

**File No. 9-01/2021-PD
Government of India
Ministry of Communications
Department of Posts
Parcel Directorate**

Dated 04th August, 2021

To

All HoCs

Sub: SOP of API integration Process for on boarding of E-Commerce Customers

This is regarding the various requests received from bulk customers for integration of data through Application Programming Interface (API). In present Parcel market, Department is committed to provide the infrastructure and technology as per e-commerce market requirements. API is the primary requirement of any e-Commerce customer (Big or small) for their engagement with any Delivery partner.

2. To make the process of onboarding of customers for API integration easier, predictable and to assist the Marketing teams at field level, an API document detailing the available APIs and a SOP for onboarding a potential e-Commerce customer has been prepared in consultation with CEPT and is attached as Annexure-I and Annexure-II respectively. The attached documents are also uploaded on the India Post Website in the "Employee Corner" under the subject "Parcel Directorate".

3. This SOP for API integration is provided through the HDMS URL and designed around the ticketing mechanism. For proper visibility of the process of all departmental stakeholders, report is being developed by CEPT shortly.

4. In case of any operational challenges in initiating the tickets, CEPT has provided an email id "salesndist.cept@indiapost.gov.in" on which queries by the Circle can be addressed for resolving the issues.

5. Circles are requested to circulate these documents to all the marketing team members for their references as well as for approaching the e-Commerce customer which are either pending for on boarding due to non-clarity on API or already on boarded but not given API access.

Encl: As above.


(Amrit Raj)

General Manager (Operations)

Copy to:

1. **Sr. PPS to DG (Posts) for information.**
2. **PPS to Member (Operations) for information.**
3. **PPS to CGM, CEPT, Bengaluru for information.**
4. **DDG (Mail Operations), Dak Bhawan for information.**
5. **GM (Operations), CEPT, Mysuru for information and to upload the same on India Post website in Circulars, Rules Order under subject "Parcel Directorate".**

SOP of API integration Process for on boarding of E-Commerce Customers

1. When a potential e-commerce customer approaches a Circle sales team member (ME), the ME should share the latest API document prepared by CEPT which is available in CEPT API portal. URL for API portal: <https://cept.gov.in/apiintegration/login.aspx>
2. After studying the API approach document, the customer can request for API integration with sales team member of DOP (ME). ME should raise the request to the Circle/Division office which will raise the Integration Request Ticket through HDMS. The following details about the customer will be captured through HDMS: Name; postal services availed/Proposed to be availed; contact number, type of integration required (API/SFTP), Customer ID, Public IP of Customer. ME will also provide his email id so that CEPT can copy him on the email which they will send to the customer as per para 3 below.

HDMS URL: <https://cept.gov.in/apiintegration/login.aspx>

3. The CEPT team on receipt of the HDMS Integration Request Ticket:

Will revert to the customer on email detailing the Tasks for Testing API integration which can be sequential or alternate in format. Copy of the email will also be marked to the ME's registered email ID. Tasks and timelines will be discussed between the Customer and CEPT and recorded in HDMS. The customer will be provided temporary access to HDMS for the same.

- i. Tasks are updated in HDMS by Customer and CEPT Teams against respective Request ID. Time line for each task will be displayed in HDMS.
 - ii. Each side after completing their task will make an entry in HDMS which clearly show on which side the task is pending at any point of time.
 - iii. Technical, Operative and Administrative teams of DOP and Customer will be provided access to HDMS system in-order to review the progress and status of Integration request. Technical team refers to-CEPT, Operative team refers to- ME/Circle/Division, and administrative team refers to -Parcel Directorate/Circle.
 - iv. The Tech teams of both the sides may schedule a weekly or fortnightly call whenever required to review the progress of the integration which should also be recorded in HDMS against Integration Request ID.
 - v. Once the integration is successfully tested, HDMS Integration request Ticket will be closed by CEPT Team duly mentioning Production Rollout Date. Customer will already be aware as integration is being done with his system. In any case, access to ME/Division/Circle for HDMS is already available.
- 3.1 CEPT is in process of developing of a Dashboard to reflect the status of Integration and MIS for monitoring of Data flow between DOP and the Customer System for existing Customers. Dashboard will also provide the status of the integration requests along with the details of stake holders and date and time of the activities. Access of dashboard will be provided to all concerned (PD/Circle/Division). CEPT will also share a monthly MIS on the number of integrations completed or under progress for the Parcel silo in the PNOP folder available at BI Tool.

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DoP Integration with Bulk Customers

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1. Introduction

- 1.1. This document explains the approach for exchange data/information between India Post (DoP) and its Registered Customers.
- 1.2. In addition to customer self-services viz **Bulk Track and Trace** and **Customer MIS Reports through INDIA POST Portal**, any Customer with an IT System in place can integrate with DoP for exchange of information electronically.
- 1.3. Various Services offered for Integration are
 - Article Data sharing for Pickup & booking by Customer to DoP
 - Article Data sharing for Events by DoP to Customer
 - Tariff API for Speed Post, Business Parcel and International Mail services.
 - Pincode API for DoP Offices validation and Details.

2. Data Sharing channels:

- ❖ Application Program Interface (API).
- ❖ Secure File Transfer Protocol (SFTP)
- ❖ Customer Self Service through India Post Portal (CSV format)

3. Article Data Exchange(API & SFTP Channel):

- 3.1. Supported File format shall be XML scheduled at regular intervals for exchange.
- 3.2. Options for Integration between Customer & DoP:
 - a) Inbound: Customer to DoP System
 - i. Manifest XML File(Articles to be booked by DoP w/o Pickup functionality)
 - ii. Pickup API(Articles to be Picked Up and booked by DoP)
 - b) Outbound: DoP to Customer
 - i. Booked XML(IB) – Contains Booking details.
 - ii. Delivered XML(ID) - Contains Delivery details.
 - iii. Not Delivered XML (ND) – Contains Last Event Other than Delivery.
 - iv. Returned XML(RT) - Contains Returned Event if any irrespective of Last Event.
 - v. Last Event XML (IL) - Contains Last Event of the articles.
 - vi. Latest Event XML(LE) - Contains Last event of the articles.
- 3.3. Customers can opt for Outbound Integration w/o Inbound file and vice Versa.
- 3.4. Integration shall be XML file based and mode of exchange can be API or SFTP.
- 3.5. Latest Event XML(LE) shall explicitly contain Event as available in all other Outbound files except Returned File(RT).
- 3.6. Based on the specific requirement of customer, required outbound file and the frequency of sharing shall be configured.

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4. Technical details for Article Data Exchange (API & SFTP):

4.1. For exchange through SFTP:

- ❖ **File protocol:** **SFTP**
- ❖ **Host name:** ***data.cept.gov.in***
- ❖ **File Format :** ***XML***
- ❖ **Username & Password :** *Will be informed at the time of technical discussions*
- ❖ **Public IP & Port Number:** *Will be informed at the time of technical discussions*
- ❖ **Folder Structure :** *Will be informed at the time of technical discussions*

4.2. For exchange through API mode(W/o Pickup):

- ❖ **Protocol:** **https**
- ❖ **Service Type:** **REST**
- ❖ **File Format exchanged through API:** **XML**
- ❖ **URL For Booking:**
<http://data.cept.gov.in/customer/api/BulkCustomer/upload>
- ❖ **URL for Status File:**
<http://data.cept.gov.in/customer/api/BulkCustomer/download>
- ❖ **Method:** **GET or POST**
- ❖ **Parameters to be passed for Download:**
 - Customer ID (10 Digit assigned by DoP)
 - Event Code (2 Digit Code of the XML File Type which will be shared during technical discussion)
 - Event Date (dd/mm/yyyy)

Parameter	Value
Cust_Id	0000000000
Event_Code	IB or LE or RT or ID
Event_Date	05032021

- ❖ **Public IP & Port Number:** *Will be informed at the time of technical discussions*

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4.3. Pick Up API:

Customer shall be provided with Login credentials to get access token valid which is valid for 60 Mins.

❖ **Method:** *POST*

❖ **API URL :**

<http://opensource.cept.gov.in/graphql>

Sample GraphQL query along with parameters

API	GraphQL Query	Parameters
Login API	<pre>query Login(\$password: String!, \$username: String!, \$scope: String = "", \$client_secret: String = "", \$client_id: String = "") { login(password: \$password, username: \$username, client_id: \$client_id, client_secret: \$client_secret, scope: \$scope) { access_token refresh_token error user_id expires_in token_type } }</pre>	<pre>{"client_id":""," "client_secret":""," "scope":""," "username":""," "password":""}</pre>
Pick Up API	<pre>mutation MyMutation { insert_Pickup(objects: [{ArticleID: "",LoginID:" "} {ArticleID: "",LoginID:" "}]) { returning { ArticleID } } }</pre>	

Once the access token is expired, customer can get the new token using the refresh token or login API.

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5. Other Information:

- 5.1. Only white-listed IP address would be allowed to connect to DoP either through SFTP or API channel. Customer has to provide their Public IP. IP whitelisting is not required for Outbound XML Testing via API channel.
- 5.2. In SFTP channel, the customer has to connect to DoP system and upload(Inbound Manifest) or download(Outbound Events) the XML files.
- 5.3. Customer IT system must be hardened enough with latest Anti-virus definitions in place.
- 5.4. The Outbound XML files generated by DoP will be available for consumption for upto 30 days. Post that the files will be archived.

6. File information for Article Data:

6.1: Booking Xml: Shared by Customer to DoP

File Name:

BookingOfcID_CustomerID_ContractNo_Service_Customerfileref_FileDate&Time.xml

Tag Name	Description	Default Val	Format	Length	Mandatory
<?xml version="1.0" encoding="UTF-8"?>					
<BookingManifest>					
<manifestDetail>					
<consigneeAddress>					
<name>	Name of Recipient		Characters	50	Mandatory
<address1>	Address Line 1		Characters	100	Mandatory
<address2>	Address Line 1		Characters	100	Optional
<address3>	Address Line 1		Characters	100	Optional
<city>	Recipient City		Characters	50	Mandatory
<pincode>	Recipient Pincode		Number	6	Mandatory
<CountryCode>	Recipient Country	IN	Characters	2	Mandatory
<MobileNo>	Recipient Mobile		Number	15	Optional
</consigneeAddress>					
<shipmentPackageInfo>					
<articleNumber>	Article ID		Characters	13	Mandatory
<referenceNumber>	Reference No.		Characters	50	Mandatory
<ShipmentMethodOfPayment>	Method of Payment	CONTRACT or COD	Characters	10	Mandatory
<CashOnDeliveryCharge>					
<chargeOrAllowance>	Method of Charge	CHARGE or ALLOWANCE	Characters	10	Mandatory

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<monetaryAmount currencyISOCode="INR">	Article Value	0.00 if CONTRACT	Number	13,2	Mandatory
</CashOnDeliveryCharge>					
<shipmentPackageActualGrossWeight>					
<weightValue unitOfMeasure="KG">	Article Weight		Number	3,3	Mandatory
</shipmentPackageActualGrossWeight>					
<insuredValue>	Insurance Value	0.00 if not applicable	Number	13,2	Mandatory
<ProofOfDelivery>	Proof of Delivery Flag	Y or N	Characters	1	Mandatory
</shipmentPackageInfo>					
</manifestDetail>					
</BookingManifest>					

6.2 Latest Event(LE) File: Shared by DoP to customer.

File Name:

CustomerID (10digit)_LE_ReportDate_FileDateTime.xml

Tag Name	Description	FORMAT	Length	Mandatory
<?xml version="1.0" encoding="UTF-8"?>				
<LatestEventDetails>				
<ArticleDetails>				
<ArticleNumber>	Article / EMO ID	Characters	20	Yes
<ArticleType>	Article Type	Characters	18	No
<BookingDate>	Booking Date	Date (DDMMYYYY)	8	No
<BookingTime>	Booking Time	Time (HHMMSS)	6	No
<BookingOfficeFacilityID>	Booking Office FacilityID	Characters	13	No
<BookingOfficeName>	Booking Office Name	Characters	50	No
<BookingPIN>	Booking Office PIN	Number	6	No
<SenderAddressCity>	Booking Office City	Characters	50	No
<DestinationOfficeFacilityID>	Destination Office FacilityId	Characters	13	No
<DestinationOfficeName>	Destination Office Name	Characters	50	No
<DestinationPIN>	Destination Office PIN	Number	6	No
<DestinationCity>	Destination City	Characters	50	No
<DestinationCountry>	Destination Country	Characters	50	No
<ReceiverName>	Receiver Name	Characters	50	No
<InvoiceNo>	Invoice No	Characters	30	No
<LineItem>	Line Item	Number	5	No
<WeightValue>	Weight Value in gms	Number	6	No
<Tariff>	Tariff	Number	5	No
<CODAmount>	COD Amount	Number	8	No
<BookingType>	Booking Type	Characters	1	No
<ContractNumber>	Contract Number	Number	10	No

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<EventCode>	Event Code	Characters	20	Yes
<EventDescription>	Event Description	Characters	50	Yes
<EventOfficeFacilityID>	EventOffice FacilityID	Characters	13	Yes
<EventOfficeName>	Event Office Name	Characters	50	Yes
<EventDate>	Event Date	Date (DDMMYYYY)	8	Yes
<EventTime>	Event Time	Time (HHMMSS)	6	Yes
<NonDelReason/>	Non Delivery Reason	Characters	30	No
</ArticleDetails>				
</LatestEventDetails>				

Note: Other XML details for outbound shall be shared based on specific requirement from customer.

6.3 Expected event Codes:

EVENT_CODE	DESCRIPTION	EVENT_CODE	DESCRIPTION
BAG_CLOSE	Bag Close	ITEM_BOOK	Item Booking
BAG_DISPATCH	Bag Dispatch	ITEM_CANCEL	ITEM CANCEL
BAG_OPEN	Bag Open	ITEM_DELIVERY	Item delivery
BEAT_DISPATCH	Beat Dispatch	ITEM_DISPATCH	Item Dispatch
CANCEL_DISPATCH	Cancel Dispatch	ITEM_MISSENT	Item Missent
CLEAR_CUSTOMS	Clear Customs	ITEM_NONDELIVER	Item Delivery Failure
CUSTOMS_IN	Customs In	ITEM_ONHOLD	Item Onhold
CUSTOM_HOLD	Custom Hold	ITEM_PICKUP	Item Pick up
CUSTOM_RECEIVE	Custom Receive	ITEM_RECEIVE	Item Receive
CUSTOM_RETURN	Custom Return	ITEM_REDIRECT	Item redirect
BEAT_DELIVERY	PM Beat Delivery	ITEM_RETURN	Item Return
ITEM_BAGGING	Item Bagging	TMO_RECEIVE	Item Received

Note: BEAT_DELIVERY is Additional Information for ITEM_DELIVERY. BEAT_DELIVERY event for any article must subsequently have ITEM_DELIVERY Event. Not All ITEM_DELIVERY (Item Delivery Confirmation) Articles shall have BEAT_DELIVERY.

7. TARIFF API:

7.1. This API Provides the Base Tariff and Service Tax based on the Chargeable weight from any Source Pincode within India to Destination Pincode(within India) /Destination Country.

7.2. Customer Public IP to be whitelisted for access.

7.3. API URL:

<https://api.cept.gov.in/tariff/api/values/gettariff>

Above url expects input as JSON and provides JSON output.

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7.4. Input parameters

- Services

Service ID	Service Description
SP	Inland Speed Post
BP	Business Parcel
RL	Registered Letter
RP	Registered Parcel
FD	EMS Document (International)
FM	EMS Merchandise (International)
FL	Registered Foreign Letter (International)
FP	International Air Parcel
FT	International Tracked Packet Service

- Source Pincode, Destination PINCODE/Destination Country Code(Country List Shared separately while integration)
- Weight, Length, Breadth, Height

7.5. Sample Input and Output:

- Input (Domestic):

```
{
    "service": "SP",
    "sourcepin": "532001",
    "destinationpin": "500001",
    "weight": "30",
    "length": "30",
    "breadth": "30",
    "height": "30"
}
```
- Input (International):

```
{
    "service": "FD",
    "sourcepin": "532001",
    "destinationpin": "AU",
    "weight": "120",
    "length": "10",
    "breadth": "10",
    "height": "10"
}
```
- Output:

```
[
  {
    "Validation Status": "Valid Input",
    "Chargeable Weight": "4500",
    "Base Tariff": "300",
    "Service Tax": "54"
  }
]
```

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7.6. Validations and Response:

7.6.1. Validation Status:

- If valid Input: Status in response will be "Valid Input" with required details.
- Incase Invalid, following errors will be available in response at "validation status" field and other output parameters shall be Null:
 - Invalid Service Id
 - Source Pincode Invalid
 - Destination Pincode invalid
 - Invalid Destination country Code
 - Service not available to Selected Destination Country.
 - Dimension Exceeds as max allowed value.
 - (l+b+h) should be less than 300 and any dimension ≤ 150 .
(If Sum (l, b, h) is more than 300) and any dimension is >150 cm)
 - Please enter proper weight (if the weight zero or a negative value)
 - Dimension Exceeds max allowed value.

7.6.2. Chargeable weight:

The weight (Actual weight or Volumetric Weight whichever is Max) on which the tariff is calculated.

7.6.3. Base Tariff: The base price applicable on the Chargeable weight and Distance.

7.53. Service Tax: Services Tax applicable on the base Tariff. Not applicable incase customer is exempted from Tax.

8. PINCODE VALIDATION API:

8.1. This API validates any PINCODE and provides Delivery Post office Details

8.2. Customer Public IP to be whitelisted for access.

8.3. API URL:

https://api.cept.gov.in/CommonFacilityMaster/api/values/Fetch_Facility

Above url expects input as JSON and provides JSON output.

8.4. Sample Input and Output:

Sample Input:

```
{
  "Input_Pincode": "532001"
}
```

Sample Output:

```
[
  {
    "Validation Status": "Valid Pincode",
    "Circle": "Andhra Pradesh Circle",
    "Region": "Visakhapatnam Region",
```

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```
"Division": "Srikakulam Division",  
"Name of the office": "Srikakulam H.O",  
"Delivery/Non-Delivery Office": "Delivery Office"  
}  
]
```

Note: Sample input can be text by Office Names For Ex: "Input_Pincode": "srikak"

For invalid Request:

"Validation Status": "Invalid Input",

9. Customer Self Service through India Post Portal:

- Customer can register through IP Portal @ www.indiapost.gov.in with valid Email id and mobile number.
- For Contractual Customers (Booking Speed Post, Business Parcel etc on Agreement with DoP): Select Corporate, Enter Customer ID, Contract provided by DoP to register with other details.
- For other Customers (Booking EMO, Regd Services, Speed Post etc without agreement): Select Retail to register with other details, portal shall assign customer Id.
- Customer ID shall be available under My profile. Bookings to be completed across counter using said Customer ID for accessing Portal Reports.
- Below reports are available under Portal Login-> Tools
 - Bulk Track and Trace:
Last Event of upto 500 articles IDs by uploading through Template (Format available for download from same screen)
 - Bulk Tracking Reports(Below reports are available):
 - Booking Report
 - Delivery/EMO-Paid Report
 - Non-Delivery Report
 - Last Event Report
 - Returned Report
 - Redirected Report

Contact salesndist.cept@indiapost.gov.in for more details.
