API MONETIZATION PLATFORM – AIRTEL INDIA

Payment REST API Guide

Document Version 2.03

Document Revision History

Rev #	Date	Description
1.0	24 April 2014	Initial issue of OneAPI 2.1 Payment API Guide, with customized content for AMP-ATI v1.0
1.1	11 August 2014	Added 8.1.2 Registering for Push Notifications/Callbacks, and information related to notifications.
2.0	11 Feb 2016	Updated guide as per new platform
2.01	23 Feb 2016	Updated service urls
2.02	21 Mar 2016	Updated TWSS error message format
2.03	18 Apr 2016	Introduction of an optional parameter amount during charging requests for validating authorized amount with requested amount.

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Terminology

Term	Description or Terms in an acronym/abbreviation
Aggregator	Aggregators are intermediaries between the mobile carrier and content providers. They provide connectivity to Airtel for content providers.
AMP	API Monetization Platform
AoC	Advice of Charge
ASE	API Services Enabler
ATI	Airtel India
Charge	Payment transaction
CP	Merchant or Content Provider
EULA	End User License Agreement
One-Off purchase	One time charge purchase (as opposed to a subscription for which the Payments and Settlement Engine generates user charges on a periodic basis)
Partner	'Partner' is the generic term for entities that connect to AMP. A partner may be an aggregator of content providers or a single content provider that directly connects to AMP.
PCC	Purchase Category Code, the term used in OneAPI to denote Media Type
PME	Partner Management Engine
PSCP	SmartAPI Partner Self-Care Portal
PSE	Payments and Settlement Engine
PSL	Portal Service Layer (API layer of PME)
REST	Representational state transfer (REST or RESTful) is a style of software architecture for distributed systems such as the World Wide Web.
SSO	Single Sign-On
SOAP	A web services protocol specification for exchanging structured information. It used to be called Simple Object Protocol but this definition is no longer valid.
SMSC	Short Message Service Centre
TPS	Transactions per second
URI	Uniform resource identifier is a string of characters used to identify a name of a web resource.
URL	Uniform Resource Locator
WSDL	Web Services Description Language is an XML-based interface description language that is used for describing the functionality offered by a web service.
SAS	Smartapi Authorization Server

1   Overview

This document is a user guide for Payment APIs as provided on the smartapi platform.

The Payment interface allows an application to perform payment operations such as one step charging. The specification is closely aligned to the GSMA Payment v2.1 specification found at http://oneapi.gsma.com/oneapi/payment-restful-netapi, with enhancements.

The API is integrated with AMP OAuth solution to obtain subscriber consent via WEB/WAP channels. When using SMS or USSD channel, consent is obtained internally.

The AMP Payment API implementation supports JSON format.

> **!** Throughout this document, the examples may be shown WITHOUT URL encoding for readability purposes.

1.1   References

OAuth specifications are described in the Developer Guide for OAuth Authentication and Authorization.

The SmartAPI Partner Self-Care Portal features, including the steps to promote an application to production, are captured in SmartAPI Partner Self-Care Portal User Guide.

1.2   Document Structure

This document is divided into the following chapters/sections:

Chapter	Description
1. About this Document	This section; provides general information about the API and the document.
2. Authentication	Provides notes on authentication requirements for using this API.
3. Methods and URIs	Lists the methods, URIs, operations and common variables used for this API.
4. Charge a Subscriber	Describes the method, with request and response examples and parameters.
5. Response Codes & Exceptions	Lists and describes the response codes and exceptions applicable to this API.

Table 1 Document Structure

2 Authentication

A server side certificate is required as well as HTTP Basic Authentication when SMS/USSD channels are used in charge requests.

If WAP/WEB channel is used, OAuth service provided on smartapi platform is used. Your application will need to be enabled to use an OAuth 2.0 flow and use OAuth authentication header in the request. Details of OAuth usage on Smart API platform are described in the Developer Guide for OAuth Authentication and Authorization.

3 Methods and URIs

Payment is accessible via a REST API. The following methods are available:

- Charge a Subscriber - section 4

The URIs used in the Payment API are described below.

3.1 URIs

https://smartapi.airtel.in/smartapi/services/payment/v1/charge

Charge a user (one step charging) – POST operation

> **!** The Payments API supports *application/x-www-form-urlencoded* and JSON types for POST operations. The response content type is *application/JSON*.

4 Charge a Subscriber

This section describes how to charge a subscriber for a service provided by your application.

By default the charge payment request is synchronous – in other words, the charge will be applied immediately and a suitable response returned to the initial request. This applies regardless of type of authentication and authorization - OAuth or Basic.

4.1 Request

Example JSON request with OAuth authentication

```
POST https://smartapi.airtel.in/smartapi/services/payment/v1/charge
HTTP/1.1
Accept: application/json
Content-Type: application/json
Authorization: Bearer <access token value, for example,
MDYzODdmYjU1NDMyNGYwYWQzN2VhO>
{
    "channel":"WAP",
    "cpTransactionId":"aaa",
    "resourceUrl":"http://www.w3.org/2005/08/addressing/none",
    "amount":"1.00"
}
```

4.1.1 Request Parameters

Parameter	Description	Optional
channel	Indicates the source of user interaction. Valid values are SMS, WAP, WEB, IVR and USSD. • If SMS/USSD is set for the service, basic authentication is used and the request is sent directly • If WAP/WEB/IVR is set for the service, OAuth is used, in which case an OAuth token is validated, and all relevant fields are extracted from token and the request is enriched before sending to TWSS Engine for charging.	No
cpTransactionId	client correlator Id	No
contentUrl	Custom parameter for content download link.	Yes
amount	Product cost at which customer will be charged. If provided in request, value in this parameter is matched with amount value received during	Yes

authorization request. If value is matched, then the request is processed,
otherwise, request is failed with validation error message.

Table 2   Charge Amount to End User's Bill - Request Parameters

4.1.2   Response - Charged

If the transaction is immediately confirmed, the response is displayed as follows:

Example response to a request made with OAuth authentication

```
{
"object": {
"cpId": "smartapi-esb-cp1"
"msisdn": "919958712345"
"purchaseCategoryCode": "smartapiesbservice"
"amount": "1.00"
"cpTransactionId": "aaa"
"twssTransactionId": "twss_439f35cf8fa5c86"
}
"response": {
"code": "ManageCustomerCharging-0000-S"
"message": "Request processed successfully."
}
}
```

4.1.3   Response Parameters

Parameter	Description	Optional
cpId	content partner Id	No
msisdn	12-digit subscriber mobile number	No
purchaseCategoryCode	Purchase Category Code / Content Media Type	No
amount	amount being charged	No
cpTransactionId	Client correlator Id passed by Content Partner	No
twssTransactionId	Transaction Id generated on TWSS engine	No
code	Response Code	No
message	Response Message	No

Table 3 Charge Amount to End User's Bill - Response Parameters

5 Response Codes & Exceptions

5.1 Exceptions

This section lists the available error codes, the possible reasons why the exception may occur, and possible solutions.

5.1.1 Smartapi Server Exceptions

Table below lists the error codes returned when an issue arises due to either invalid request by client or backend system:

Response Code	Response Type	Response Message
SAS-DP-01	System Error	Internal Server Error
SAS-DP-02	Business Error	Invalid Request
SAS-DP-03	Business Error	requested amount and authorized amount do not match
SAS-DB-99	System Error	Internal System Error

Table 4 Smartapi Server Exception Error Codes

5.1.1.1 Smartapi Server Exception Response Examples

The example below shows the response indicating an issue at any of the backend systems.

```
Content-Type: application/json
{ "object":null, "response":{ "code":"SAS-DP-01", "message":"Internal
Server Error" } }
```

5.1.2 Token Validation Exceptions (Payment Charge)

Table below lists the error codes returned when token validation fails during call to payment charging:

Response Code	Response Type	Response Message
SAS-TVA-001	Business Error	Mandatory parameter missing {parameter_name}
SAS-TVA-002	Business Error	Invalid scope
SAS-TVA-003	Business Error	Invalid Token
SAS-TVA-004	Business Error	Token Expired
SAS-TVA-005	System Error	Internal System Error
SAS-TVA-006	Business Error	Token not found

Table 5 Token Validation Exception Error Codes

5.1.2.1   Token Validation Exception Response Examples

The example below shows the response indicating the Token is invalid in the request.

```
Content-Type: application/json
{ "object":null, "response":{ "code":"SAS-TVA-003", "message":"Invalid
Token" } }
```

5.1.3   TWSS Engine – Response Codes

The following table lists the error codes that can be returned by Charging (TWSS) Engine for a payment charge hit to TWSS Engine. Please note that response message in case of error will contain message followed by a pipe ('|') and a soa transaction id for better tracking of error:

Response Code	Response Type	Response Message
managecustomercharging-0000-S	Success	Request processed successfully
managecustomercharging-2500-F	Fatal	Backend system not available at this time
managecustomercharging-3500-E	Backend System Error	Backend System error
managecustomercharging-3502-E	Business Error	Invalid data in request
managecustomercharging-3503-E	Backend business error	User Id value is missing or wrong
managecustomercharging-3504-E	Backend System Error	Your request for service could not be processed due to Network error
managecustomercharging-3505-E	Backend System Error	Your request for service could not be processed due to internal server error.
managecustomercharging-3505-E	Backend business error	CP or Service code is not configured properly
managecustomercharging-3506-E	Backend business error	Please provide correct service code and price
managecustomercharging-3507-E	Backend business error	User is not active
managecustomercharging-3508-E	Backend business error	Subscriber does not exist in the backend system
managecustomercharging-3509-E	Backend business error	Record not found
managecustomercharging-3510-V	Backend business error	System exception
managecustomercharging-3511-E	Backend System Error	Matches exceed limit exception
managecustomercharging-3512-E	Backend business error	Error Encountered, please check the request
managecustomercharging-3513-E	Backend business error	Event type not allowed
managecustomercharging-3514-E	Backend business error	Content provider already exists
managecustomercharging-3515-E	Backend business error	Enumeration types are not present in Database
managecustomercharging-3516-E	Backend business error	Attribute not present in Database
managecustomercharging-3517-E	Backend business error	Application not present in Database

Response Code	Response Type	Response Message
managecustomercharging-3518-E	Backend business error	Content provider service not exists
managecustomercharging-3519-E	Backend business error	Content provider not exists
managecustomercharging-3520-E	Backend business error	Price point not exists
managecustomercharging-3521-E	Backend business error	Content provider service already exists
managecustomercharging-3522-E	Backend business error	Error! Invalid charging request object
managecustomercharging-3523-E	Backend business error	Your request for service could not be processed due to incomplete/wrong request parameters
managecustomercharging-3524-E	Backend business error	ExternalID doesnt exist in the backend system. Request couldnt be processed.
managecustomercharging-3525-E	Backend business error	Your request for service could not be processed due to incomplete/wrong request parameters
managecustomercharging-3526-E	Backend System Error	Internal System Error
managecustomercharging-3527-E	Backend business error	No record exist in the database
managecustomercharging-3528-E	Backend business error	Invalid usage data to find message template
managecustomercharging-3529-E	Backend business error	Invalid usage data attributed to find message template
managecustomercharging-3530-E	Backend System Error	Not able to send message
managecustomercharging-3531-E	Backend business error	Not able to find message tamplate
managecustomercharging-3532-E	Backend business error	Not able to find Audit properties
managecustomercharging-3533-E	Backend business error	No new message template to enter.
managecustomercharging-3534-E	Backend business error	Date format for DND is invalid
managecustomercharging-3535-E	Backend business error	Could not send message, FH network error
managecustomercharging-3536-E	Backend business error	Could not read NDS SI status ,network exception while reading from NDS
managecustomercharging-3537-E	Backend business error	Not able to change price point, please try after sometime.
managecustomercharging-3538-E	Backend business error	Price point already exists
managecustomercharging-3539-E	Backend business error	Invalid price point value
managecustomercharging-3999-F	Fatal	Unknown/Uncaught Error
managecustomercharging-4501-V	Validation Error	Request validation failed

Table 6 TWSS Exception Error Codes

5.1.3.1   TWSS Exception Response Example

The example below shows the response where the parameter validation failed at TWSS.

```
{ "object":null, "response":{ "code":" managecustomercharging-4501-V",
"message":"Request validation failed | soa_aebi385hf0djjw3rwo" } }
```

End of Document