



AOC Gateway API Specification

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Revision History

Revision Number	Date	Remark
1.0	22 November 2016	Initial version
1.1	9 December 2016	Updated for <ul style="list-style-type: none"> • New AOC API key • New Operator Code • New Reference Code
1.2	23 December 2016	Updated chargeStatus API Added subscriptionDuration parameter in renewSubscription API
1.3	2 February 2017	Added new parameters to getAOCToken API and renewSubscription API <ul style="list-style-type: none"> • unSubURL • contactInfo
1.4	28 March 2017	Added more explanation on subscriptionDuration Updated “Service Provider’s Callback URL” section
1.5	17 April 2017	Updated the followings <ul style="list-style-type: none"> • Removed msisdn preceded with “+” from renewalAPI and unsubscribeAPI • Added more explanation on renew subscription calculation
1.6	26 April 2017	Added new APIs <ul style="list-style-type: none"> • Refund API • Refund Status API
1.7	1 June 2017	Update contactInfo parameter to mandatory
1.8	13 July 2017	Added Refund API, Server to Server Callback URL for Charge Status and Callback URL to inform SP of unsubscription from Portal.
1.9	4 Sep 2017	Operator is now mandatory in getAOCToken API.
2.0	31 Oct 2017	New Error Code for Refund
2.1	19 Dec 2017	Update the charge success callback section with more details. Add in extra error code AOC1007. Add in subscription logic for ROBI
2.2	23 February 2018	Added Wallet API
2.3	28 March 2018	Updated with Multiple Wallet Payment Option Page.

		Remove accessToken and subscriptionDuration parameter. Added Mobile API for getAOCToken and Charge with TAC API.
2.4	16 May 2018	Added contentURL optional parameter for getAOCToken
2.5	25 July 2018	Removed aocAccessToken from Renewal API. No longer required.
2.6	11 Nov 2018	Added query subscriber status API Added entitledForFreeTrial in Mobile API.
2.7	12 Mar 2019	Added new error codes AOC1011 and AOC1012
2.8	27 Aug 2019	Added Wallet App Deeplink Feature Added additional Wallet API parameter Added new error code AOC2006 for Robi Step Down Added amount in Renewal for Robi Step Down Added new error code AOC8007 and AOC8008 for M1 Mobile API
2.9	08 Oct 2019	Updated error code table to inform SP what to do and additional POL & SVC table for Robi's SP to handle
3.0	31 Oct 2019	Additional error code
3.2	2 Mar 2020	New optional parameter (productId) for getAOCToken API
3.3	18 May 2020	Added new error code AOC1013
3.4	6 July 2020	Updated server to server callback for subscription
3.5	4 Aug 2020	Added error code AOC1014-1017
3.6	27 November 2020	Updated with Direct Charging and Refund Purchase Category Code.
3.7	7 April 2021	Updated with new error code (AOC1019 and AOC1020) and new transaction status "pending_consent" for ROBI SMS Consent Flow
3.8	12 April 2021	Updated with new transaction status "pending_topup" for Celcom Transaction that pending reload process.
3.9	11 May 2021	Updated with new request parameter "renewalCharge" for getAOCToken API.
4.0	16 June 2021	Updated the "processing" status for Wallet transactions.

4.1	17 June 2021	Additional parameter “requireOTP” for getAOCToken API for Direct Charge Transaction
4.2	20 September 2021	Updated for Charging Features
4.3	12 November 2021	Updated for Parking Logic Module
4.4	21 June 2022	Description Updated for BNPL Operator (under Request AOC Token API - Operator parameter)
4.5	02 December 2022	Update Status List

Contents

1.0 Introduction	8
End Point URL References	8
2.0 Request AOC Token For Charging	10
Request Information	10
Request Parameter	11
Response Parameter	15
Additional Information about Multiple Wallet Payment Option	16
3.0 Redirection to AOC Page	16
Request Information	16
Request Parameter	17
Response Parameter	17
Service Provider's Callback URL	17
Server to Server Callback Feature for Service Provider	17
Server to Server Callback Feature for Split Charge	18
Server to Server Callback Feature for Step Down Charge	20
Server to Server Callback Feature for Parking Logic	20
4.0 Request Charging with TAC (Only for Mobile App API)	22
Request Information	22
Request Parameter	22
Response Parameter	23
5.0 Request New TAC (Only for Mobile App API)	24
Request Information	24
Request Parameter	24
Response Parameter	25
6.0 Direct Charge (Only applicable for Service Provider that is enabled for Direct Charging)	25
Request Information	25
Request Parameter	26
Response Parameter	26
7.0 Request New TAC For Direct Charge (Only applicable for Service Provider that is enabled for Direct Charging)	28

Request Information.....	28
Request Parameter.....	28
Response Parameter	29
8.0 Direct Charge for Step Down Option (Only applicable for Service Provider that is enabled for Direct Charging).....	29
Request Information.....	29
Request Parameter.....	30
Response Parameter	30
9.0 Request Charging Status.....	32
Request Information.....	32
Request Parameter.....	32
Response Parameter	33
Processing Status for Operator XL.....	35
Pending Consent Status For Operator Robi	35
Pending Topup Status For Operator Celcom	35
Processing Status for PayTM Wallet	35
10.0 Subscription Renewal Charge	37
Subscription Logic for ROBI	38
Request Information.....	39
Request Parameter.....	39
Response Parameter	41
Processing Status for Operator XL.....	42
Processing Status for PayTM Wallet	42
11.0 Subscription Cancellation	43
Request Information.....	43
Request Parameter.....	44
Response Parameter	44
12.0 Request Subscription Status	45
Request Information.....	45
Request Parameter.....	45
Response Parameter	46
13.0 Refund	47

Request Information.....	47
Request Parameter.....	47
Response Parameter	48
14.0 Request for Refund Status	49
Request Information.....	49
Request Parameter.....	49
Response Parameter	50
15.0 Server to Server Callback Feature for Unsubscribed User	51
16.0 Server to Server Callback Feature for Auto-Renewal Subscription	51
Server to Server Callback Feature for Split Charge.....	52
Server to Server Callback Feature for Step Down Charge	52
17.0 Error Code List.....	54
18.0 Additional Error Code Handling for Robi's Service Provider	58

1.0 Introduction

This document will define the AOC Gateway API specification. The Service Provider partners integrating to the AOC Gateway are expected to adhere to the API specification defined in this document. Adherence to the URL patterns and response codes defined herein is mandatory.

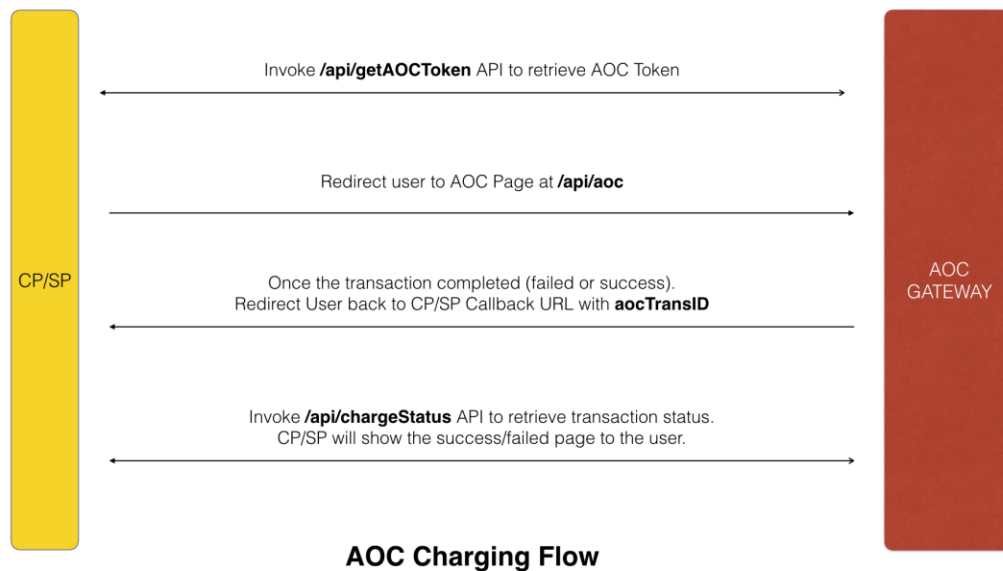
All APIs defined in this document are accessible via RESTful web services. A RESTful service utilizes HTTP commands POST, GET, PUT, and DELETE in order to perform an operation on a resource at the server. This resource is addressed by a URL; and what is returned by the server is a representation of that resource depending on its current state.

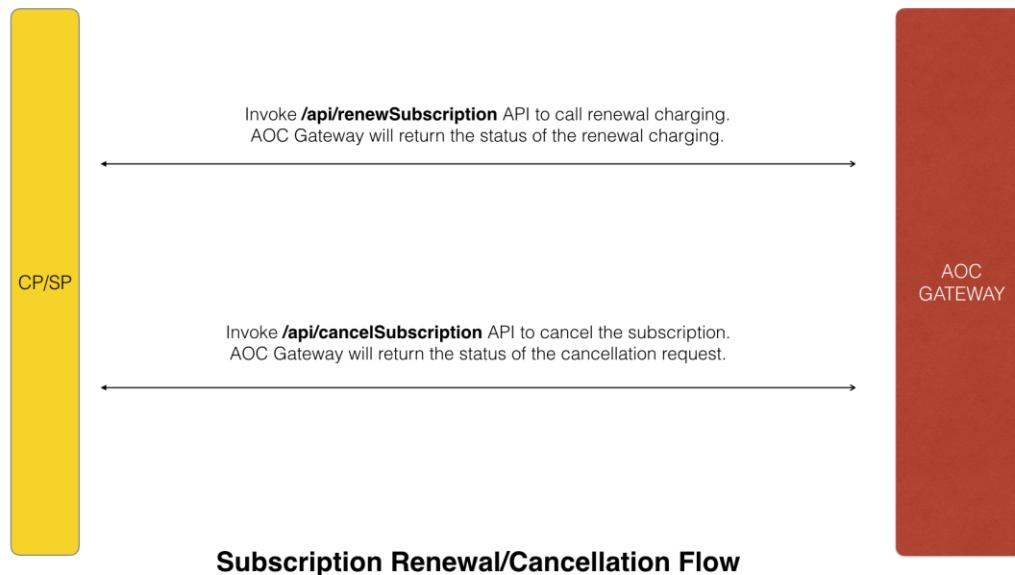
End Point URL References

For registered Service Provider, kindly request for the <AOC_SERVER> URL from BOOSTCONNECT Onboarding Team.

API End Point Name	API End Point URL	HTTP Method
Request AOC Token For Charging	<AOC_SERVER>/api/getAOCToken	POST
Redirection to AOC Page	<AOC_SERVER>/api/aoc	GET
Request Charging with TAC (Only applicable for Mobile App API)	<AOC_SERVER>/api/chargeWithTAC	POST
Request New TAC (Only applicable for Mobile App API)	<AOC_SERVER>/api/requestNewTAC	POST
Direct Charge (Only applicable for Service Provider with direct charge permission)	<AOC_SERVER>/api/directCharge	POST
Request New ATC for Direct Charge (Only applicable for Service Provider with direct charge permission)	<AOC_SERVER>/api/requestDirectChargeTAC	POST

Request Charging Status	<AOC_SERVER>/api/chargeStatus	POST
Subscription Renewal Charge	<AOC_SERVER>/api/renewSubscription	POST
Subscription Cancellation	<AOC_SERVER>/api/cancelSubscription	POST
Request Subscription Status	<AOC_SERVER>/api/subscriptionStatus	POST
Refund	<AOC_SERVER>/api/refund	POST
Request Refund Status	<AOC_SERVER>/api/refundStatus	POST





2.0 Request AOC Token For Charging

To initiate a charging via AOC Gateway, Service Provider will need to request for AOC Token from the AOC Gateway. Service Provider will need to request for AOC Token for each individual charging request as AOC Token is unique for each transaction. Once Service Providers get the unique AOC Token, they need to redirect the user to AOC Page by passing over the AOC Token.

For the subscriptionDuration value, if it's a daily subscription, kindly put value as 2 and if it's a weekly subscription, the value should be 8.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/getAOCToken</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK</p> <p>Content-Type: application/json</p> <p>Date: Tue, 01 Nov 2016 12:00:00 GMT</p>

	<pre>{ "data" : { "aocToken" : "SVpzSWk2SERiQjVIOFZLZFpBbIVp", "aocTransID" : "12345678", "errorCode": "00", "errorMessage": ""} }</pre>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------

Request Parameter

Parameter Name	Description	Usage
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
spTransID	This is a unique transaction id per API call event generated by Service Provider. It is your reference for troubleshooting purposes.	(STRING) Mandatory
description	This is the text to appear on the user's bill to allow them to easily identify what they have bought	(STRING) Mandatory
currency	This is the 3 figure code as per ISO 4217	(STRING) Mandatory
amount	This is the actual amount being charged. It needs to be two digit decimal such as 3.00, 6.50 and etc.	(DECIMAL) Mandatory
onBehalfOf	The actual Payee Company Name.	(STRING) Mandatory
purchaseCategoryCode	A purchase category code provided by BOOSTCONNECT.	(STRING) Mandatory
refundPurchaseCategoryCode	This is the purchaseCategoryCode for refund transaction. This field is optional, if it's not passed over, the default value	(STRING) OPTIONAL

	<p>during onboarding will be used during Refund.</p> <p>This value will be provided by BOOSTCONNECT if applicable.</p>	
referenceCode	Same as purchase category code. This id will be use for any future reconciliation purposes	(STRING) Optional
channel	Indicates the source of user interaction.	(STRING) Mandatory
operator	<p>The operator code provided by BOOSTCONNECT.</p> <p>BOOSTCONNECT team will provide the information about the operator. If the Operator belongs to BNPL (Buy Now Pay Later) flow, then it doesn't support subscription services.</p>	(STRING) Mandatory
taxAmount	The tax already charged by the merchant.	(DECIMAL) Mandatory
callbackURL	The URL to which Service Provider would like AOC Gateway to redirect users once the charging transaction is completed. AOC will pass over the aocTransID to this URL.	(URL STRING) Mandatory
contactInfo	This is the contact information (contact number or email) that will be included in the Success Charge SMS, Renewal SMS and Unsubscribe Success SMS.	(STRING) Mandatory
contentURL	This is the content page URL that will be included in the Success Charge SMS and Renewal SMS. Just leave it empty if not required.	(URL STRING) Optional
isSubscription	This is a boolean flag (true/false) to define if the transaction is a subscription basis or on demand. If it's a subscription basis, the flag needs to be set to true.	(BOOLEAN) Mandatory

subscriptionID	This is a unique subscription id for each different subscription package/services. This field is mandatory if isSubscription is true.	(STRING) Optional
subscriptionName	This is the subscription name for the subscription package/services. This field is mandatory if isSubscription is true.	(STRING) Optional
subscriptionDuration	This is subscription duration for the subscription package/services. (in day) This field is mandatory if isSubscription is true.	(INT) Optional
unSubURL	This is the unsubscribe URL that will be included in the Renewal SMS. This field is mandatory if isSubscription is true.	(STRING) Optional
isWallet	This is a boolean flag (true/false) to define if the transaction is using e-Wallet. If it's e-Wallet transaction, the flag need to be set to true. Default will set to false. [IMPORTANT]: e-Wallet transaction doesn't support subscription services.	(BOOLEAN) Optional
isWebDeepLink	This is a boolean flag (true/false) to define if the handling of Mobile Wallet App Deep Link is handled by AOC Page or not. If the flag is set to true, AOC Page will try to open the Mobile Wallet App Deep Link (if available). If the flag is set to false, then the AOC page will redirect users to the Web payment page. If the flag is set to false, AOC will return paymentDeepLink and Service Provider can try to open the deep link via their Mobile App.	(BOOLEAN) Optional
callbackAppDeepLink	If a Service Provider has implemented a deep link on their own Mobile App, they can pass the deep link here so Mobile Wallet App will callback to this deep link once payment is completed.	(STRING) Optional
msisdn	This parameter is required for;	(STRING)

	<ol style="list-style-type: none"> 1. Subscription Service via Wallet Payment. (This is the MSISDN of the end-user that has registered with Wallet Provider that is required for Subscription Service. Please advise the BOOSTCONNECT Team on which Wallet Provider requires this parameter.) 2. IOD/Subscription for Direct Charging enabled Service Provider. 	Optional
email	This is the email of the end-user that has registered with Wallet Provider that is required for Subscription Service. Please advise BOOSTCONNECT Team on which Wallet	(STRING) Optional
isMobileAppAPI	This is a boolean flag (true/false) to define if the transaction is performed via Mobile API. Default value is false. If the flag is true, AOC will send a TAC to user MSISDN via SMS. This feature is only available for Service Providers that have been provisioned for Mobile App API. [IMPORTANT]: Doesn't support e-Wallet transaction.	(BOOLEAN) Optional
tacMSISDN	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567. This field is mandatory if isMobileAppAPI is true.	(STRING) Optional
productId	This is an optional field for IOD transactions for certain Operators (such as Telkomsel). This ID needs to be configured in AOC during on-boarding. Please consult the onboarding team for more information.	(STRING) Optional
renewalCharge	This is the amount that will be charged for subscription renewal if the initial charge amount is different compared to renewal	(STRING) Optional

	<p>charge. It needs to be two-digit decimal such as 3.00, 6.50 and etc.</p> <p>This field is optional and only applicable if the initial charge amount is different compared to renewal charge.</p>	
requireOTP	<p>This is only applicable for Direct Charge transactions. This is a boolean flag (true/false) to define if the transaction required OTP or not. Please check with the BOOSTCONNECT team if your account is enable for this feature or not.</p>	<p>(STRING) Optional</p>

Response Parameter

Parameter Name	Description	Usage
aocToken	<p>This is a unique token generated by AOC Gateway to identify each AOC transaction. Service Providers need to pass this aocToken during the redirection to AOC Page.</p> <p>Note: This response parameter will not be applicable for Direct Charging transaction.</p>	(STRING)
aocTransID	<p>This is the unique transaction id generated by AOC Gateway. This id will be used for any future reconciliation purposes. The same id will be passed back to the Service Provider's callback URL once the transaction is completed.</p>	(STRING)
entitledForFreeTrial	<p>This is a flag to indicate if the user entitles for Subscription Free Trial. The flag doesn't guarantee the user is able to get a Free trial as it still depends on a free trial quota when the user proceeds with charging. This flag will only be returned when isMobileAppAPI is true.</p>	(STRING)
paymentDeepLink	<p>This is the Mobile Wallet App deep link.</p>	(STRING)

	This value will only be returned if the "isWebDeepLink" parameter is set to false and if the Mobile Wallet supports a deep link.	
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

Additional Information about Multiple Wallet Payment Option

If a Service Provider has onboarding multiple wallet operators, multiple wallet operator code can be passed over in the operator field with comma-delimited. In this case, the user will be shown a payment option page with multiple wallets. Please take note is option is only available for Wallet payment and not normal direct operator billing.

3.0 Redirection to AOC Page

After the Service Provider successfully retrieves AOC Token, they need to redirect the user to AOC Page for user confirmation in order to invoke the charging. Users will be displayed on the Advice Of Charge page asking for their confirmation to proceed with the purchase. Once the user agrees to proceed, AOC Gateway will proceed to charge the user and invoke the Service Provider Callback URL (as provided by the Service Provider in Section 2.0: Request AOC Token For Charging).

Request Information

HTTP Method	REDIRECT - GET
Request	Redirect user to URL below with aocToken parameter; URL: <AOC_SERVER>/api/aoc?aocToken=SVpzSWk2SERiQjVIOFZLZFpBblVp
Response	Not Applicable.

Request Parameter

Parameter Name	Description	Usage
aocToken	This is a unique token generated by AOC Gateway to identify each AOC transaction.	(STRING) Mandatory

Response Parameter

Not Applicable

Service Provider's Callback URL

After the charging has completed, AOC Gateway will redirect users back to the Service Provider's Callback URL. (this callback URL is provided by Service Provider when requesting for the AOC Token in Section 2.0).

Service Providers need to prepare the callback URL which accepts the HTTP GET command.

Example, let's say the Service Provider's callback URL is

<http://serviceprovider.com/callback?>

AOC Gateway will redirect users back to URL below with request parameter, aocTransID.

E.g: <http://serviceprovider.com/callback?aocTransID=12345678>

Note: aocTransID is the unique transaction id generated by AOC Gateway. This id will be used for any future reconciliation purposes. This is the same transaction ID when the Service Provider invokes the "Request for AOC Token" API.

Upon receiving this request, the Service Provider will need to invoke the "Request Charging Status" API (Section 8.0) to get the status of the charging transaction. Then the Service Provider needs to display a success or failed page to the user/payer.

Server to Server Callback Feature for Service Provider

Beside the user browser redirection back to Service Provider, there will be server to server callback for IOD and subscription success charge transaction. Note that this callback will only happen for success transactions and it's optional.

Service Providers need to provide this callback URL to BOOSTCONNECT operation during the on-boarding process. The callback will be a HTTP POST call and JSON payload for the callback as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "10.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "clientCorrelator": "12345678901234567",
    "chargeMode": "standard",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

Note: For e-Wallet and BNPL (Buy Now, Pay Later) transactions, there will be no MSISDN return.

For Subscription transaction, there will be 2 additional parameter (expiryDate and subscriptionID) returned which is as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "10.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "clientCorrelator": "12345678901234567",
    "chargeMode": "standard",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

Server to Server Callback Feature for Split Charge

For Subscription under Split Charge (charge with minimum amount), the server to server callback will be as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "5.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "clientCorrelator": "12345678901234567",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
    "chargeMode": "split",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

For server to server callback for charge success on the remaining amount under Split Charge subscription will be as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "5.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "oriAocTransId": "T387487",
    "clientCorrelator": "12345678901234567",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
    "chargeMode": "split",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

Server to Server Callback Feature for Step Down Charge

For Subscription under Step Down Charge (user choose step down option with lower amount and subscription duration), the server to server callback will be as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "5.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "clientCorrelator": "12345678901234567",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
    "chargeMode": "stepdown",
    "subscriptionDuration": 8,
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

Server to Server Callback Feature for Parking Logic

For server to server callback for charge success on the recoup amount for subscription fee under Parking Logic will be as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "5.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "oriAocTransId": "T387487",
    "clientCorrelator": "12345678901234567",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
  }
}
```

```
"chargeMode": "standard",  
"errorCode": "00",  
"errorMessage": ""  
}  
}
```

Note: The chargeMode value could be “standard”, “split” or “stepdown”. If it’s stepdown, the subscriptionDuration will be included as well.

4.0 Request Charging with TAC (Only for Mobile App API)

This API call is only applicable for Service Provider with Mobile App API permission. Once the user receives their TAC, the user will key-in the TAC in the mobile app and pass the TAC to the Service Provider server. The Service Provider server will need to invoke this API for charging requests. Then the Service Provider needs to display a success or failed page to the user/payer on the Mobile App.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/chargeWithTAC</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "transactionOperationStatus": "Charged", "totalAmountCharged": "10.00", "msisdn": "+60191234567", "clientCorrelator": "12345678901234567", "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This id is passed to the Service Provider during the getAOCToken API.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory

username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory
tac	The TAC key-in by user.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
transactionOperation Status	The status of the charge transaction as below: <ol style="list-style-type: none"> 1. Charged. (mean successfully charged). 2. Denied. (failed to charge. Check the error code list for reason). 3. Processing. (mean the charge is still under processing. Refer to section "Processing Status for Operator XL" for more details.) 	(STRING)
totalAmountCharged	This is the actual amount being charged. It can be a whole number or two digit decimal.	(DECIMAL)
msisdn	The MSISDN of the target user. The user's MSISDN includes the country code preceded by '+', e.g. +60191234567.	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success charged transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

5.0 Request New TAC (Only for Mobile App API)

This API call is only applicable for Service Provider with Mobile App API permission. Service Providers can try to request new TAC.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/requestNewTAC</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "errorCode": "00" } }</pre>

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This id is passed to the Service Provider during the getAOCToken API.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

6.0 Direct Charge (Only applicable for Service Provider that is enabled for Direct Charging)

This API call is only applicable for Service Provider with Direct Charging permission. This is the direct charging API where it doesn't require the customer to go through the AOC Payment page.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/directCharge</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>"data": { "transactionOperationStatus": "Charged", "totalAmountCharged": "10.00", "msisdn": "+60191234567", "clientCorrelator": "12345678901234567", "chargeMode": "standard", "errorCode": "00", "errorMessage": "" }</pre>

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This is the aocTransID returned to the Service Provider during the getAOCToken API.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT during onboarding.	(STRING) Mandatory
username	This will be the username provided to the Service Provider during onboarding.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory
tac	The TAC key-in by user. Note: This parameter is optional, only mandatory if OTP is enabled for the Service Provider.	(STRING) Optional

Response Parameter

Parameter Name	Description	Usage
transactionOperationStatus	<p>The status of the charge transaction as below:</p> <ol style="list-style-type: none"> 1. Charged. (mean successfully charged). 2. Denied. (failed to charge. Check the error code list for reason). 3. Processing. (mean the charge is still under processing. Refer to section "Processing Status for Operator XL" for more details.) 4. pending_step_down (mean there is step down option for user to choose) <p>If the transactionOperationStatus is</p>	(STRING)

	“pending_step_down”, Service Provider need to show users the step down option for them to choose and invoke the Direct Charge for Step Down API.	
totalAmountCharged	This is the actual amount being charged. It can be a whole number or two digit decimal.	(DECIMAL)
msisdn	The MSISDN of the target user. The user’s MSISDN includes the country code preceded by '+', e.g. +60191234567.	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success charged transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
chargeMode	This represent the charge mode with available value as below; <ul style="list-style-type: none"> • standard (this mean it’s normal standard transaction) • split (this mean the charge is under Split Charge mode) 	(STRING)
stepDowns	If charging failed and step down option is available, this parameter will have array value as below; <pre> "stepDowns":[{ "stepDownAmount":3.00, "stepDownSubscriptionDuration":15 }, { "stepDownAmount":1.00, "stepDownSubscriptionDuration":8 }] </pre>	(JSON ARRAY)
errorCode	Please check on the error code list.	(STRING)

errorMessage	Explanation of the error	(STRING)
--------------	--------------------------	----------

7.0 Request New TAC For Direct Charge (Only applicable for Service Provider that is enabled for Direct Charging)

This API call is only applicable for Service Provider with Direct Charging permission. Service Providers can try to request new TAC.

Request Information

HTTP Method	POST
Request	URL : <AOC_SERVER>/api/requestDirectChargeTAC The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded
Response	HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Tue, 01 Nov 2016 12:00:00 GMT <pre>{ "data": { "errorCode": "00" } }</pre>

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This id is passed to the Service Provider during the getAOCtoken API.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory

username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

8.0 Direct Charge for Step Down Option (Only applicable for Service Provider that is enabled for Direct Charging)

This API call is only applicable for Service Provider with Direct Charging permission. This is the direct charging API when the Step Down option is available in initial Direct Charge API response. After user choose the step down option, Service Provider need to invoke this API.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/directChargeWithStepDown</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK</p> <p>Content-Type: application/json Content-Length: 12345</p> <p>Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "transactionOperationStatus": "Charged", "totalAmountCharged": "10.00", "msisdn": "+60191234567", "chargeMode": "stepdown", "clientCorrelator": "12345678901234567",</pre>

	<pre> "errorCode": "00", "errorMessage": "" } </pre>
--	------------------------------------------------------

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This is the aocTransID returned to the Service Provider during the getAOCToken API.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT during onboarding.	(STRING) Mandatory
username	This will be the username provided to the Service Provider during onboarding.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory
subscriptionDuration	This is the subscription duration for the step down option that the user chooses.	(INT) Mandatory

Response Parameter

Parameter Name	Description	Usage
transactionOperation Status	<p>The status of the charge transaction as below:</p> <ol style="list-style-type: none"> 1. Charged. (mean successfully charged). 2. Denied. (failed to charge. Check the error code list for reason). 3. Processing. (mean the charge is still under processing. Refer to section "Processing Status for Operator XL") 	(STRING)

	for more details.)	
totalAmountCharged	This is the actual amount being charged. It can be a whole number or two digit decimal.	(DECIMAL)
msisdn	The MSISDN of the target user. The user's MSISDN includes the country code preceded by '+', e.g. +60191234567.	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success charged transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
chargeMode	This represent the charge mode with available value as below; <ul style="list-style-type: none"> • stepdown (this mean the charge is under Step Down charge mode) 	(STRING)
expiryDate	ONLY APPLICABLE FOR STEP DOWN CHARGING This is the expiry date of the step down subscription chosen by user in format dd-MM-yyyy	(STRING)
subscriptionDuration	ONLY APPLICABLE FOR STEP DOWN CHARGING This is the subscription duration of the step down subscription chosen by the user.	(INT)
errorMessage	Explanation of the error	(STRING)

9.0 Request Charging Status

Once the Service Provider receives the request on callback URL from AOC Gateway, they need to invoke this “Request Charging Status” API to get the status of the charging transaction. Then the Service Provider needs to display a success or failed page to the user/payer.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/chargeStatus</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Content-Length: 12345 Date: Tue, 01 Nov 2016 12:00:00 GMT {"data": { "transactionOperationStatus": "Charged", "totalAmountCharged": "10.00", "msisdn":"+60191234567", "chargeMode": "standard", "clientCorrelator":"12345678901234567", "errorCode": "00", "errorMessage": "" } }</p>

Request Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This id is passed to Service Provider's Callback URL.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will	(STRING)

	be provided by BOOSTCONNECT.	Mandatory
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
transactionOperation Status	<p>The status of the charge transaction as below:</p> <ol style="list-style-type: none"> 1. Charged. (mean successfully charged). 2. Denied. (failed to charge. Check the error code list for reason). 3. Processing. (mean the charge is still under processing. Refer to section "Processing Status for Operator XL" for more details.) 4. pending_consent (mean the transaction is still pending user consent. This status is only applicable for certain Operator) 5. pending_topup (mean the transaction is still pending user process to top-up their balance before recharge. This status is only applicable for certain Operator) 6. Parking (meaning the subscription is currently under parking mode (without charging) and BOOSTCONNECT will try to charge the subscription fee until parkingExpiryDate and once successful, the subscription will officially start. 7. Pending. Means the request is still in progress, advised to check status again after short interval (1 to 3 Mins) 	(STRING)
totalAmountCharged	This is the actual amount being charged. It	(DECIMAL)

	can be a whole number or two digit decimal.	
msisdn	<p>The MSISDN of the target user. The user's MSISDN includes the country code preceded by '+', e.g. +60191234567.</p> <p>Note: For e-Wallet transactions, there will be no MSISDN return.</p>	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success charged transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
chargeMode	<p>This represent the charge mode with available value as below;</p> <ul style="list-style-type: none"> • standard (this mean it's normal standard transaction) • split (this mean the charge is under Split Charge mode) • stepdown (this mean the charge is under Step Down charge mode) 	(STRING)
expiryDate	<p>ONLY APPLICABLE FOR STEP DOWN CHARGING</p> <p>This is the expiry date of the step down subscription chosen by user in format dd-MM-yyyy</p>	(STRING)
subscriptionDuration	<p>ONLY APPLICABLE FOR STEP DOWN CHARGING</p> <p>This is the subscription duration of the step down subscription chosen by the user.</p>	(INT)
parkingExpiryDate	<p>ONLY APPLICABLE FOR PARKING LOGIC</p> <p>This is the parking expiry date where BOOSTCONNECT will try to charge user the subscription fee until this date in format dd-MM-yyyy</p>	(STRING)

errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

Processing Status for Operator XL

When querying for charging status, if AOC returns status as Processing, it means that XL is still processing the charge. Please do call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is Processing is every 2 minutes. It's important to call the query charging status until it returns success or failed, if not, the charge won't take effect and the purchase will failed.

Pending Consent Status For Operator Robi

When querying for charging status, if AOC returns status as pending_consent, it means that BoostConnect is awaiting user consent to proceed with charging and still processing the charge. Please do call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is pending_consent is every 3 minutes. It's important to call the query charging status until it returns success or failed before considering charge success or failed.

Pending Topup Status For Operator Celcom

When querying for charging status, if AOC returns status as pending_topup, it means that mean the transaction is still pending user to top-up their balance before recharge. Please do call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is pending_topup is every 10 minutes. It's important to call the query charging status until it returns success or failed before considering charge success or failed.

Processing Status for PayTM Wallet

When querying for charging status, if AOC returns status as Processing, it means that PayTM is still processing the charge. Please do call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is Processing is every 2 minutes. It's important to call the query charging status

until it returns success or failed, if not, the charge won't take effect and the purchase will failed.

10.0 Subscription Renewal Charge

For renewal charges on subscription service, Service Providers need to invoke the subscription renewal charge API. Since this is renewal charges, there is no need to redirect users to AOC Page. Maximum retry for renewal charging is limit to 1 time per day. Service Providers are allowed to call for renewal charge after expiry date and within the grace period.

The new expiry date after renewal charge success will be calculated based on previous expiry date and not the renewal charge date. For the subscriptionDuration value, if it's a daily subscription, kindly put value as 2 and if it's a weekly subscription, the value should be 8.

Scenario 1:

1. Users subscribe on 14th April 2017 with subscriptionDuration 8 days. (weekly subscription).
2. The expiry date for the subscription will be on 21st April 2017.
3. If the grace period is set to 5 days (please check with the BOOSTCONNECT Team on the updated grace period), Service Providers can call for renewal charges between 22nd April 2017 to 26th April 2017.
4. If the Service Provider tries to call for renewal on 27th April 2017, the renewal request will be denied.

Scenario 2:

1. User subscribe on 14th April 2017 with subscriptionDuration 8 days. (weekly subscription).
2. The expiry date for the subscription will be on 21st April 2017.
3. If the grace period is set to 5 days (please check with the BOOSTCONNECT Team on the updated grace period), Service Providers can call for renewal charges between 22nd April 2017 to 26th April 2017.
4. If the Service Provider only successfully calls for renewal on 24th April 2017, the new subscription period will be calculated from the previous expiry date and not the renewal charge date. For this case, the new subscription period will be from 22nd April 2017 to 28th April 2017 and **NOT FROM 25th April 2017 to 1st May 2017.**

Scenario 3:

1. Users subscribe on 14th April 2017 with subscriptionDuration 2 days. (daily subscription).
2. The expiry date for the subscription will be on 15th April 2017, end of day

(midnight).

3. Service Providers can call for renewal on 16th April 2017 onwards until the grace period ends.

Subscription Logic for ROBI

Please take note that the subscription logic for ROBI is slightly different with other operators. Kindly refer to the scenario of subscription for ROBI below;

Scenario 1:

1. Users subscribe on 14th April 2017 with subscriptionDuration 8 days. (weekly subscription).
2. The expiry date for the subscription will be on **20th April 2017**.
3. If the grace period is set to 5 days (please check with the BOOSTCONNECT Team on the updated grace period), Service Providers can call for renewal charge between 21st April 2017 to 25th April 2017.
4. If the Service Provider tries to call for renewal on 26th April 2017, the renewal request will be denied.

Scenario 2:

1. User subscribe on 14th April 2017 with subscriptionDuration 8 days. (weekly subscription).
2. The expiry date for the subscription will be on 20th April 2017.
3. If the grace period is set to 5 days (please check with the BOOSTCONNECT Team on the updated grace period), Service Providers can call for renewal charges between 21st April 2017 to 25th April 2017.
4. If the Service Provider only successfully calls for renewal on 24th April 2017, the new subscription period will be calculated from the renewal charge success date. For this case, the new subscription period will be from 24th April 2017 to 30th April 2017.

Scenario 3:

1. Users subscribe on 14th April 2017 with subscriptionDuration 2 days. (daily subscription).
2. ***The expiry date for the subscription will be on 14th April 2017, end of day (midnight).***
3. Service Providers can call for renewal on 15th April 2017 onwards until the grace period ends.

Step-Down Charging for Robi

This feature is available for Service Providers but must be approved by Robi and enabled in AOC System. Service Providers can send in a lower amount during renewal from 2nd attempt onwards. Please check with Robi on this feature to be enabled and the amount logic for step down.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/renewSubscription</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "aocTransID": "12345678", "transactionOperationStatus": "Charged", "totalAmountCharged": "10.00", "chargeMode": "standard", "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
spTransID	This is a unique transaction id per API call	(STRING)

	event generated by Service Provider. It is your reference for troubleshooting purposes.	Mandatory
description	This is the text to appear on the user's bill to allow them to easily identify what they have bought	(STRING) Mandatory
currency	This is the 3 figure code as per ISO 4217	(STRING) Mandatory
amount	This is the actual amount being charged. It needs to be two digit decimal such as 3.00, 6.50 and etc. This can be step down charging amount but it's only applicable upon approval from BOOSTCONNECT.	(DECIMAL) Optional
onBehalfOf	The actual Payee Company Name.	(STRING) Mandatory
purchaseCategoryCode	A purchase category code provided by BOOSTCONNECT.	(STRING) Mandatory
referenceCode	Same as purchase category code. This id will be use for any future reconciliation purposes	(STRING) Optional
channel	Indicates the source of user interaction.	(STRING) Mandatory
taxAmount	The tax already charged by the merchant.	(DECIMAL) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN including the the country code, e.g. 60191234567.	(STRING) Mandatory
operator	The operator code provided by BOOSTCONNECT.	(STRING) Mandatory
subscriptionID	This is unique subscription id for each different subscription package/services.	(STRING) Mandatory
unSubURL	This is the unsubscribe URL that will be included in the Renewal SMS.	(STRING) Mandatory
contactInfo	This is the contact information (contact	(STRING)

	number or email) that will be included in the Renewal SMS and Unsubscribe Success SMS.	Mandatory
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Response Parameter

Parameter Name	Description	Usage
aocTransID	This is the unique transaction id generated by AOC Gateway. This id will be use for any future reconciliation purposes. The same id will be pass back to Service Provider's callback URL once the transaction completed.	(STRING)
transactionOperation Status	The status of the charge transaction as below: <ol style="list-style-type: none"> 1. Charged. (mean successfully charged). 2. Denied. (failed to charge. Check the error code list for reason). 3. Processing. (mean the charge is still under processing. Refer to section "Processing Status for Operator XL" and "Processing Status for PayTM Wallet" for more details.) 	(STRING)
totalAmountCharged	This is the actual amount being charged. It can be a whole number or two digit decimal.	(DECIMAL)
chargeMode	This represent the charge mode with available value as below; <ul style="list-style-type: none"> • standard (this mean it's normal standard transaction) • split (this mean the charge is under Split Charge mode) • stepdown (this mean the charge is under Step Down charge mode) 	(STRING)

expiryDate	ONLY APPLICABLE FOR STEP DOWN CHARGING This is the expiry date of the step down subscription chosen by user in format dd-MM-yyyy	(STRING)
subscriptionDuration	ONLY APPLICABLE FOR STEP DOWN CHARGING This is the subscription duration of the step down subscription chosen by the user.	(INT)
errorCode	Please check on the error code list. If success, the error code will be "00"	(STRING)
errorMessage	Explanation of the error	(STRING)

Processing Status for Operator XL

If the renewal charging request returns status as Processing, it means that XL is still processing the charge. Please call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is Processing is every 2 minutes. It's important to call the query charging status until it returns success or failed, if not, the charge won't take effect and renewal will failed.

Processing Status for PayTM Wallet

When querying for charging status, if AOC returns status as Processing, it means that PayTM is still processing the charge. Please do call the query charging status until it returns success or failed. The proposed internal to query for charging status in case the status is Processing is every 2 minutes. It's important to call the query charging status until it returns success or failed, if not, the charge won't take effect and the purchase will failed.

11.0 Subscription Cancellation

For cancellation on the subscription service, Service Providers need to invoke the subscription cancellation API.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/cancelSubscription</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
spTransID	This is a unique transaction id per API call event generated by Service Provider. It is your reference for troubleshooting purposes.	(STRING) Mandatory
operator	The operator code provided by BOOSTCONNECT.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory
subscriptionID	This is a unique subscription id for each different subscription package/services.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
errorCode	Please check on the error code list. If success, the error code will be "00"	(STRING)
errorMessage	Explanation of the error	(STRING)

12.0 Request Subscription Status

For checking for subscription status for particular MSISDN, Service Providers need to invoke the request subscription status API.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/subscriptionStatus</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "subscriptionID": "s00001", "subscriptionName": "100", "status": "unsubscribed", "msisdn": "+60109226185", "expiryDate": "30-05-2018", "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING) Mandatory

operator	The operator code provided by Axiata.	(STRING) Mandatory
subscriptionID	This is a unique subscription id for each different subscription package/services.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
subscriptionID	This is a unique subscription id for each different subscription package/services.	(STRING)
subscriptionName	This is the subscription name for the subscription id.	(STRING)
status	This is the status of the subscription. There will be 2 value which is 1. subscribed 2. unsubscribed	(STRING)
msisdn	The MSISDN of the subscriber. The user's MSISDN includes the country code, e.g. 60191234567.	(STRING)
expiryDate	This is the expiry date of the subscription in format dd-MM-yyyy	(STRING)
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

13.0 Refund

For refund on the previously charged transaction, Service Providers need to invoke the refund API. The refund API supports both full refund and partial refund. Service Providers need to make sure the total amount refunded doesn't exceed the original charge amount, if not, the AOC platform will return error for the refund transaction.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/refund</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "aocTransID": "12345", "transactionOperationStatus": "refunded", "amountRefunded": "1.00", "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
spTransID	This is a unique transaction id per API call event generated by Service Provider. It is your reference for troubleshooting purposes.	(STRING) Mandatory

aocTransID	This is the aocTransID for the original charge transaction.	(STRING) Mandatory
amount	This is the actual amount for refund. It need to be two digit decimal such as 3.00, 6.50 and etc.	(DECIMAL) Mandatory

Response Parameter

Parameter Name	Description	Usage
transactionOperation Status	The status of the charge transaction as below: <ol style="list-style-type: none"> 1. Refunded. (mean successfully refunded). 2. Denied. (failed to refund. Check the error code list for reason). 	(STRING)
amountRefunded	This is the actual amount being refunded. It can be a whole number or two digit decimal.	(DECIMAL)
aocTransID	This is the unique transaction id generated by AOC Gateway. This id will be used for any future reconciliation purposes.	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success refund transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

14.0 Request for Refund Status

Service Provider can request for refund status for previous refund transaction.

Request Information

HTTP Method	POST
Request	<p>URL : <AOC_SERVER>/api/refundStatus</p> <p>The request parameter as explained in Request Parameter table below with content type: application/x-www-form-urlencoded</p>
Response	<p>HTTP/1.1 200 OK Content-Type: application/json Date: Tue, 01 Nov 2016 12:00:00 GMT</p> <pre>{ "data": { "aocTransID": "12345", "transactionOperationStatus": "refunded", "amountRefunded": "1.00", "errorCode": "00", "errorMessage": "" } }</pre>

Request Parameter

Parameter Name	Description	Usage
username	This will be the username provided to the Service Provider by BOOSTCONNECT.	(STRING) Mandatory
apiKey	This will be API Key to access AOC. Will be provided by BOOSTCONNECT.	(STRING) Mandatory
spTransID	This is the SP transaction ID used in the original Refund transaction.	(STRING) Mandatory

Response Parameter

Parameter Name	Description	Usage
transactionOperationStatus	The status of the charge transaction as below: <ol style="list-style-type: none"> 1. Refunded. (mean successfully refunded). 2. Denied. (failed to refund. Check the error code list for reason). 	(STRING)
amountRefunded	This is the actual amount being refunded. It can be a whole number or two digit decimal.	(DECIMAL)
aocTransID	This is the unique transaction id generated by AOC Gateway. This id will be used for any future reconciliation purposes.	(STRING)
clientCorrelator	This is the client correlator id that will be returned for all success refund transactions. Do keep this id as it will be used for reconciliation purposes.	(STRING)
errorCode	Please check on the error code list.	(STRING)
errorMessage	Explanation of the error	(STRING)

15.0 Server to Server Callback Feature for Unsubscribed User

Operator Customer Service will unsubscribe users from the AOC platform if there is any complaint or request from the user. When customer service successfully unsubscribes a user, AOC will invoke callback to Service Provider Unsubscribe Callback URL. The callback will be a HTTP POST call and JSON payload for the callback as below;

```
{
  "data": {
    "subscriptionID": "WeeklyGame1",
    "msisdn": "+60191234567",
    "status": "unsubscribed"
  }
}
```

Service Providers need to provide this callback URL to BOOSTCONNECT operation during on-boarding process and it's optional.

16.0 Server to Server Callback Feature for Auto-Renewal Subscription

For some Operators, Service Providers do not need to invoke the renewal of subscription. The renewal charge process will be automatically done. Once the renewal charge succeeds, AOC will invoke a callback to Service Provider Callback URL (same callback URL for charge). The callback will be a HTTP POST call and JSON payload for the callback as below;

Please note in case charge is not successful, we will return "Denied" status to you.

```
{
  "data": {
    "aocTransID": "T387487",
    "transactionOperationStatus": "charged",
    "totalAmountCharged": "1.00",
    "clientCorrelator": "R-c559c5f7-2bd9-4bda-9514-86e039b82b22",
    "msisdn": "+601234567",
    "expiryDate": "17-06-2018",
    "subscriptionID": "Sub1",
    "chargeMode": "standard",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

```
}

```

Server to Server Callback Feature for Split Charge

For Subscription under Split Charge (charge with minimum amount), the server to server callback will be as below;

```
{
  "data": {
    "aocTransID": "T387487",
    "transactionOperationStatus": "charged",
    "totalAmountCharged": "1.00",
    "clientCorrelator": "R-c559c5f7-2bd9-4bda-9514-86e039b82b22",
    "msisdn": "+601234567",
    "expiryDate": "17-06-2018",
    "subscriptionID": "Sub1",
    "chargeMode": "split",
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

Server to Server Callback Feature for Step Down Charge

For Subscription under Step Down Charge (user choose step down option with lower amount and subscription duration), the server to server callback will be as below;

```
{
  "data": {
    "transactionOperationStatus": "Charged",
    "totalAmountCharged": "5.00",
    "msisdn": "+60191234567",
    "aocTransID": "12345678",
    "clientCorrelator": "12345678901234567",
    "expiryDate": "22-07-2020",
    "subscriptionID": "Sub1",
    "chargeMode": "stepdown",
    "subscriptionDuration": 8,
    "errorCode": "00",
    "errorMessage": ""
  }
}
```

}

}

17.0 Error Code List

Error Code	Description
00	Success
AOC0001	Invalid Parameter. (details will be found in errorMessage)
AOC0002	Invalid State.
AOC0003	Invalid AOC Token.
AOC1001	Duplicate spTransID
AOC1002	Service Provider redirect user for the same subscription where the subscriber still active.
AOC1003	User key-in invalid OTP Pin.
AOC1004	User cancelled the transaction at the AOC Page.
AOC1005	Operator Code is missing.
AOC1006	MSISDN Blacklisted
AOC1007	Charging / Refund Failed.
AOC1008	Subscription charging is still under processing. This is currently only available for operator XL.
AOC1009	Failed to initialize wallet charge transaction.
AOC1010	You have reached a request OTP limit
AOC1011	Free Trial is finished
AOC1012	Charging Request Denied
AOC1013	You have reached a request OTP limit
AOC1014	You have reached the transaction count limit
AOC1015	Charge exceeds transaction limit
AOC1016	You have reached the transaction daily credit limit
AOC1017	You have reached the transaction monthly credit limit

AOC1018	Subscription is not onboard on AOC.
AOC1019	Transaction has expired
AOC1020	Transaction is blocked due to existing transactions still in progress.
AOC2001	<p>Service Provider invoke subscription renewal before expiry date.</p> <p><i>Please do not invoke renewal until the subscription duration has ended. Service Provider need to ensure that the system keeps track of their subscribers active duration and know when to invoke renewal.</i></p>
AOC2002	<p>Service Provider invoke subscription renewal but the subscriber already unsubscribed the services or subscription already expired.</p> <p><i>Please remove your subscriber from your database and do not invoke any renewal for this subscriber.</i></p>
AOC2003	<p>Service Provider invoke subscription renewal but no subscriber information found on the system.</p> <p><i>No matching subscription is not found for the msisdn and subscription ID. Service Provider need to ensure their subscription database is correct before sending in renewal.</i></p>
AOC2004	<p>Service Provider reached the renewal retry limit for today.</p> <p><i>The renewal limit has exceeded for today. Please do not invoke renewal until it is up for renewal. If subscription is daily, please invoke the following day. Service Provider need to follow the guideline of renewal retry allowed in AOC.</i></p>
AOC2005	Renewal for Subscription is not allowed.
AOC2006	Renewal amount can not exceed subscription charge amount. (Only for partner with approval for Step Down Subscription Renewal Charge)
AOC3001	Service Provider invoke subscription cancellation but the subscriber already unsubscribed the services.

AOC3002	Service Provider invoke subscription cancellation but no subscriber information found on the system.
AOC4001	Invalid AOC Transaction ID.
AOC5001	Invalid apiKey.
AOC6001	Refund amount exceeded the total amount for original charge transaction.
AOC6002	Partial refund is not allowed.
AOC6003	Refund Purchase Category Code is missing.
AOC6004	Refund transaction has been expired
AOC6005	Refund are not allowed
AOC7001	Invalid SP Transaction ID
AOC8001	Transaction {0} is not available for charging.
AOC8002	MSISDN {0} is not matched for request TAC and charge API
AOC8003	Invalid TAC
AOC8004	TAC has expired.
AOC8005	You have reached the limit for retry request charging.
AOC8006	Mobile API is not allowed
AOC8007	The MSISDN is not eligible for mobile payment. (This error code is only for Mobile API mode)
AOC8008	Prepaid is not eligible for mobile payment.
AOC8009	Postpaid is not eligible for mobile payment.
AOC8010	Unable to identify customer type
AOC8011	Unknown User
AOC8101	IP Address it not whitelisted
AOC8102	TAC is still active

AOC8103	Direct Charging is not allowed
AOC9999	<p>Internal Server Error</p> <p><i>Service Provider needs to look at the error message and take the appropriate action based on the message. For example,</i></p> <pre><i>{"fault":{"code":900800,"message":"Message throttled out","description":"You have exceeded your quota"}}</i></pre> <p><i>Service Provider is sending more requests per second than allowed in the system. Please revise your system to send in requests to BoostConnect according to TPS allocation.</i></p>

For error code started (prefix) with SV and POL, please kindly refer to the error message for the description as these errors are returned by BOOSTCONNECT HUB.

18.0 Additional Error Code Handling for Robi's Service Provider

For all the errors below, Service Providers need to unsubscribe or remove their subscribers from the Database and DO NOT send in any renewals. This will cause unnecessary traffic and load to the system.

Error Code	Error Message
POL0001	Internal Server Error. Blacklisted Number
POL0001	A policy error occurred. Error code is %1 Blacklisted Number:
POL1000	No subscriber information is found based on value of {MSISDN} service number.
POL1000	Subscriber information verification error: {MSISDN}
POL1000	The service number [MSISDN] does not exist.
POL1000	The subscriber is in Call Barring state, and service handling is not allowed.
POL1000	The subscriber is in Pool state, and service handling is not allowed.
POL1000	The subscriber is in Suspend state, and service handling is not allowed.
SVC0002	Invalid input value for message part % Service is deactivated by [MSISDN].