SettleBank

White Label Service WEB API

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1. Outline

1.1 Purpose

This document is intended to provide technical understanding and define detailed specifications for White Label service integration development service provided by Hecto Financial.

1.2 Target

The target for this document is the developer of the client that will execute payment through Hecto Financial's White Label service.

1.3 Document Specification

The following is a general description of the integration referred to in this document.

Required fields in the request/response parameters use symbol '●', and selected fields use symbol '○'.

Request / response parameters' data type are as follows.

N : Number type string

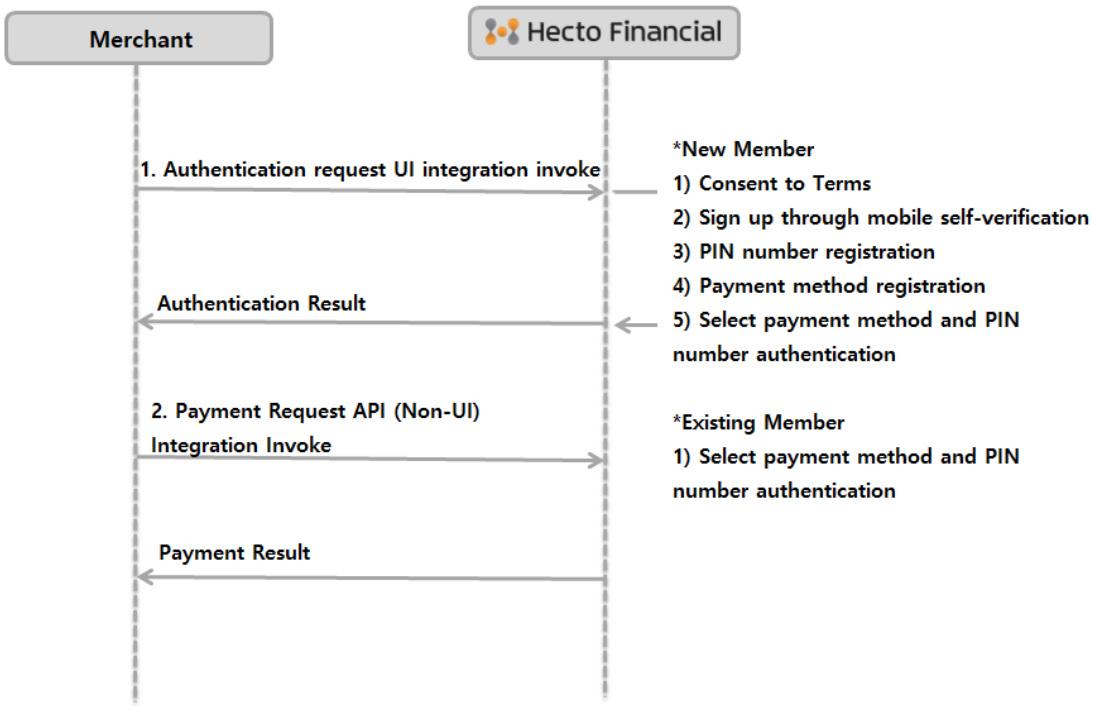
A : Alphabet type string

H : Korean letter type string

The length of the request / response parameters is based on the plain text UTF-8 encoded value (Byte).

1.4 Integration Process

Refer to "6. Invoke Payment Window (UI)" and do number 1 authentication request UI integration invoke. According to the responded result, refer to "7. Payment API (Non-UI)" and do number 2 payment request API (NON-UI) integration invoke to proceed with payment.


Merchant
Hecto Financial
1. Authentication request UI integration invoke
Authentication Result
2. Payment Request API (Non-UI)
Integration Invoke
Payment Result
*New Member
1) Consent to Terms
2) Sign up through mobile self-verification
3) PIN number registration
4) Payment method registration
5) Select payment method and PIN number authentication
*Existing Member
1) Select payment method and PIN number authentication

2. Standard Payment Window (UI) Integration

2.1 Summary

- Check request URI per function. (Refer to 2.3 API URI)
- Check request parameter per function, set the request parameter and request in POST method.
- Personal/sensitive information-related parameter should be encrypted. (Refer to 5. Crucial Information Security).
- Should open Hecto Financial White Label payment window and then proceed with the payment.
- When the payment is completed, the result (response parameter) is returned to the URL set in request parameter nextUrl.
- If the user forcibly exits the payment window during payment (payment window 'X' button), the result (response parameter) is returned to the URL set in cancUrl parameter.

2.2 Caution

- It only supports browsers Chrome and Edge. It may not function properly on other browsers.
- Merchants are responsible for any costs incurred when testing with merchant ID (mchtId) in production environment.
- Only POST method is used for requests.
- For request parameter, please use only those specified in the integration specification. Otherwise, an error might occur.
- Please refrain from using special characters like :, &, ?, ', new line, <, > in the request parameter.
- Please refrain from using emoji in the request parameter. If an emoji is included, it will be removed regardless of the intent of the user.
- Request and response parameters may change without notice, this should be considered while developing.
- There are cases in which it does not function normally on certain browser or device if Iframe is used for payment window integration, so please refrain from using Iframe.
- nextUrl parameter
  - ■ It is the URL invoked when Hecto Financial payment is completed. The request parameter should be delivered in POST method. If the customer forcibly exits the payment window (browser 'X' button), it

won't be invoked. nextUrl delivers the authentication result and the service should be provided only when the payment request result is success.

- nextUrl, cancUrl protocol
  - If HTTP is used, it may be against the browser policy (cross-origin, etc.) so the payment window might not function normally.
  - Thus, use of HTTPS is recommended.

2.3 Payment Window URI

Hecto Financial White Label payment window (UI) server domain names are as follows.

Classification	Domain Name
Testbed	tbwl.settlebank.co.kr
Production Environment	wl.settlebank.co.kr

Hecto Financial White Label payment window (UI) API URI are as follows.

Function Classification	Payment Method	URI	HTTP Method
Standard Payment Window (UI)	Invoke Payment Window	https://{domain}/whitelabel/main.do	POST

2.4 Request and Response Headers

Classification	Content
Request	Content-type=application/x-www-form-urlencoded; charset=UTF-8
Response	Content-type=text/html; charset=UTF-8

2.5 Request Parameter Verification

Upon parameter verification, if there is an error like missing required value, HASH data mismatch, and length check, the response code below is returned.

```
{
    "outRsltMsg" : "결제 요청 정보 누락 (상품명)",
    "mchtTrdNo" : "PG_whitelabel_20231218081443",
    "outRsltCd" : "1011",
    "outStatCd" : "0031",
    "mchtId" : "pg_test"
}
```

("결제 요청 정보 누락 (상품명)" = “Payment Request Information Missing (Product Name)”)

3. API Service Integration (Non-UI)

3.1 Summary

- After checking the request parameter, set the applicable request parameter.
- Do HTTP Connection through Server to Server and request/respond through JSON data.
- Personal/sensitive information-related parameter should be encrypted. (Refer to 5. Crucial Information Security).

3.2 API URI

Hecto Financial White Label API server domain names are as follows.

Classification	Domain Name
Testbed	tbapi.settlebank.co.kr
Production Environment	api.settlebank.co.kr

API server URI are as follows.

Function Classification	Service	URI	HTTP Method
Payment API (Non-UI)	Payment Request	https://{domain}/whitelabel/v1/pay_confirm.do	POST
Cancellation API (Non-UI)	Cancellation Request	https://{domain}/whitelabel/v1/pay_cancel.do	POST

3.3 Request and Response Headers

Classification	Content
Request	Content-type=application/json; charset=UTF-8
Response	Content-type=application/json; charset=UTF-8

3.4 JSON Request Data Example

The following is the payment request parameter JSON example.


```
{
    "params" : {
        "mchtId" : "pg_test",
        "ver" : "0A18",
        "method" : "WL",
        "bizType" : "C4",
        "encCd" : "23",
        "mchtTrdNo" : "PG_API20231218085315",
        "trdDt" : "20231218",
        "trdTm" : "085315",
        "mobileYn" : "N",
        "osType" : "W"
    },
    "data" : {
        "pktHash" : "197884af9f63bcd2d9792cd5cd39f7b1e7525e88888e2cee28f64fa23bf53312",
        "mchtCustId" : "hecto01",
        "orgTrdNo" : "STFP_PGCApg_test0000231218090723M1717578",
        "trdAmt" : "vqIWIiimsJ5efjSJpfnnTw=="
    }
}
```

4. Integration Server

4.1 Server IP Address

The following is the Hecto Financial server's IP address.

Classification		Domain Name	IP Address
Payment Window (UI)	Testbed	tbwl.settlebank.co.kr	61.252.169.78
	Production	wl.settlebank.co.kr	61.252.169.80(primary)
			14.34.14.38(secondary)
Cancellation API Service (Non-UI)	Testbed	tbapi.settlebank.co.kr HTTPS(TCP/443)	61.252.169.42
	Production	api.settlebank.co.kr HTTPS(TCP/443)	61.252.169.53(primary)
			14.34.14.21(secondary)

- Hecto Financial PG Next Gen System is configured with IDC center geo-redundancy. (Production environment) Therefore, the main and secondary centers may be switched without notice due to GLB system operation. It is recommended to connect by DNS Lookup.

  Therefore, we request that you allow access of two public IP addresses (production) in the firewall, and we do not recommend configuring the hosts file.
- If you configure the domain address as a fixed setting in the hosts file due to your company's internal policy, when switching to Hecto Financial IDC Center, you must manually change the hosts file of all servers to "#(comment) IP address" as shown below to use the payment service normally.
- All communication uses HTTPS (TCP/443) protocol, and it is strongly recommended to connect using TLS 1.2 or higher. TLS 1.1 or lower may be discontinued without notice due to security advisories.

5. Crucial Information Security

5.1 Personal Information and Crucial Information Encryption / Decryption

When sending or receiving data, for personal information / crucial information fields, the following encryption/decryption should be done.

Classification	Entry	Application	Encoding
Personal Information	Algorithm	AES-256/ECB/PKCS5Padding	Base64 Encoding
Target Field	Transaction Amount, Customer Name, Mobile Number, Email, etc. (Fields that should be encrypted are specified in the remark section of individual API's request field specifications.)		

5.2 Personal Information Encryption Key

Personal information and crucial information encryption/decryption key information differ depending on the environment and are as follows.

For a simple integration test, use the first entry in the table. Once the integration is done successfully, use the unique key issued by Hecto Financial.

Classification	Encryption / Decryption Key
Testbed Key (Common Key for Test)	pgSettle30y739r82jtd709yOfZ2yK5K
Production Environment Key (Merchant Unique Key)	Separately notified when the service is implemented

5.3 Forgery Prevention Algorithm

Hash key verification is additionally executed to verify that the request data has not been forged, and the hash key generation algorithm is as follows.

Classification	Entry	Application	Encoding
Forgery	Algorithm	SHA-256	Hex Encoding

5.4 Hash Generation Authentication Key

For a simple integration test, use the first entry in the table. Once the integration is done successfully, use the unique key issued by Hecto Financial.

Classification	Authentication Key
Testbed Key (Common Key for Test)	ST1009281328226982205
Production Environment Key (Merchant Unique Key)	Separately notified when the service is implemented

6. Payment Window Invoke (UI)

6.1 Caution

- Please refer to the issuance amount parameter processing standard.
  - ■ Ex) If the taxable merchant sends a transaction amount of 1,000 won as follows
    - ◆ 1) Only the transaction amount sent: Processed as taxable 901, VAT 99
    - ◆ 2) Taxable amount 900, VAT amount 100 sent: Processed as taxable 900, VAT 100

6.2 Request Parameter (Merchant -> Hecto Financial)

Parameter	Name	Description	Type (Length)	Required	Remark
mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(10)	●	"pg_test"
method	Payment Method	White label payment classification code	AN(20)	●	"whitelabel" ※ Fixed value
trdDt	Request Date	yyyyMMdd	N(8)	●	"20231218"
trdTm	Request Time	HH24MISS	N(6)	●	"100000"
mchtTrdNo	Merchant Order Number	Unique order number generated by the merchant ※ Excluding Korean letters	AN(100)	●	"ORDER20211231100000"
pmtPrdtNm	Product Name	Payment Product Name	AHN(300)	●	"Test Product"
trdAmt	Transaction Amount	Transaction Amount ※ AES Encryption	N(12)	●	"1000"
nextUrl	Payment Screen URL	Result delivery and moved page URL	AN(250)	●	"https://example.com/nextUrl"

cancUrl	Payment Cancellation URL	Result delivery and moved page URL when customer forcibly exits	AN(250)	●	"https://example.com/cancUrl"
mchtParam	Merchant Reserved Field	Merchant reserved field to input other order information	AHN(4000)	○	"name=HongGilDong&age=25"
email	Email	Email address ※ AES encryption	AN(60)	○	"HongGilDong@example.com"
mchtCustId	Merchant Customer	Unique customer ID or unique key sent by merchant ※ AES encryption	AN(100)	●	"HongGilDong"
taxTypeCd	Tax-Free Status	N:Taxable, Y:Tax-free, G: Compound tax If blank, follows merchant setting	A(1)	○	"N"
taxAmt	Taxable Amount	Taxable amount (Required if it is compound tax) ※ AES encryption	N(12)	○	"909"
vatAmt	VAT Amount	VAT amount (Required if it is compound tax) ※ AES encryption	N(12)	○	"91"
taxFreeAmt	Non-Taxable Amount	Tax-free amount (Required if it is compound tax) ※ AES encryption	N(12)	○	"0"
svcAmt	Service Charge	Credit card service charge ※ AES encryption	N(12)	○	"10"

themeColorCd	Theme Color	Theme color	AN(10)	○	"#630511"
custAcntSumry	CustomerAccount Remark	Remark on the customer's account	AHN(30)	○	"Remark"
cupDepositAmt	ContainerDeposit	Cup deposit	N(12)	○	"0"
addDdtTypeCd	Cash Receipt Additional Deduction Classification	Cash receipt additional deduction classification	A(1)	○	"Y": Public Transportation "C": Book, Concert fee
ciChkYn	CI Verification Status	Customer CI verification status ※ If used(Y), input CI in customer ID	A(1)	○	"N"
pktHash	Hash Data	Hash value generated with SHA256 method Refer to [Request Parameter Hash Code]	AN(200)	●	"f395b6725a9a18f2563ce34f8bc76698051d27c05e5ba815f463f00429061c0c"

6.3 Request Parameter Hash Code

Entry	Combination Field
pktHash	Merchant ID + Payment Method +Merchant Order Number + Request Date +Request Time + Transaction Amount (Plain Text) + Hash Key

6.4 Response Parameter (Hecto Financial -> Merchant)

Columns that respond to the merchant side from the White Label payment window are defined as follows.

Parameter	Name	Description	Type (Length)	Required	Remark

mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(10)	●	"pg_test"
outStatCd	Transaction Status	Transaction Status Code (Success / Failure) 0021:Success 0031:Failure	AN(4)	●	"0021"
outRsltCd	Reject Code	If the transaction status is "0031", deliver detailed code Refer to [Table of Reject Code]	AN(4)	●	"0000"
outRsltMsg	Result Message	Deliver result message URL Encoding, UTF-8	AHN(200)	●	"Success"
mchtTrdNo	Merchant Order Number	Unique order number generated by the merchant ※ Exclude Korean letters	AN(100)	●	"ORDER20211231100000"
mchtCustId	Merchant Customer ID	Unique customer ID or unique key sent ※ AES encryption	AN(100)	○	"HongGilDong"
trdNo	Transaction Number	Hecto Financial transaction number	AN(40)	●	"STFP_PGCApg_test0000231218090723M1717578"
trdAmt	Transaction Amount	Transaction amount ※ AES encryption	N(12)	●	"1000"

mchtParam	Merchant Reserved Field	Field value received as request is Bypassed as response	AHN(4000)	○	"name=HongGilDong&age=25"

7. Payment API (Non-UI)

7.1 Request Parameter (Merchant -> Hecto Financial)

API URI

- Test Environment: https://tbapi.settlebank.co.kr/whitelabel/v1/pay_confirm.do
- Production Environment: https://api.settlebank.co.kr/whitelabel/v1/pay_confirm.do

Parameter		Name	Description	Type (Length)	Required	Remark
params	mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(12)	●	"pg_test"
	ver	Version	Version of the parameter	AN(4)	●	"0A18" ※ Fixed value
	method	Payment Method	Payment method	A(2)	●	"WL" ※ Fixed value
	bizType	Work Classification	Work classification code	AN(2)	●	"B9" ※ Fixed value
	encCd	Encryption Classification	Encryption classification code	N(2)	●	"23" ※ Fixed value
	mchtTrdNo	Merchant Order Number	Unique order number generated by merchant	AN(100)	●	"ORDER20211231100000"
	trdDt	Request Date	Date of sending the current parameter (YYYYMMDD)	N(8)	●	"20231218"
	trdTm	Request Time	Time of sending the current parameter (HHMMSS)	N(6)	●	"100000"
	mobileYn	Mobile Status	Y:Mobile web/app, N:PC or others	A(1)	○	"N"

	osType	OS Classification	A:Android, I:IOS, W:windows, M:Mac, E:Others Blank:Cannot be checked	A(1)	○	"W"
data	pktHash	Hash Data	Hash value generated with SHA256 method Refer to [Request Parameter Hash Code]	AN(200)	●	"f395b6725a9a18f2563ce34f8bc76698051d27c05e5ba815f463f00429061c0c"
	mchtCustId	Merchant Customer ID	Merchant Customer ID	AN(100)	●	"HongGilDong"
	authTrdNo	Authentication Transaction Number	Hecto Financial Transaction Number	AN(40)	●	"STFP_PGCApg_test0000231218090723M1717578"
	trdAmt	Transaction Amount	Transaction amount ※AES encryption	N(12)	●	"1000"

7.2 Request Parameter Hash Code

Entry	Combination Field
pktHash	Request Date + Request Time + Merchant ID +Merchant Order Number + Transaction Amount (Plain Text) + Hash Key

7.3 Response Parameter (Hecto Financial -> Merchant)

Parameter		Name	Description	Type (Length)	Required	Remark
params	mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(12)	●	"pg_test"

	ver	Version	Parameter's version	AN(4)	●	"0A18" ※ Fixed value
	method	Payment Method	Payment method	A(2)	●	"WL" ※ Fixed value
	bizType	Work classification	Work classification code	AN(2)	●	"B9" ※ Fixed value
	encCd	Encryption classification	Encryption classification code	N(2)	●	"23" ※ Fixed value
	mchtTrdNo	Merchant Order Number	Order number generated by the merchant	AN(100)	●	"ORDER20211231100000"
	trdNo	Hecto Financial Transaction Number	Unique transaction number issued by Hecto Financial	AN(40)	●	"STFP_PGCApg_test0000231218090723M1717578"
	trdDt	Request Date	Date of sending the current parameter (YYYYMMDD)	N(8)	●	"20231218"
	trdTm	Request Time	Time of sending the current parameter (HHMMSS)	N(6)	●	"100000"
	outStatCd	Transaction Status	Transaction Status Code (Success / Failure) 0021:Success 0031:Failure	AN(4)	●	"0021"
	outRsltCd	Reject Code	If the transaction status is "0031", deliver detailed code Refer to [Table of Reject Code]	AN(4)	●	"0000"

	outRsltMsg	Result Message	Deliver result message URL Encoding, UTF-8	AHN(200)	●	"Normally processed."
data	pktHash	Hash Value	When requested, hash value itself returned	AN(64)	●	
	mchtCustId	Merchant Customer ID	Merchant Customer ID	AN(100)	●	"HongGilDong"
	authTrdNo	Authentication Transaction Number	Hecto Financial Transaction Number	AN(40)	●	"STFP_PGCApg_test0000231218090723M1717578"
	trdAmt	Transaction Amount	Transaction Amount ※AES Encryption	N(12)	●	"1000"
	payMethod	Work Classification Code	CA: Credit Card RP: Easy Cash Payment	AN(2)	●	"CA"
	fnNm	Card Company Name	Name of the card company used for payment	HA(20)	○	(For Credit Card) "Kookmin"
	fnCd	Card Company Code	Code of the card company used for payment	AN(4)	○	(For Credit Card) "KBC"
	svcDivCd	Easy Cash Integration Classification	1:Firm Banking, 2: Open Banking	N(1)	○	(For Easy Cash) "1"

7.4 Response Parameter Hash Code

Entry	Combination Field

pktHash	Transaction Status Code + Request Date + Request Time + Merchant ID +Merchant Order Number + Transaction Amount + Hash Key

8. Cancellation API (Non-UI)

8.1 Request Parameter (Merchant -> Hecto Financial)

API URI

Test Environment https://tbapi.settlebank.co.kr/whitelabel/v1/pay_cancel.do

Production Environment https://api.settlebank.co.kr/whitelabel/v1/pay_cancel.do

If there is Easy Cash Payment cancellation, the refund (deposit) is done to the bank account in which the money was withdrawn from.

Columns requested from the merchant server to Hecto Financial are defined as follows.

Parameter		Name	Description	Type (Length)	Required	Remark
params	mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(12)	●	"pg_test"
	ver	Version	Parameter's version	AN(4)	●	"0A18" ※ Fixed value
	method	Payment Method	Payment method	A(2)	●	"WL" ※ Fixed value
	bizType	Work Classification	Work Classification Code	AN(2)	●	"C4" ※ Fixed value
	encCd	Encryption Classification	Encryption classification code	N(2)	●	"23" ※ Fixed value
	mchtTrdNo	Merchant Order Number	Unique order number generated by the merchant	AN(100)	●	"ORDER20211231100000"
	trdDt	Cancellation Request Date	Date of sending the current parameter (YYYYMMDD)	N(8)	●	"20231218"

	trdTm	Cancellation Request Time	Time of sending the current parameter (HHMMSS)	N(6)	●	"100000"
	mobileYn	Mobile Status	Y:Mobile Web/App, N:PC or others	A(1)	○	"N"
	osType	OS Type	A:Android, I:IOS, W:windows, M:Mac, E:Others, Blank: Cannot be checked	A(1)	○	"W"
data	pktHash	Hash Data	Hash value generated with SHA256 method Refer to [Request Parameter Hash Code]	AN(200)	●	"f395b6725a9a18f2563ce34f8bc76698051d27c05e5ba815f463f00429061c0c"
	mchtCustId	Merchant Customer ID	Merchant Customer ID	AN(100)	●	"HongGilDong"
	orgTrdNo	Original Transaction Number	Transaction number issued by Hecto Financial when payment is made	AN(40)	●	"STFP_PGCApg_test0000231218090723M1717578"
	taxTypeCd	Tax-Free Status	Y:Tax-free, N:Taxable, G: Compound tax If blank, follows merchant setting	A(1)	○	"N"
	trdAmt	Transaction Amount	Transaction Amount ※AES encryption	N(12)	○	"1000"
	taxAmt	Taxable Amount	Taxable amount among canceled amount (Required if compound tax) ※ AES encryption	N(12)	○	"909"

	vatAmt	VAT Amount	VAT amount among canceled amount (Required if compound tax) ※ AES encryption	N(12)	○	"91"
	taxFree Amt	Non-Taxable Amount	Non-taxable amount among canceled amount (Required if compound tax) ※ AES encryption	N(12)	○	"0"
	svcAmt	Service Charge	Service charge among canceled amount ※ AES encryption	N(12)	○	"0"
	crcCd	Currency Classification	Currency classification value	A(3)	○	(Exclusive for credit card) Required - "KRW"
	cnclOrd	Number of Cancellation	Start from 001. For second partial cancellation, 002	N(3)	○	(Exclusive for credit card) Required - "001"

8.2 Request Parameter Hash Code

Entry	Combination Field
pktHash	Cancellation Request Date + Cancellation Request Time + Merchant ID + Merchant Order Number + Cancellation Amount (Plain Text) + Hash Key

8.3 Response Parameter (Hecto Financial -> Merchant)

Columns that respond to the merchant from Hecto Financial are defined as follows.

Parameter	Name	Description	Type (Length)	Required	Remark

params	mchtId	Merchant ID	Unique merchant ID given by Hecto Financial	AN(12)	●	"pg_test"
	ver	Version	Parameter's version	AN(4)	●	"0A18" ※ Fixed value
	method	Payment method	Payment method	A(2)	●	"WL" ※ Fixed value
	bizType	Work classification	Work classification code	AN(2)	●	"C4" ※ Fixed value
	encCd	Encryption classification	Encryption classification code	N(2)	●	"23" ※ Fixed value
	mchtTrdNo	Merchant Order Number	Unique order number generated by the merchant	AN(100)	●	"ORDER20211231100000"
	trdNo	Hecto Financial Transaction Number	Unique transaction number generated by Hecto Financial	AN(40)	●	"STFP_PGCApg_test00002 31218092215M1103678"
	trdDt	Cancellation Response Date	Date of sending the current response parameter (YYYYMMDD)	N(8)	●	"20231218"
	trdTm	Cancellation Response Time	Time of sending the current response parameter (HHMMSS)	N(6)	●	"100000"
	outStatCd	Transaction Status	Transaction status code(Success / Failure) 0021: Success 0031: Failure	AN(4)	●	"0021"
	outRsltCd	Rejection Code	If the transaction status is "0031", deliver detailed code	AN(4)	●	"0000"

			Refer to [Table of Reject Code]			
	outRsltMsg	Result Message	Deliver result message URL Encoding, UTF-8	AHN(200)	●	"It was normally processed."
data	pktHash	Hash Value	When requested, hash value itself returned	AN(64)	●	
	mchtCustId	Merchant Customer ID	Merchant customer ID	AN(100)	●	"HongGilDong"
	payMethod	Work Classification Code	Work classification code	A(2)	●	"RT" : Easy Payment Cancellation "CA" : Credit Card Cancellation
	orgTrdNo	Original Transaction Number	Transaction number issued by Hecto Financial when payment is made	AN(40)	●	"STFP_PGCApg_test00002 31218090723M1717578"
	taxTypeCd	Tax-Free Status	Y: Tax-free, N: Taxable, G: Compound tax If blank, follows merchant setting	A(1)	○	"N"
	trdAmt	Transaction amount	Transaction amount ※AES encryption	N(12)	○	"1000"
	taxAmt	Taxable amount	Taxable amount among canceled amount (Required if compound tax) ※ AES encryption	N(12)	○	"909"
	vatAmt	VAT Amount	VAT amount among canceled amount (Required if	N(12)	○	"91"

			compound tax) ※ AES encryption			
	taxFreeAmt	Non-Taxable Amount	Non-taxable amount among canceled amount (Required if compound tax) ※ AES encryption	N(12)	○	"0"
	svcAmt	Service Charge	Service charge among canceled amount ※ AES encryption	N(12)	○	"0"
	crcCd	Currency Classification	Currency classification value	A(3)	○	(Exclusive for credit card)
	cnclOrd	Number of Cancellation	Start from 001. For second partial cancellation, 002	N(3)	○	(Exclusive for credit card)
	cardCnclAmt	Credit Card Canceled Amount	Credit card transaction amount ※ AES encryption	N(12)	○	(Exclusive for credit card)
	blcAmt	Cancellable Balance	Cancellable balance ※ AES encryption	N(12)	○	"0"
	pktNo	Parameter Number	Parameter number	AN(20)	○	(Exclusive for Easy Cash Payment)

8.4 Request Parameter Hash Code

Entry	Combination Field
pktHash	Transaction Status Code + Cancellation Response Date + Cancellation Response Time + Merchant ID + Merchant Order Number + Transaction Amount (Plain Text) + Hash Key

9. Others

9.1 Table of Reject Codes

* Depending on the payment method (Easy Cash Payment, PG) used, the response message for the same response code may vary. Please refer to all response codes below.

- White Label Exclusive Response Code

Code	Content	Code	Content
0000	Normal Processing	0009	User cancellation
1001	Payment request info omitted (Merchant ID)	1002	Payment request info omitted (Request Date)
1003	Payment request info omitted (Request Time)	1004	Payment request info omitted (Merchant Order Number)
1005	Payment request info omitted (Transaction Amount)	1006	Payment request info omitted (Result Screen URL)
1007	Payment request info omitted (Payment Cancellation URL)	1008	Payment request info omitted (Merchant Customer ID)
1009	Payment request info omitted (Email)	1010	Payment request info omitted (hash Data)
1011	Payment request info omitted (Product Name)	1101	Payment request info length error (Merchant ID)
1102	Payment request info length error(Request Date)	1103	Payment request info length error(Request Time)
1104	Payment request info length error(Merchant Order Number)	1105	Payment request info length error(Transaction Amount)
1106	Payment request info length error(Result Screen URL)	1107	Payment request info length error(Payment Cancellation URL)
1108	Payment request info length error(Merchant Customer ID)	1109	Payment request info length error(hash Data)
1110	Payment request info length error(Merchant Name)	1111	Payment request info length error(Merchant Reservation Field)
1112	Payment request info length error(Email)	1113	Payment request info length error(Tax-Free Status)
1114	Payment request info length error(Taxable Amount)	1115	Payment request info length error(VAT Amount)
1116	Payment request info length error(Non-Taxable Amount)	1117	Payment request info length error(Service Charge Amount)
1118	Payment request info length error(Product Name)	1119	Payment request info length error(Bank Remark Content)

1120	Payment request info length error(Container Deposit)	1121	Payment request info length error(Cash Receipt Additional Deduction Classification)
1122	Payment request info length error(CI Verification Status)	1901	Hash value mismatch error
1902	Encryption entry unprocessed error	2005	Password verification failure
2010	Customer service termination	5001	token null
5002	token expired	5003	token encoding error
5004	token parse error	5005	token mapping error
5006	token io error	6001	Invalid request parameter
9002	Payment window option inquiry error	9003	Payment window banner inquiry error
9004	Terms list inquiry error	9005	Notice inquiry error
9006	Affiliate discount inquiry error	9007	Payment information inquiry error
9901	Gateway request parameter error	9902	Gateway response parameter error
9903	Gateway request error	9904	Gateway response error
9905	Gateway system error	9999	Internal system error
WL01	There were 10 or more authentication attempts with the same IP within a certain period of them so the authentication is restricted for 15 minutes. Please try again later.	WL02	Customer information is not valid. Please check the self-authentication personal information.

- Easy Cash Payment Response Code

  * Recent common reject codes can be downloaded from Common Reject Codes

Code	Content	Code	Content
0021	Success	0031	Failure
ST01	Nonexistent account	ST02	Invalid request
ST03	Duplicate withdrawal	ST04	System error occurred during VAN
ST05	No VAN response information	ST06	No transaction number information
ST07	Communication Error	ST08	Already registered account
ST09	Invalid request parameter	ST10	Internal system error
ST11	Bank maintenance time	ST12	Insufficient balance in the withdrawal account
ST13	ARS authentication result does not exist	ST14	ARS authentication result value differs
ST15	Recurring transfer terminated account	ST16	Withdrawal account transaction restricted
ST17	Resident number business number error	ST18	Account error (easy account registration not allowed)

ST19	Transaction not allowed for other reasons	ST20	Account error
ST21	No receiving account	ST22	Legally restricted account
ST23	Non-real name account	ST24	Account holder mismatch
ST25	Already canceled transaction	ST26	Cancelation amount error
ST27	ARS authentication failed	ST28	ARS reception not allowed
ST29	Account registration ongoing	ST30	Refund in process
ST31	Duplicate remittance occurred	ST32	Payer name inquiry failure
ST33	Limit per transaction is exceeded	ST34	Daily limit exceeded
ST35	Fraudulent account	ST36	Disconnection after a certain period of time.
ST37	Easy payment cancellation	ST38	Request in progress
ST39	Refund duplicate request	ST40	There is a request being processed
ST41	Service capacity exceeded	ST42	System BUSY
ST43	Already registered account.	ST44	Transaction with the bank not allowed
ST50	Duplicate parameter request	ST51	Already registered cash receipt user
ST52	Unregistered cash receipt user	ST53	Already terminated account
ST60	Transaction failure	ST61	Amount limit per transaction is exceeded
ST62	Daily limit amount exceeded	ST63	Monthly limit amount exceeded
ST64	Daily number of transaction limit exceeded	ST65	Monthly number of transaction limit exceeded
ST66	Password registration failure	ST67	Password mismatch
ST68	Service use suspension	ST69	According to policy the payment service cannot be used. Please try using another payment method.
ST70	According to the policy, this payment service cannot be used. Please contact Hecto Financial's customer service. (1600-5220)	ST72	ARS second authentication needed for payment
ST86	Authentication failure. (Mobile self-verification)	ST87	User is not registered to easy self-verification. (Mobile self-verification)
VTIM	Relay institution TIMEOUT	ST99	Easy payment system maintenance
SE01	Authentication valid time has expired.	SE02	Authentication number mismatch
SE03	Number of allowed attempts for authentication check has been exceeded		

PG Common Response Code

Code	Content	Code	Content

ST01	No customer information	STR1~STR8	Internal policy
ST06	No transaction information	ST03	Already paid transaction
ST08	Already registered account	ST07	Invalid parameter
ST09	Invalid request parameter	ST10	Internal system error
ST11	Provider maintenance time	ST13	No authentication detail
ST19	Transaction not allowed for other reasons	ST24	Account holder mismatch
ST25	Duplicate cancellation request	ST26	Cancellation information error
ST30	Authentication time expired	ST32	Account holder name error
ST38	Processing	ST39	Refund duplicate request
ST41	Traffic overload	ST44	Provider information error
ST45	Cancellation failure	ST46	Cancellation period elapsed
ST47	Unregistered merchant	ST48	Unregistered merchant
ST50	Duplicate request	ST54	Partial cancellation not allowed
ST55	Compound tax amount mismatch	ST56	Number of cancellation error
ST57	Cancelation amount (refund amount) exceeds the original transaction amount.	ST58	Cancelation request amount and original transaction amount do not match.
ST60	Abnormal processing	ST68	Service suspension
ST69	Service not allowed	ST70	Policy block
ST79	System error	ST90~ST97	Individual definition per payment method
ST99	Error for other reasons	VTIM	Provider timeout
3007	Cancellation limit exceeded		

Credit Card Response Code

Code	Content	Code	Content
CA01	Provider maintenance	CA02	Provider error
CA03	Parameter validity check	CA04	Payment relay institution error
CA10	Transaction information does not exist	CA11	Already acquired transaction
CA12	Already canceled transaction	CA13~CA19	Request information error
CA20	Card validity is not valid	CA21~CA23	Installment-related error
CA26	Number of uses exceeded	CA27~CA29	Password-related error
CA30	Identification number error	CA31~CA37	Limit-related error
CA38	Transaction not allowed as point limit is not reached	CA40~CA41	Transaction amount error

CA42	Transaction not allowed for amounts below 1000 won or amounts over 99,999,999 won	CA50~CA57	Card status error
CA58	Unregistered card. Please contact the card company.	CA60~CA64	Merchant status error
CA59	Transaction with corporate card is not allowed.	J999	Please call the card company
CA65	Authentication transaction non-committed merchant	CA70	Identification number (date of birth / business number) + password are not valid
CA75	Joint certification authentication information is not valid.	CA80	Service not allowed for the transaction
CA81	Error occurred while processing transaction	0905	Requesting self-verification
CA82	Please call the card company	CA83	This transaction cannot be canceled.
CA84	Error for other reasons has occurred	CA85	An error has occurred while processing cancellation transaction.
CA86	Duplicate transaction	CA87	Merchant number is not valid
CA88	Partial cancellation is not allowed for the pre-paid card (gift card).	8373	Please call the card company
8375	Other error processing		

9.2 Financial Institution Identifiers

Credit card unique identification codes are as follows.

Credit Card Company Code	Credit Card Company Name	Credit Card Company Code	Credit Card Company Name
BCC	BC	KBC	Kookmin
HNC	Hana(Korea Exchange)	SSC	Samsung
SHN	Shinhan	WRI	Woori
HDC	Hyundai	LTC	Lotte
007	Suhyup	NHC	NH Nonghyup
035	Jeju	034	Kwangju

037	Jeonbuk	027	Citi
218	KB Securities	050	Savings Bank
071	Korea Post	048	NACUFOK
002	KDB	090	Kakao Bank
089	Kbank	KBP	KBPay
SSP	Samsung Pay		

Financital institution unique identification codes are as follows.

Financial Institution Code	Financial Institution Name	Financial Institution Code	Financial Institution Name
002	KDB	088	Shinhan Bank
003	IBK	089	Kbank
092	Toss Bank	271	Toss Securities
004	Kookmin Bank	090	Kakao Bank
005	Exchange Bank	209	Yuanta Securities
007	Suhyup Bank	218	KB Securities
011	NH Nonghyup	238	Mirae Asset Securities
012	NACF	240	Samsung Securities
020	Woori Bank	243	Korea Investment Securities
023	SC Bank	247	NH Investment Securities
027	Korea Citi Bank	261	Kyobo Securities
031	Daegu Bank	262	HI Investment Securities
032	Busan Bank	263	Hyundai Motor Investment Securities
034	Kwangju Bank	264	Kiwoom Securities
035	Jeju Bank	265	eBEST Investment & Securities
037	Jeonbuk Bank	266	SK Securities
039	Kyongnam Bank	267	Daishin Securities
045	Korean Federation of Community Credit Cooperatives (KFCC)	269	Hanwha Investment Securities
048	National Credit Union Federation of Korea (NACUFOK)	270	Hana Financial Investment

050	Mutual Savings Bank	278	Shinhan Financial Investment
054	HSBC Bank	279	DB Securities
055	Deutsche Bank	280	Eugene Investment Securities
057	JP Morgan Chase Bank	287	Meritz Securities
060	BOA Bank	290	Bookook Securities
062	Industrial and Commercial Bank of China	291	Shinyoung Securities
064	National Forestry Cooperative Federation (NFCF)	292	Cape Investment Securities
071	Korea Post	103	SBI Savings Bank
081	KEB Hana Bank		

9.3 Bank Regular Maintenance Time

Financial Institution Code	Financial Institution Name	Bank Maintenance Time	Hecto Financial Working Time		Regular Maintenance
			Work Suspension Time	Work Start Time	
002	KDB	23:30~00:30	23:50	00:15	Every second Sunday of the month 00:00~04:00
003	IBK	24:00~00:30	23:50	00:12	Every Sunday 00:00~00:30
004	Kookmin Bank	24:00~00:30	23:50	00:12	Every third Sunday of the month 00:00~00:30, 05:00~05:30 Outside 01:00~06:00 (Intermittent transaction error)
007	Suhyup Bank	23:50~00:30	23:30	00:30	None
011	Nonghyup Bank	24:00~00:30	23:50	00:12	Every third Monday of the month 00:00~04:00 (If the day is a holiday, on the next business day)

020	Woori Bank	23:50~00:30	23:50	00:10	Every second Sunday of the month 02:00~06:00 (Prior notice from the bank regarding the maintenance day)
023	SC Bank	23:30~00:30	23:50	00:12	None
027	Korea Citi Bank	23:40~00:30	23:50	00:30	Daily 00:30~04:30
031	Daegu Bank	23:40~00:30	23:50	00:05	None
032	Busan Bank	23:30~00:30	23:50	00:05	None
034	Kwangju Bank	23:40~00:30	23:50	00:05	Every second Sunday of the month 02:00~06:00
035	Jeju Bank	23:40~00:30	23:50	00:12	Every Sunday 04:30~05:00
037	Jeonbuk Bank	24:00~00:30	23:50	00:05	Every second Saturday of the month 00:00~04:00
039	Kyongnam Bank	23:40~00:30	23:50	00:05	Every second Sunday of the month 00:00~07:00
045	KFCC	23:50~00:30	23:30	00:30	None
048	NACUFOK	23:40~00:30	23:50	00:05	None
050	Mutual Savings Bank	23:50~00:10	23:50	00:35	None
064	NFCF	23:30~00:30	23:30	01:00	None
071	Korea Post	23:40~00:30	23:50	00:05	None
081	Hana Bank	23:40~00:30	23:50	00:15	Every second Sunday of the month 00:00~08:00
088	Shinhan Bank	23:40~00:30	23:50	00:05	None
089	Kbank	23:40~00:30	23:35	00:35	None
090	Kakao Bank	23:50~00:10	23:50	00:05	None
092	Toss Bank	23:55~00:05	23:55	00:05	None
103	SBI Savings Bank	23:55~00:10	23:50	00:05	None
209	Yuanta Securities	23:50~00:10	23:50	00:10	None
238	Mirae Asset Securities	23:30~00:20	23:30	00:20	None
240	Samsung Securities	23:30~00:20	23:50	00:10	None
243	Korea Investment & Securities	23:40~00:10	23:40	00:10	None
247	NH Investment & Securities	23:50~00:15	23:50	00:05	None

266	SK Securities	23:50~00:30	23:30	00:30	None
267	Daishin Securities	23:55~00:25	23:55	00:25	None
278	Shinhan Financial Investment	23:25~00:15	23:30	00:15	Daily 23:30~00:10, 03:00~03:10
280	Eugene Investment & Securities	23:30~00:30	23:50	00:35	None