

# SSD-TECH

## API Specification

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## Revision History

Revision Number	Date	Remarks
1.0	27 September 2017	Initial version.

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## 1.0 Introduction

This document will define the SSD-TECH API specification. The Content Provider partners integrating to the SSD-TECH Platform are expected to adhere to the API specification defined in this document.

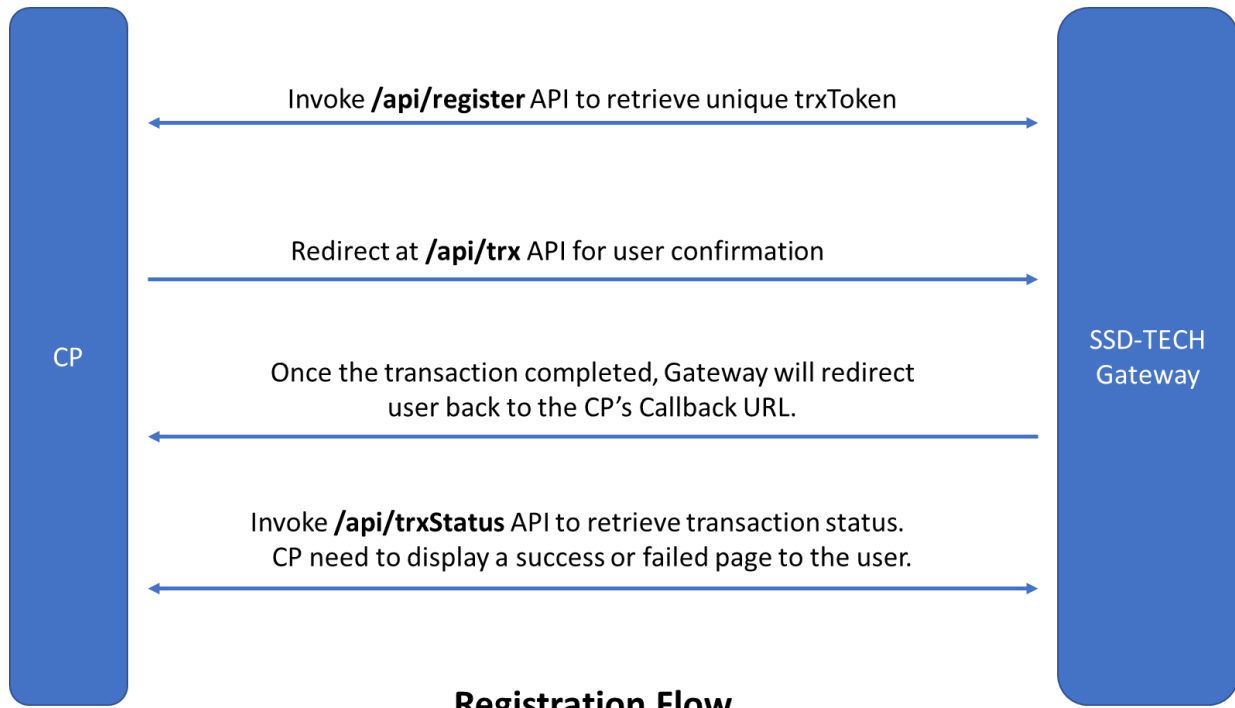
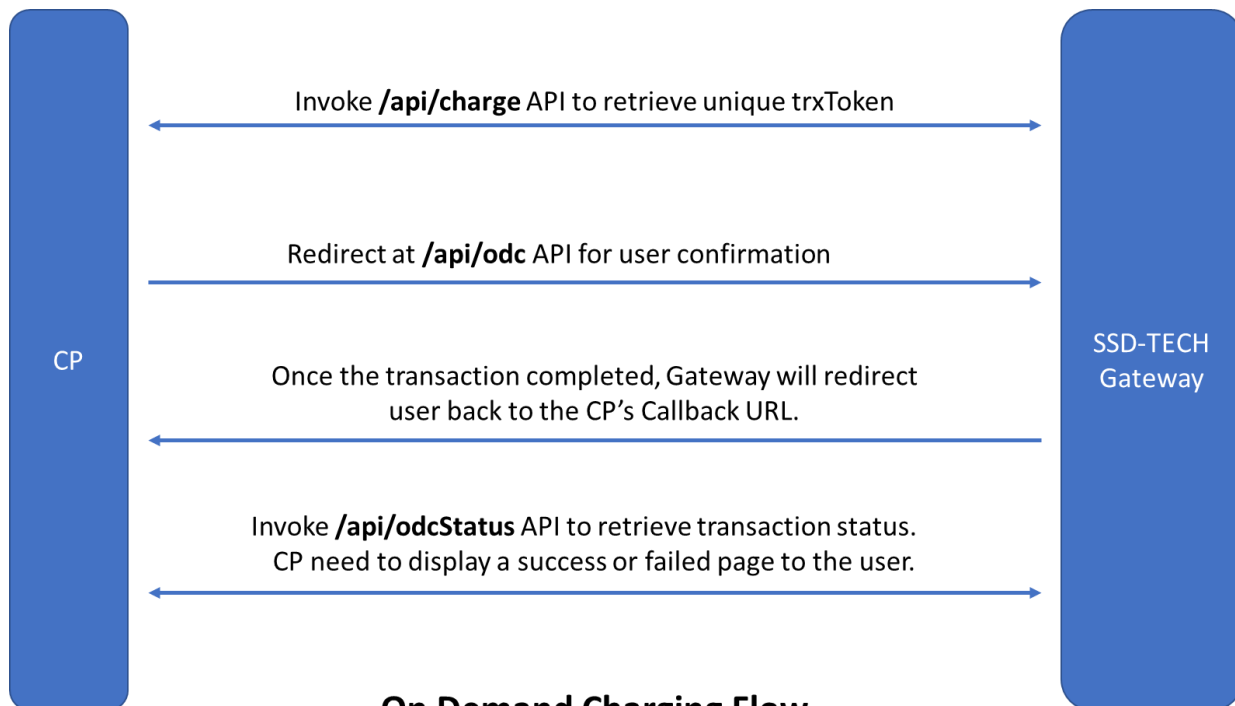
Adherence to the URL patterns and response codes defined herein is mandatory.

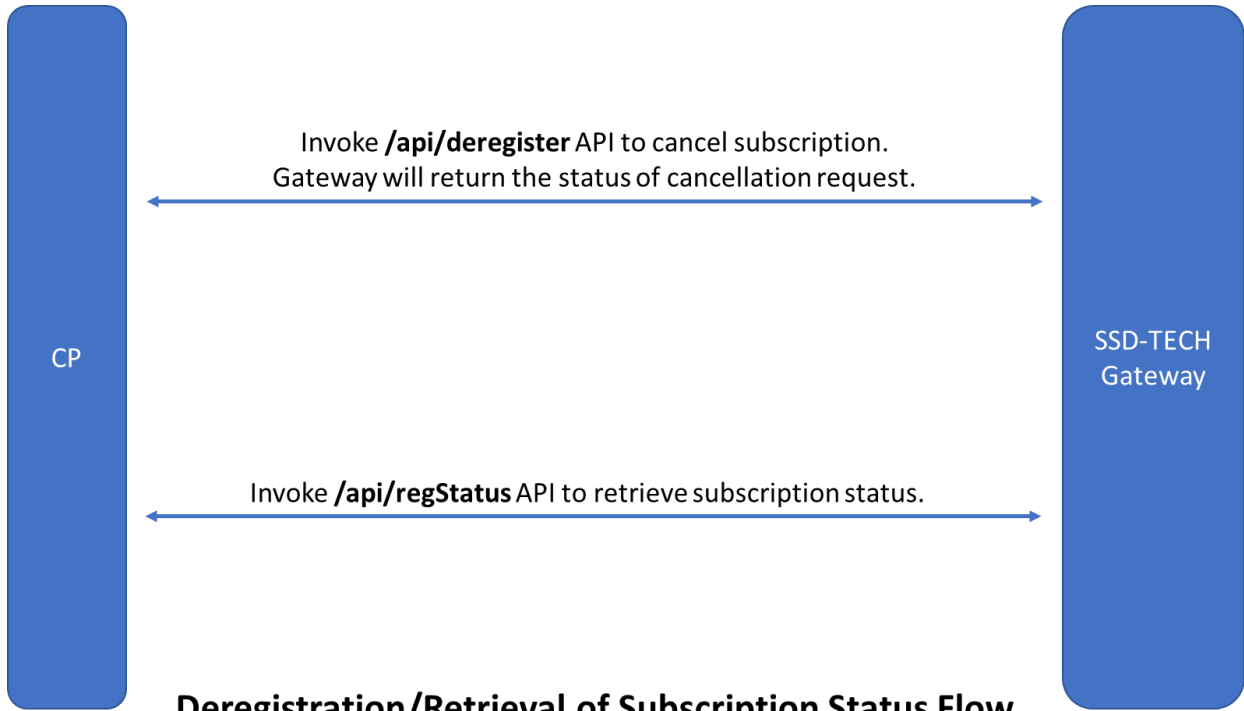
### End Point URL References

For registered Content Provider, kindly request for the <SSDTECH\_SERVER> URL from SSD-TECH Services Team.

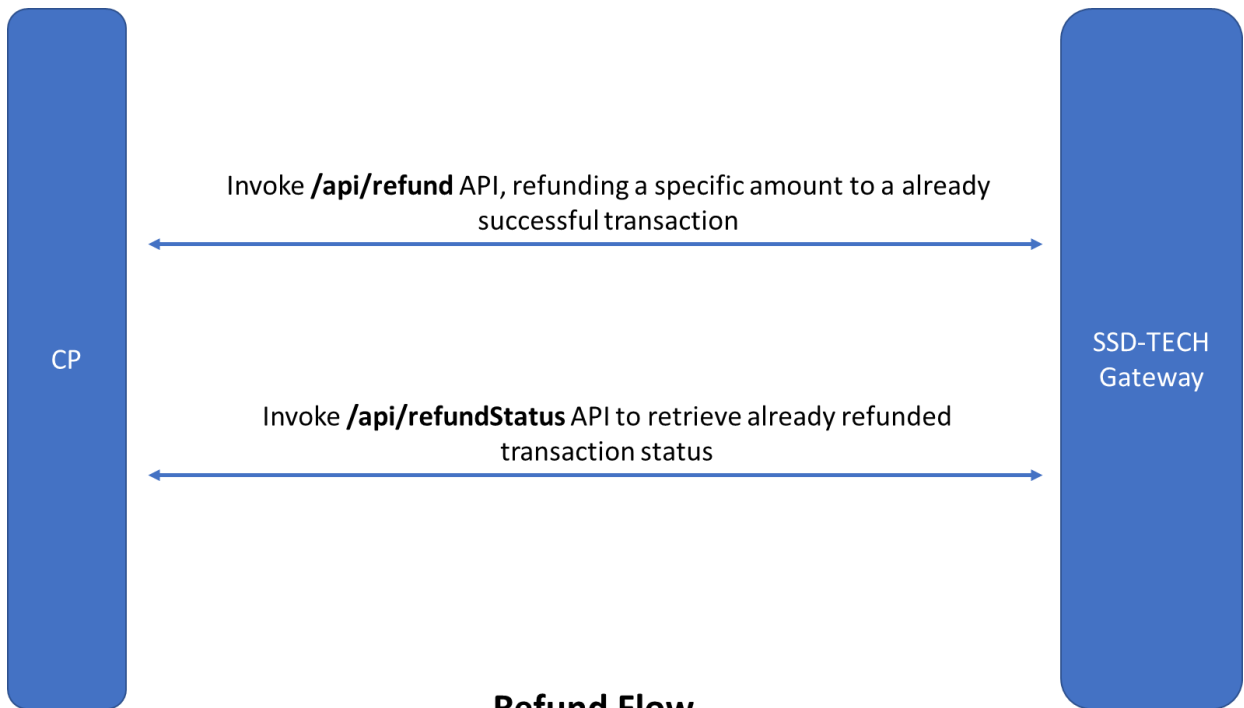
API End Point Name	API End Point URL	HTTP Method
Request for Registration	<SSDTECH_SERVER>/api/register	POST
Redirection to Gateway Page	<SSDTECH_SERVER>/api/trx	GET
Request for Transaction Status	<SSDTECH_SERVER>/api/trxStatus	POST
Request for On Demand Charge	<SSDTECH_SERVER>/api/charge	POST
Redirection to Gateway Page for On Demand Charge	<SSDTECH_SERVER>/api/odc	GET
Request for Transaction Status for On Demand Charge	<SSDTECH_SERVER>/api/odcStatus	POST
Request for Deregistration	<SSDTECH_SERVER>/api/deregister	POST
Request for Registration Status	<SSDTECH_SERVER>/api/regStatus	POST
Request for Refund	<SSDTECH_SERVER>/api/refund	POST
Request for Refund Status	<SSDTECH_SERVER>/api/refundStatus	POST

## 2.0 API flows

**Registration Flow****On Demand Charging Flow**



**Deregistration/Retrieval of Subscription Status Flow**



**Refund Flow**

### 3.0 Request trxToken for Registration

To initiate a registration request via the Gateway, Content Provider will need to request for trxToken from the Gateway. Content Provider will need to request for trxToken for each individual registration request as trxToken is unique for each transaction. Once Content Provider get the unique trxToken, they need to redirect the user to the Gateway page with the trxToken.

#### Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/register  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data": {     "trxToken": "e8bbe448-a455-11e7-bb28-00acf6a5eca0",     "trxId": "123456",     "errorCode": "00",     "errorMessage": ""   } }</pre>

#### Request Parameter

Parameter Name	Type	Description
<b>cpTransId</b>	STRING (Mandatory)	This is unique transaction id per API call event generated by Content Provider. It is your reference for troubleshooting purposes.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.
<b>subscriptionGroupId</b>	STRING (Mandatory)	This is the unique id for each different service package.
<b>description</b>	STRING (Mandatory)	This is the text to appear on the user's bill to allow them to easily identify what they have bought.
<b>cpCallbackUrl</b>	STRING (Mandatory)	The URL to which Content Provider would like the Gateway to redirect user once the charging transaction is completed. SSD-TECH will pass over the trxId to this URL.
<b>autoRenew</b>	STRING (OPTIONAL)	The status of the auto renew as below: 1. Y (mean yes, default value) 2. N (means no)



## Response Parameter

Parameter Name	Type	Description
<b>trxToken</b>	STRING	This is a unique token generated by the Gateway to identified each transaction. Content Provider need to pass this trxToken during the redirection to Gateway Page.
<b>trxId</b>	STRING	This is the unique transaction id generated by the Gateway. This id will be used for any future reconciliation purposes. The same id will be pass back to Content Provider's callback URL once the transaction completed.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

#### 4.0 Redirection to Gateway Page

After Content Provider successfully retrieve trxToken, they need to redirect user to the Gateway Page for user confirmation in order to invoke the charging. User will be displayed a charge page asking for their confirmation to proceed with the purchase. Once the user agreed to proceed, the Gateway will proceed to charge the user and invoke the Content Provider callback URL (as provided by the Content Provider in Section 3.0: Request trxToken for registration).

## Request Information

<b>HTTP Method</b>	REDIRECT - GET
<b>Request</b>	URL: <SSDTECH_SERVER>/api/trx Redirect user to URL below with trxToken parameter.
<b>Response</b>	Not Applicable.

## Request Parameter

Parameter Name	Type	Description
<b>trxToken</b>	STRING (Mandatory)	This is a unique token generated by the Gateway to identified each transaction.

## Response Parameter

Not Applicable

## 5.0 Content Provider's Callback URL

After the charging completed, the Gateway will redirect user back to the Content Provider's Callback URL. (this callback URL is provided by Content Provider when requesting for the trxToken in Section 3.0).

Content Provider need to prepare the callback URL which accept HTTP GET command. Example, let's said the Content Provider's callback URL is

[http://contentprovider.com/callback ?](http://contentprovider.com/callback?)

The Gateway will redirect user back to URL below with request parameter, trxId. E.g.:

<http://contentprovider.com/callback?trxId=12345678>

Note: trxId is the unique transaction id generated by the Gateway. This id will be used for any future reconciliation purposes. This is the same transaction ID when Content Provider invoke the "Request for trxToken" API.

Upon receiving this request, the Content Provider will need to invoke the "Request for Transaction Status" API (Section 6.0) to get the status of the charging transaction. Then the Content Provider need to display a success or failed page to the user/payer.

## 6.0 Request for Transaction Status

Once Content Provider received the request on callback URL from the Gateway, they need to invoke this "Request for Transaction Status" API to get the status of the charging transaction. Then the Content Provider need to display a success or failed page to the user/payer.

### Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/ trxStatus  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data":   {     "trxStatus": "Charged",     "amount": "10.00",     "msisdn":"+60191234567",     "errorCode": "00",     "errorMessage": ""   } }</pre>

## Request Parameter

Parameter Name	Type	Description
<b>trxId</b>	STRING (Mandatory)	This is the unique transaction id generated by the Gateway. This id is passed to Content Provider's Callback URL.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.

## Response Parameter

Parameter Name	Type	Description
<b>trxStatus</b>	STRING	The status of the charge transaction as below: 1. Charged. (mean successfully charged) 2. Denied. (failed to charge. Check the error code list for reason)
<b>amount</b>	DECIMAL	This is the actual amount being charged. It can be a whole number or two digit decimal.
<b>msisdn</b>	STRING	The MSISDN of the target user. The user's MSISDN including the country code preceded by '+', e.g. +60191234567.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 7.0 Request for on demand charge

To initiate an on-demand charging request via the Gateway, Content Provider will need to request for **trxToken** from the Gateway. Content Provider will need to request for **trxToken** for each individual on demand charging request as **trxToken** is unique for each transaction. Once Content Provider get the unique **trxToken**, they need to redirect the user to the Gateway page with the **trxToken**.

## Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/charge  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT { "data": { "trxToken": "e8bbe448-a455-11e7-bb28-00acf6a5eca0",

```

}
    "trxId": "123456",
    "errorCode": "00",
    "errorMessage": ""
}

```

### Request Parameter

Parameter Name	Type	Description
<b>cpTransId</b>	STRING (Mandatory)	This is unique transaction id per API call event generated by Content Provider. It is your reference for troubleshooting purposes.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.
<b>amount</b>	DECIMAL (Mandatory)	This is the actual amount being charged. It can be a whole number or two-digit decimal.
<b>description</b>	STRING (Mandatory)	This is the text to appear on the user's bill to allow them to easily identify what they have bought.
<b>cpCallbackUrl</b>	STRING (Mandatory)	The URL to which Content Provider would like the Gateway to redirect user once the charging transaction is completed. SSD-TECH will pass over the trxId to this URL.

### Response Parameter

Parameter Name	Type	Description
<b>trxToken</b>	STRING	This is a unique token generated by the Gateway to identified each transaction. Content Provider need to pass this trxToken during the redirection to Gateway Page.
<b>trxId</b>	STRING	This is the unique transaction id generated by the Gateway. This id will be used for any future reconciliation purposes. The same id will be pass back to Content Provider's callback URL once the transaction completed.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 8.0 Redirection to Gateway Page for On Demand Charge

After Content Provider successfully retrieve trxToken, they need to redirect user to the Gateway Page for user confirmation in order to invoke the charging. User will be displayed a charge page asking for their confirmation to proceed with the purchase. Once the user agreed to proceed, the Gateway will proceed

to charge the user and invoke the Content Provider callback URL (as provided by the Content Provider in Section 7.0: Request for on demand charge).

### Request Information

<b>HTTP Method</b>	<b>REDIRECT - GET</b>
<b>Request</b>	URL: <SSDTECH_SERVER>/api/odc Redirect user to URL below with trxToken parameter.
<b>Response</b>	Not Applicable.

### Request Parameter

Parameter Name	Type	Description
<b>trxToken</b>	STRING (Mandatory)	This is a unique token generated by the Gateway to identified each transaction.

### Response Parameter

Not Applicable

## 9.0 Content Provider's Callback URL for On Demand Charge

After the charging completed, the Gateway will redirect user back to the Content Provider's Callback URL. (this callback URL is provided by Content Provider when requesting for the trxToken in Section 7.0).

Content Provider need to prepare the callback URL which accept HTTP GET command. Example, let's said the Content Provider's callback URL is [http://contentprovider.com/od\\_callback?](http://contentprovider.com/od_callback?)

The Gateway will redirect user back to URL below with request parameter, trxId. E.g.: [http://contentprovider.com/od\\_callback?trxId=12345678](http://contentprovider.com/od_callback?trxId=12345678)

Note: trxId is the unique transaction id generated by the Gateway. This id will be used for any future reconciliation purposes. This is the same transaction ID when Content Provider invoke the "Request for trxToken" API.

Upon receiving this request, the Content Provider will need to invoke the "Request for Transaction Status for On Demand Charge" API (Section 10.0) to get the status of the charging transaction. Then the Content Provider need to display a success or failed page to the user/payer.

## 10.0 Request for Transaction Status for On Demand Charge

Once Content Provider received the request on callback URL from the Gateway, they need to invoke this "Request for Transaction Status for On Demand Charge" API to get the status of the charging transaction. Then the Content Provider need to display a success or failed page to the user/payer.

## Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/ odcStatus  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Wed, 27 Sep 2017 12:00:00 GMT <pre> {   "data":   {     "trxStatus": "Charged",     "amount": "10.00",     "msisdn":"+60191234567",     "errorCode": "00",     "errorMessage": ""   } } </pre>

## Request Parameter

Parameter Name	Type	Description
<b>trxId</b>	STRING (Mandatory)	This is the unique transaction id generated by the Gateway. This id is passed to Content Provider's Callback URL.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.

## Response Parameter

Parameter Name	Type	Description
<b>trxStatus</b>	STRING	The status of the charge transaction as below: 1. Charged. (mean successfully charged) 2. Denied. (failed to charge. Check the error code list for reason)
<b>amount</b>	DECIMAL	This is the actual amount being charged. It can be a whole number or two digit decimal.
<b>msisdn</b>	STRING	The MSISDN of the target user. The user's MSISDN including the country code preceded by '+', e.g. +60191234567.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 11.0 Request for deregistration

To deregister a user from a subscription service, Content Provider need to call the deregister API.

### Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/deregister  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data":   {     "errorCode": "00",     "errorMessage": ""   } }</pre>

### Request Parameter

Parameter Name	Type	Description
<b>cpTransId</b>	STRING (Mandatory)	This is unique transaction id per API call event generated by Content Provider. It is your reference for troubleshooting purposes.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.
<b>msisdn</b>	STRING (Mandatory)	The MSISDN of the target user. The user's MSISDN including the country code preceded by '+', e.g. +60191234567.
<b>subscriptionGroupId</b>	STRING (Mandatory)	This is the unique id for each different service package.

### Response Parameter

Parameter Name	Type	Description
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 12.0 Request for Subscription status

To query about subscriber's subscription status, CP need to call **/api/regStatus** API.

### Request Information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/regStatus  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data":   {     "status": "Registered",     "errorCode": "00",     "errorMessage": ""   } }</pre>

### Request Parameter

Parameter Name	Type	Description
<b>cpTransId</b>	STRING (Mandatory)	This is unique transaction id per API call event generated by Content Provider. It is your reference for troubleshooting purposes.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.
<b>msisdn</b>	STRING (Mandatory)	The MSISDN of the target user. The user's MSISDN including the country code preceded by '+', e.g. +60191234567.
<b>subscriptionGroupId</b>	STRING (Mandatory)	This is the unique id for each different service package.

### Response Parameter

Parameter Name	Type	Description
<b>status</b>	STRING	The status of the subscriber as below: <ol style="list-style-type: none"> <li>Registered</li> <li>Deregistered</li> <li>InGracePeriod</li> <li>NA (If no subscription information found)</li> </ol>



<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 13.0 Request for refund

To get a refund for a successfully charged transaction, Content Provider needs to invoke the refund API. The refund API support both full refund and partially refund. Content Provider need to make sure the total amount refunded doesn't exceeded the original charge amount, if not, the Gateway will return error for the refund transaction.

### Request information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/refund  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data": {     "status": "Refunded",     "trxId": "123456",     "amountRefunded": "1.00",     "errorCode": "00",     "errorMessage": ""   } }</pre>

### Request parameter

Parameter Name	Type	Description
<b>cpTransId</b>	STRING (Mandatory)	This is unique transaction id per API call event generated by Content Provider. It is your reference for troubleshooting purposes.
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.
<b>trxId</b>	STRING (Mandatory)	This is the trxId for the original charge transaction.
<b>amount</b>	DECIMAL (Mandatory)	This is the actual amount for refund. It can be a whole number or two-digit decimal.

## Response parameter

Parameter Name	Type	Description
<b>status</b>	STRING	The status of the refund transaction as below: <ol style="list-style-type: none"> <li>1. Refunded. (means successfully refunded).</li> <li>2. Denied. (means failed to refund. Check error code list for reason).</li> </ol>
<b>trxId</b>	STRING	This is the unique transaction id generated by the Gateway. This id will be used for any future reconciliation purposes.
<b>amountRefunded</b>	DECIMAL	This is the actual amount being refunded. It can be a whole number or two-digit decimal.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 14.0 Request for Refund Status

CP can request for refund status for previous transaction.

## Request information

HTTP Method	POST
<b>Request</b>	URL: <SSDTECH_SERVER>/api/refundStatus  The request parameter as explained in Request Parameter table below.
<b>Response</b>	HTTP/1.1 200 OK Content-Type: application/json Date: Wed, 27 Sep 2017 12:00:00 GMT <pre>{   "data": {     "status": "Refunded",     "trxId": "123456",     "amountRefunded": "1.00",     "errorCode": "00",     "errorMessage": ""   } }</pre>

## Request parameter

Parameter Name	Type	Description
<b>cpId</b>	STRING (Mandatory)	This will be the Content Provider Id to access the gateway. Will be provided by SSD-TECH.
<b>cpPassword</b>	STRING (Mandatory)	This will be the Content Provider password to access the gateway. Will be provided by SSD-TECH.

<b>cpTransId</b>	STRING (Mandatory)	This is the original refund transaction id of CP.
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## Response parameter

Parameter Name	Type	Description
<b>status</b>	STRING	The status of the refund transaction as below: 1. Refunded. (means successfully refunded). 2. Denied. (means failed to refund. Check error code list for reason).
<b>trxId</b>	STRING	This is the trxId generated by Gateway for the original refund transaction.
<b>amountRefunded</b>	DECIMAL	This is the actual amount being refunded. It can be a whole number or two-digit decimal.
<b>errorCode</b>	STRING	Please check on the error code list.
<b>errorMessage</b>	STRING	Explanation of the error.

## 15.0 Error Codes

Error Codes	Description
00	Operation Success.
SSD0001	Invalid Parameter.
SSD0002	Authentication Failed.
SSD0003	Service is Offline.
SSD1001	Duplicate cpTransId.
SSD1002	User cancelled the transaction at the Gateway page.
SSD1003	Invalid subscriptionGroupId.
SSD2001	CP invoke subscription cancellation but the subscriber already unsubscribed the services.
SSD2002	CP invoke subscription cancellation but no subscriber information found on the system.
SSD3001	Invalid TrxId.
SSD4001	Refund amount exceeded the total amount for original charge transaction.
SSD4002	Partial refund is not allowed.
SSD4003	Invalid cpTransId.
SSD4004	Already refunded for this trxId.
SSD5001	Max Amount Exceeded.

SSD9999

Internal Server Error.