GLN Partner Integration Guide

Revision History

Version	Date	Author	Changes
0.1	Sep 28, 2017	Kwon Yeonjoo	Initial Draft
0.2	Oct 12, 2017	Kwon Yeonjoo	Add Questionnaire
0.3	Oct 18, 2017	Jung Inho	Add interface spec
0.4	Oct 18, 2017	Kwon Yeonjoo	Add sequence diagram
0.5	Oct 19, 2017	Kwon Yeonjoo	Add description
0.6	Oct 20, 2017	Jung Inho	Update interface spec (add sender / receiver GLN id on remittance point interfaces)
0.7	Oct 20, 2017	Kwon Yeonjoo	Add scenario list as table

Contents

1. Overview

This document explains GLN integration scenarios and the integration process and specs.

2. Required information for partner registration

Partner need to fill in the yellow column.

Item	Description	Sample
Partner Code(3-digit Alphabet Code)		HNM
Partner Name		Hana Members
Point : Local Currency Ratio		1 : 1
Point Display Text		30,000 **p**
Currency		KRW
Country		Republic of Korea
Default Language Setting		Korean/한글
Unregistered User Service Usage		YES
Partner Type (Partner/Reseller)		Partner * Partner: Bank * Reseller: Selling coupons, etc
registration date	YYYY-MM-DD	2017-Sep-29
Icon image		

3. GLN Use Cases

| #	Use Case	Description
1	Member Registration	Process for partner member joins to GLN
2	Authentication	Process for Single Sign On to GLN
3	Point Inquiry	Query current point balance
4	Point Remittance	Send/Receive point between GLN member

1) Member Registration
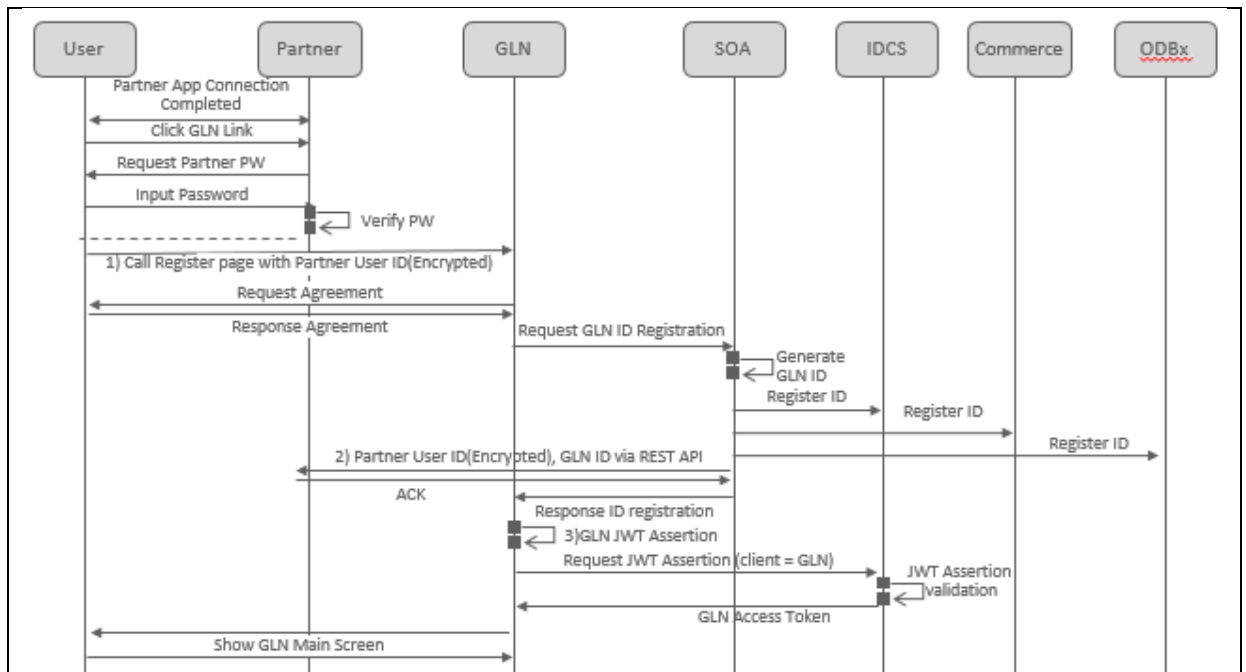
A. End User login to the partner app

B. Click GLN link in the partner app. User can connect GLN only via partner app link.

C. Proceed with re-authentication process in the partner app

D. Partner app checks this user is registered in the GLN or not and redirect the user to the service agreement or main page (GLN page will use external browser, not in-app view)

E. When user clicks 'agree' button, GLN ID will be generated.

F. After GLN ID registration process in GLN side, GLN will call the service which provided by partner. This service receives the GLN ID and save this ID to the partner user store.

G. After registration done, GLN will create user session with access token and redirect user to the GLN page.

2) Authentication

Authentication is done by partner and GLN accepts the assertion issued by partner.
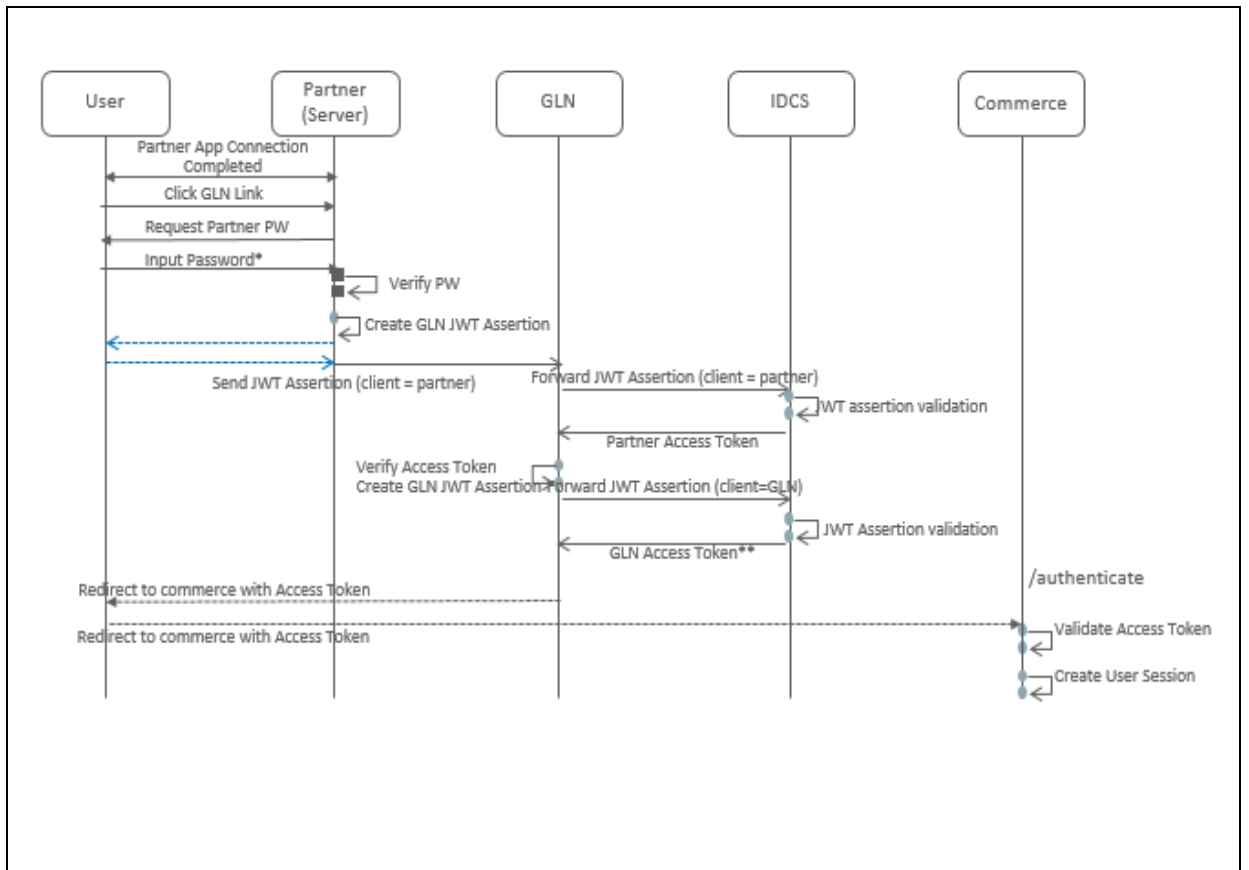
A. User already authenticated by Partner.

B. When user clicks GLN Link in the partner app, partner request re-authentication

C. After re-authentication, partner creates 'JWT Assertion' and redirect the user to the GLN with this assertion.

D. GLN verifies the validity of JWT assertion.

E. GLN get access token which will be used in the GLN.

3) Point Inquiry
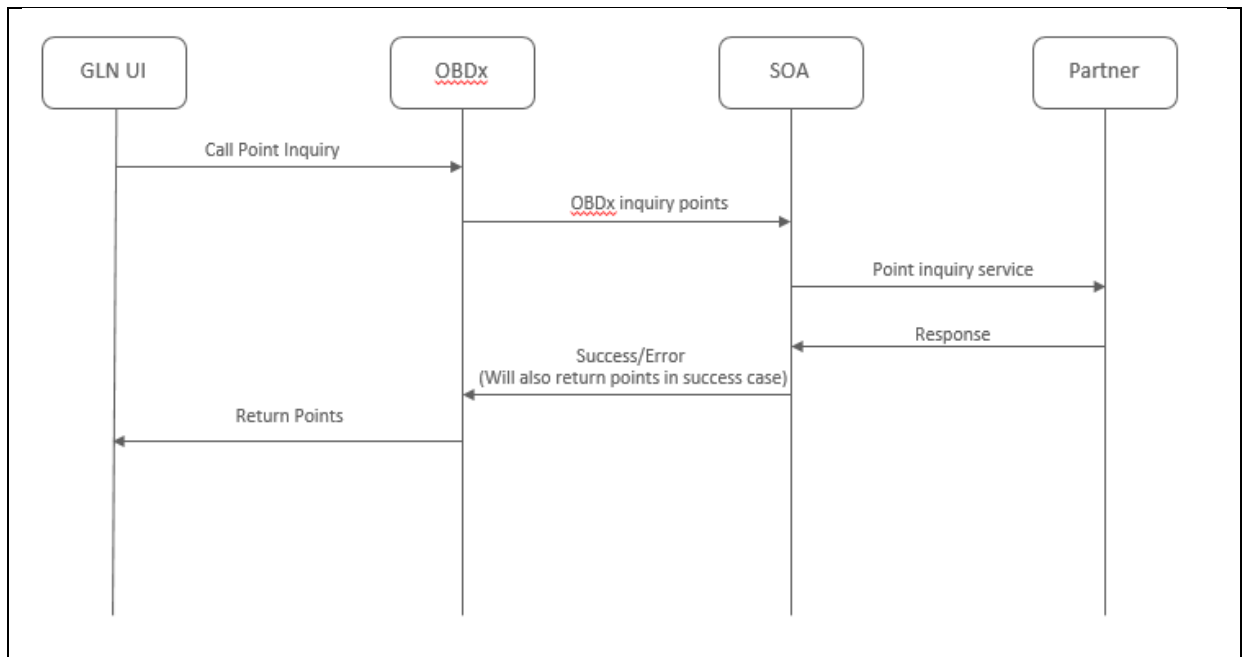
    A. GLN uses the GLN ID as a parameter to query the partner's point.

    B. The partner's points will be displayed on the screen.

4) Point Remittance
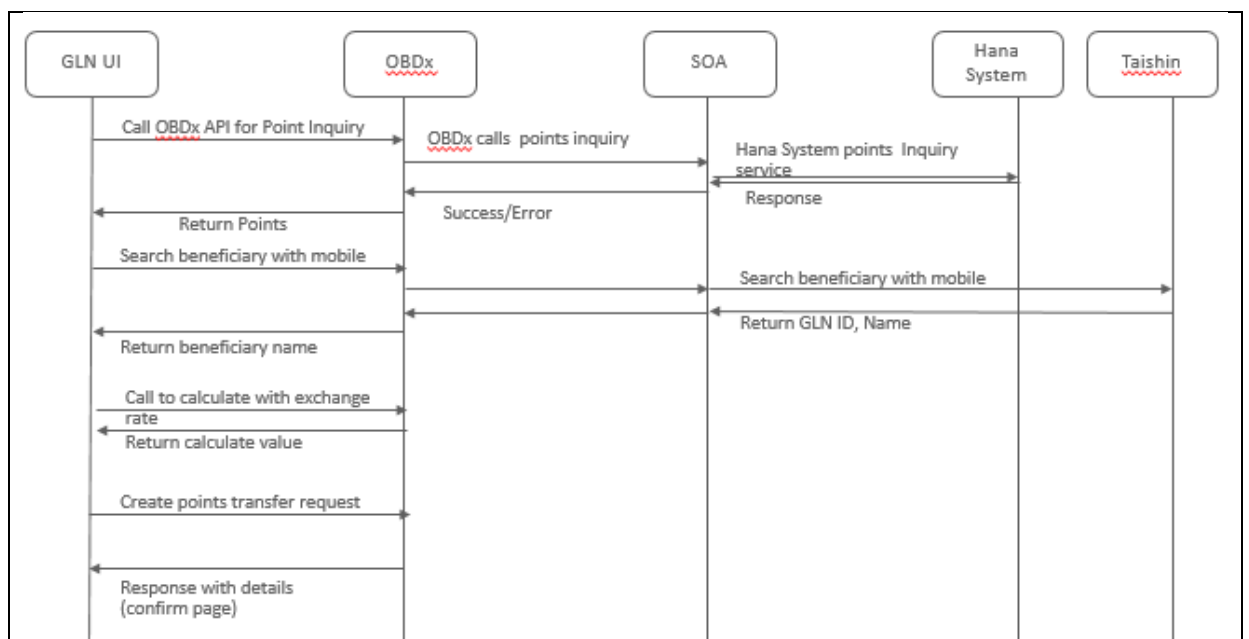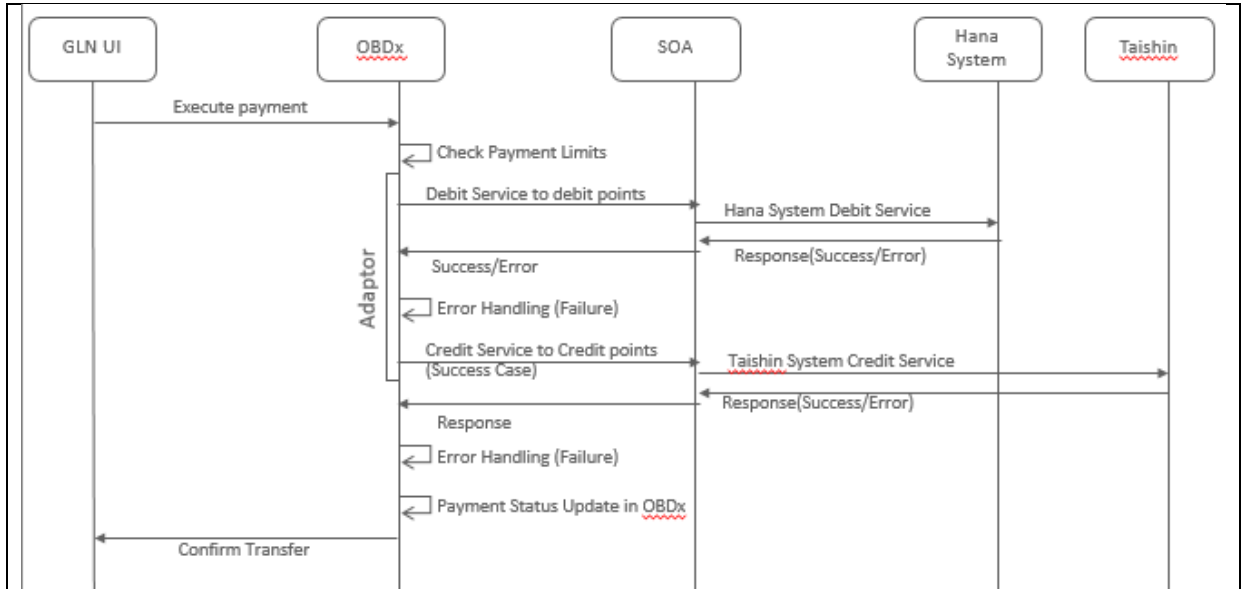
A. Query current user point from the partner.

B. User input recipient's mobile number.

C. Partner return recipient's GLN ID

D. User input amount of the point to send

E. User checks the calculated value with exchange rate

F. When user click "Transfer' button, it will pop-up confirm page.

G. After user confirm it, point transaction executes.

H. Debit transaction from sender's account.

I. Credit transaction to receiver's account.

J. Shows transaction result to the user.

4. Reports for admin

A. The Partner Admin can view the GLN Membership Report.

B. The Partner Admin can view the pageview of the GLN main page.

C. GLN provides settlement-related reports to the partner manager.

5. Integration Tasks

1) Member Registration

#	Use Case	Partner Task	GLN Task	Notes
1	Connecting to GLN	Add a link to an existing partner APP and set URL After checking whether user have joined the GLN, user is taken to the service agreement page or main page.	Provide GLN URL	
		When user clicks the link, partner app re-authenticates the user and redirected to the GLN page.		
2	Service Agreement		Use the GLN Common Services Agreement page	Is it possible that the service agreement can be changed by partner?
3	Sending GLN ID to partner	Add GLN ID field to existing user store table (GLN ID is 32 characters)		
		Provides service (ex, Open API) to receive GLN ID and store it in the user store	After user is registered into the GLN, GLN will call the service to send newly issued GLN ID to partner.	

2) Authentication

#	Use Case	Partner Task	GLN Task	Notes
4	Authentication	Send JWT Assertion	GLN verify the JWT Assertion and process creating user session in	

			GLN	

3) Point Inquiry

#	Use Case	Partner Task	GLN Task	Notes
5	Point Inquiry	Point inquiry service with GLN ID – Open API, Socket	Call the corresponding service to inquiry the points.	

4) Point Remittance

#	Use Case	Partner Task	GLN Task	Notes
6	Point Remittance	Point Credit with GLN ID – Open API, Socket	Call the corresponding service to credit the points.	
		Point debit with GLN ID – Open API, Socket	Call the corresponding service to debit points	
		Point Debit Cancel with GLN ID – Open API, Socket	Call the corresponding service to debit cancel points.	
7	User Search	Search user's GLN ID with mobile number		Needed GLN ID for transferring point to another partner
		Search user name and phone number with GLN ID		Needed to display point transfer details

6. Interface Spec

1) Member Registration

Send key value to receive GLN ID after GLN ID issued.

Key will be transferred to GLN when user clicks 'GLN link' in the partner app.

- **Parameter sent by partner when user clicks GLN Link**

Parameter Name	Type	Description	Sample Data
key	string	Encrypted user ID from a partner	

Example)

https://www.gln.com/register?key=xxxxx

[Request message from GLN to a partner system]

Name	Type	Description	Sample Data
key	string	Encrypted user ID from a partner	
gln_id	string	Global loyalty network's unique ID (Length : 32 byte)	

2) Authentication

    i. JWT Assertion Sample

JWT.io

Encoded PASTE A TOKEN HERE

eyJ4NXQjUzI1NiI6IjRJdGt6Zzl5dHNjRDFwT2s5Y
21EOU95bnlwcFExWm5vdERFR2d2SWdaX28iLCJ4NX
QiOiItSGxUSjBmVzZzV05tc1lZX2IxVW1uU1kxZk0
iLCJraWQiOiJvYXV0aF90cnVzdDEiLCJhbGciOiJS
UzI1NiJ9.eyJzdWIiOiJkYW5ueS5jcmFuZUBvcmFj
bGVkZW1vLmNvbSIsImF1ZCI6Imh0dHBzOlwvwXC9pZ
GVudGl0eS5vcmFjbGVjbG91ZC5jb21cLyIsIkNJIj
oibXludW1iZXIiLCJpc3MiOiI4OWFkNjYyNDk5ZjY
0N2U0OGM1NDk5ZTQ0NGYyMDI1YSIsImF1dGhOIjoi
MDAwMDAiLCJleHAiOjE1MDM2ODQ2MzMsImlhdCI6M
TUwMzY4MTAzMywianRpIjoiYzgzZThjNjctNTdkZC
00MTI5LTlhN2YtM2M0MTg4ODI5NTNhIn0.FZK6CT5
YusCpl6DirluTS1PqeXepNjvi2ckN05AgUizMYqL6
wTNiNiPVzkzk78n1DNMEOn-

Decoded EDIT THE PAYLOAD AND SECRET (ONLY HS256 SUPPORTED)

HEADER: ALGORITHM & TOKEN TYPE

{
  "x5t#S256": "4Itkzg9ytscD1pOk9cmD9OynyppQ1ZnotDEGgzIgZ_o",
  "x5t": "-HlTJ0fW6sWNmsYY_b1UmnSY1fM",
  "kid": "oauth_trust1",
  "alg": "RS256"
}

PAYLOAD: DATA

{
  "sub": "danny.crane@oracledemo.com",
  "aud": "https://identity.oraclecloud.com/",
  "CI": "mynumber",
  "iss": "89ad662499f647e48c5499e444f2025a",
  "authN": "00000",
  "exp": 1503684633,
  "iat": 1503681033,
  "jti": "c83e8c67-57dd-4129-9a7f-3c418882953a"
}

3) Point Inquiry

[Request from GLN to a partner system]

Name	Mandatory	Description	Sample Data
gln_id	●	Global loyalty network's unique ID (Length : 32 byte)	

[Response from a partner system]

Name	Mandatory	Description	Sample Data
total_amount_point	●	User's total amount of point	410000
total_amount_value		User's total amount of point value. (Optional)	
response_code	●	Response code from partner system	0000
response_message	●	Response message from partner system	Success

4) Point Remittance (credit / debit)

[Request from GLN to a partner system]

Name	Mandatory	Description	Sample Data

sender_gln_id	●	Sender GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
receiver_gln_id	●	Receiver GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
transaction_date	●	Transaction date of user (YYYYMMDD)	20171012
transaction_time	●	Transaction time of user (HH24MISS)	103001
transaction_tracking_id	●	uuid for interface with GLN	
transaction_amount_point	●	Amount of point for credit or debit	10000
transaction_amount_value		Amount of point value for credit or debit. (Optional)	

[Response from a partner system]

Name	Mandatory	Description	Sample Data
transaction_tracking_id	●	uuid for interface with GLN	
sender_gln_id	●	Sender GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
receiver_gln_id	●	Receiver GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
transaction_date	●	Transaction date of user (YYYYMMDD)	20171012
transaction_time	●	Transaction time of user (HH24MISS)	103001
total_amount_point		User's total amount of point. (Optional)	410000
total_amount_value		User's total amount of	

		point value (Optional)	
transaction_amount_point		Amount of point for credit or debit	10000
transaction_amount_value		Amount of value point for credit or debit (Optional)	
approval_date	●	Approve date	
approval_no	●	Approval transaction id	
response_code	●	Response code from partner system	0000
response_message	●	Response message from partner system	Success

1. Remittance point (cancel point)

[Request from GLN to a partner system]

Name	Mandatory	Description	Sample Data
sender_gln_id	●	Sender GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
receiver_gln_id	●	Receiver GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
transaction_date	●	Transaction date of user (YYYYMMDD)	20171012
transaction_time	●	Transaction time of user (HH24MISS)	103001
transaction_tracking_id	●	uuid for interface with GLN	
original_approval_date	●	Original transaction date (YYYYMMDD)	20171012
original_approval_no	●	Original transaction approval no	

Name	Mandatory	Description	Sample Data
cancel_transaction_tracking_id	●	uuid for cancel transaction with GLN	
transaction_amount_point	●	Amount of point for credit or debit	10000
transaction_amount_value		Amount of value point for credit or debit (Optional)	

[Response from a partner system]

Name	Mandatory	Description	Sample Data
sender_gln_id	●	Sender GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
receiver_gln_id	●	Receiver GLN ID (Global loyalty network's unique ID) (Length : 32 byte)	
original_approval_date	●	Original transaction date (YYYYMMDD)	20171012
original_approval_no	●	Original transaction approval no	
cancel_transaction_tracking_id	●	uuid for cancel transaction with GLN	
transaction_date	●	Transaction date of user (YYYYMMDD)	20171012
transaction_time	●	Transaction time of user (HH24MISS)	103001
approval_date	●	Approve date	20171012
approval_no	●	Approval transaction id	
total_amount_point		User's total amount of point (Optional)	410000
total_amount_value		User's total amount of value point (Optional)	
transaction_amount_point	●	Amount of point for	10000

		cancel	
transaction_amount_value		Amount of point value for cancel	
response_code	●	Response code from partner system	
response_message	●	Response message from partner system	

2. Get user information to receive point money through the GLN ID

[Request from GLN to a partner system]

Name	Mandatory	Description	Sample Data
gln_id	●	GLN ID	

[Response from a partner system]

Name	Mandatory	Description	Sample Data
gln_id	●	GLN ID	
user_mobile_phone_number		User mobile phone number	101230010
user_phone_country_code		Phone country code	+82
user_full_name		User's full name	
user_first_name	●	First name	
user_middle_name		Middle name	
user_last_name	●	Last name	
user_email		User email address	abc@gmail.com
total_amount_point		User's total amount of point for credit	410000
total_amount_value		User's total amount of value point for credit	410000
response_date	●	Response date of system (YYYYMMDD)	20171012
response_time	●	Response time of system (HH24MISS)	103000
response_code	●	Response code from partner system	0000
response_message	●	Response message from	Success

		partner system	

3. Get user information to receive point through a phone number

[Request from GLN to a partner system]

Name	Mandatory	Description	Sample Data
phone_number	●	Mobile number	101230010
phone_country_code	●	Phone country code	+82

[Response from a partner system]

Name	Mandatory	Description	Sample Data
gln_id	●	GLN ID	
user_mobile_phone_number	●	User mobile phone number	101230010
user_phone_country_code	●	Phone country code	+82
user_full_name		User's full name	
user_first_name	●	First name	
user_middle_name		Middle name	
user_last_name	●	Last name	
user_email		User email address	abc@gmail.com
total_amount_point		User's total amount of point for credit	410000
total_amount_value		User's total amount of value point for credit	410000
response_date	●	Response date of system (YYYYMMDD)	20171012
response_time	●	Response time of system (HH24MISS)	103000
response_code	●	Response code from partner system	0000
response_message	●	Response message from partner system	Success

Appendix A. Interview Questionnaire

Category	Questionnaire
App	Is there a separate App that users are using? Is it Native or Web?
User Information	The GLN ID is generated with a 32-digit random number and needs to be expanded by adding fields to existing partner user information. Is it scalable?
Authentication	Is there a standard authentication interface available? 1) Whether SAML is supported, service availability with IDP (Identity Provider) 2) Whether OAuth is supported
	Is it possible to create JWT Assertion and send it to GLN?
Integration	Is it possible to provide services in Open API format? The following items are necessary for linking with GLN. 1) Inquiry, Credit, Cancel 2) User GLN ID, name return by mobile number 3) Get new GLN ID and update to user information
	If the Open API method is not possible for the above services, what is the available interface method?

Appendix B. FAQ

1. What is the format of the JWT Assertion?

   JWT (Jason Web Token) is a small, URL-safe standard for exchanging information between two parties on the Web. (RFC 7523)

   GLN is provided authentication information of partner as JWT assertion type, and verifies access to GLN by issuing Access Token.

   The reason for introducing this method is to provide convenience to the user by using the same authentication method used by existing partner apps without issuing separate authentication information (new ID and password, etc.) to the user.