				(see Parameters)
					In response, the server shall generate a document of the following form:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="0">OK</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`
					In case of an error, the server returns the error code (see Annex 1) and text. E.g.:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="3">Hash code is invalid</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`

		Debt	Displaying debt. No need to implement	**Url:** https://{adapter_url}/payment
				Method: GET
				Parameters:
				• OP = **debt**
				• USERNAME
				• PASSWORD
				• HASH_CODE
				• CUSTOMER_ID
				• SERVICE_ID
				(see Parameters)
					In response, the server shall generate a document of the following form:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="0">OK</status>`
					`<timestamp>123456789</timestamp>`
					`<debt>0</debt>`
					`<additional-info>`
					`<parameter name="first_name">Mikheil</parameter>`
					`<parameter name="last_name">Kapanadze</parameter>`
					`</additional-info>`
					`</pay-response>`
					In case of an error, the server returns the error code (see Error Codes) and text. E.g.:
					`<?xml version="1.0" encoding="UTF-8"?>`
					`<pay-response>`
					`<status code="6">Customer does not exist</status>`
					`<timestamp>123456789</timestamp>`
					`</pay-response>`
					This means that the status code will receive the error code, while the text in English will display the description of the error. The code and description will be recorded in the iPay server log.

Parameters

Parameter	Function
OP	An operation to be carried out. 4 operations defined: debt – displaying debt verify – verifying availability of payment

Parameter	Function
	pay – payment ping – inspecting the service
USERNAME	Username. Needed to identify the iPay system at the Service-provider
PASSWORD	User password. Needed to identify the iPay system at the Service-provider
HASH_CODE	Concatenated parameters, hashed by MD5 algorithm using provided by service provider private key
CUSTOMER_ID	User identifier. Assigned by the Service-provider
SERVICE_ID	Service identifier. In some cases may be empty, e.g. "dsl" or "voip" or anything else. Values are determined by the Service-provider.
PAY_SRC	Source of payment. The iPay system allows payments from several sites: ATM, web-site, Direct Debit Happiness payment stations, etc. Acceptable values: ibank, mbank, TMS
PAY_AMOUNT	The payment amount is in HAP.
PAYMENT_ID	Unique payment identifier.
EXTRA_INFO	Additional payment information is encoded in URLEncode format.

Error Codes

Code	HTTP Code	Description
0	200	OK
1	403	Restricted access (e.g. the service may not be called from the given IP, etc)
2	401	Incorrect username/password
3	401	Incorrect hash code
4	400	Necessary parameter lacking (e.g. no PAYMENT_ID parameter was indicated during payment)

Code	HTTP Code	Description
5	400	Incorrect parameter value (e.g. the hash code is not given in hexadecimal form)
6	400	User not found
7	400	Incorrect amount
8	400	PAYMENT_ID not unique
9	400	Payment not possible
10	400	No service found (Service identifier is communicated in SERVICE_ID)
99	500	General error

Note
A Service-provider may also introduce other error codes not listed in this table. Such codes must not be within the 0-99 range.

It is noteworthy that the iPay system does not guarantee to a Service-provided that the text relevant for the code sent by the Provider (except for the values set forth by this document) shall be seen by all users. Therefore, returning Provider-generated codes is only recommended in exceptional cases.