

# *INTEGRATION WITH AGGREGATOR'S*

Version 1.0

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e-Mitra

## Revision History

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1.0	Chetan Yadav	Author	Nov 03, 2015
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2.0	Dr Yuvraj Singh	Approved By	Dec 1,2015
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## PROCESS FLOW

1. Customer goes to e-Mitra website, fills up payment details and selects any aggregator as payment mode.
2. Before moving to aggregator's website, e-Mitra Transaction Id (PRN) will be provided to customer for future reference.
3. e-Mitra will send parameter by POST method. There are two different methods will be used to send request data.

*Method I: Post Method without encryption.*

*e-Mitra would send a simple post request without encryption but a hash parameter will be sent with checksum value.*

*e-Mitra will construct hash parameter by a pipe separated values of all mandatory parameters. A checksum value computed and appended to it as the last value of the pipe separated string. Checksum generation security mechanism shall be defined per SLA.*

*paramaters= PID|PRN|AMT|EMITRATIMESTAMP|ITC|PURPOSE|SURL|FURL|UDF|CHECKSUM*

*Note:*

*UDF are user Define Parameters, i.e. parameters udf1, udf2 etc. are mapped with e-Mitra mandatory parameters.*

*Method II: Post method with encryption.*

*POST with encryption of variable using AES 256bit or Triple DES algorithm.*

```
<form name="form" method="post" action="URL_FOR_POSTING_DATA">  
<input type="hidden" name="PID" value="-----">  
<input type="hidden" name="encdata" value="encrypted XML data">  
(+ Any Fixed data required by bank)
```

*Sample encryption Code:*

<https://drive.google.com/file/d/0B9Bkz-2bkQrIZTdsMV9vWDdqbm8/view?usp=sharing>

*Note : Hash parameter can be send NA here.*

4. All mandatory parameters defined in e-Mitra should be accepted and mapped by Aggregator either with their mandatory or User defines parameters.
5. e-Mitra shall have an SLA with aggregator to identified type of payment mode are allowed in integration e.g. Internet Banking, Credit Card etc.
6. e-Mitra shall have an SLA with aggregator to show a default payment mode to be displayed on aggregator transaction page.

**7. Along with above parameters e-Mitra shall have an SLA with aggregator wherein aggregator shall need to transfer funds against each transaction (service) type done by customer.**

*a. This parameter allows you to customize the payment options for each individual transaction. For example, if we consider the categories Credit Card, Debit Card and Net Banking. If the merchant wants to display only 4 debit card options and only 2 Net Banking options for a transaction A and wants to display only 2 debit card option and 5 Net Banking options for another transaction B, the customization is needed and this parameter (enforcecategory) provides exactly that feature.*

*b. The merchant needs to put the necessary payment options in this parameter and post it to us at the time of transaction. All the categories and sub-categories have specific values which need to be put in this string.*

8. Control will be transferred to aggregator's website for further action.

9. User selects any mode of payment available at aggregator and completes the transaction.

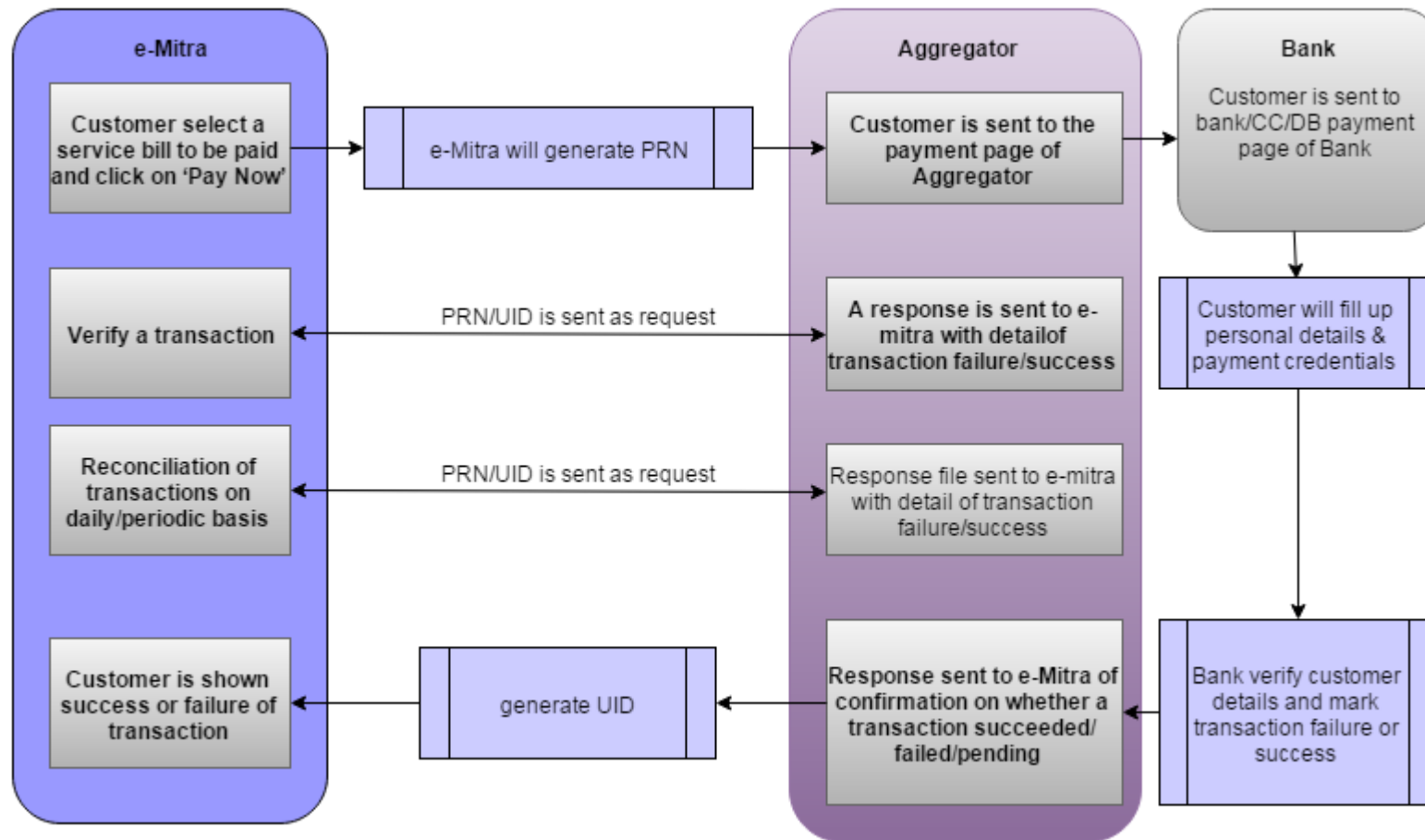
10. OR click cancel button to return back to e-Mitra.

11. If cancelled, Aggregator must return proper response in parameters described in RESPONSE section.

12. If successful, failed or pending from Bank, Aggregator must redirect customer to URL given in RU parameter along with parameters specified in RESPONSE section.

13. Below should be payment flow :

## Process flow Diagram:



## TRANSACTION Initiation

**Posting URLs:** Provided by Aggregator

### **Request Parameters:**

The *parameters* to be incorporated are as follows

#	Parameter	Description	Data Type - Size	Mandatory	Remarks / Sample value
1	PID <Payee Id- merchant Id given to e-Mitra by aggregator>	Payee Id - Merchant Id given to e-Mitra by Aggregator	String (30)	Yes	EMITRA-RAJ ( <i>just a sample</i> ) <b>Display : NO</b>
2	PRN	Payment Reference Number- The unique transaction id generated at e-Mitra to identify transaction	String(20)	Yes	151000000978901 or 000000008975645 <b>Display : YES</b>
3	AMT	Total amount of transaction to be collected from customer	Number (12, 2). Total 12 digits with paisa in last 2 places	Yes	15010.00 1035600.90 1234567890.99 <b>Display : YES</b>
4	EMITRATIMESTAMP	Date-Time of transaction at e-Mitra while initiating transaction	String(20)	Yes	20151101094315091 <b>Display : NO</b>
5	ITC	Merchant Name or Name of Fund receiving department	String(50)	Yes	e-Mitra Raj. State Pollution Control Board <b>Display : YES</b>

6	PURPOSE	Purpose of transaction (visible to user doing trans)	String (50)	Yes	Bill Payment / Application Fees Display : YES
7	SURL	Success URL - This parameter must contain the URL on which Aggregator will redirect the final response if the transaction is successful.	String (300)	Yes	Display : NO
8	FURL	Success URL - This parameter must contain the URL on which Aggregator will redirect the final response if the transaction is failure.	String (300)	Yes	Display : NO
9	HASH/CHECKSUM	A checksum/Hash value computed by value of parameters supplied.	String (300)	Yes	Display : NO
10	CURL	Success URL - This parameter must contain the URL on which Aggregator will redirect the final response if the transaction is cancel.	String (300)	No	Display : NO
11	DROPCATEGORY	This parameter is used to customize the payment options for each individual	String (300)	No	Display : NO



		transaction			
12	ENFORCECATEGORY	This parameter allows you to customize the payment options for each individual transaction.	String (300)	No	Display : NO
13	USERNNNAME	Name of Customer (visible to user doing trans)	String (50)	No	Ramkaran Sharma Display : YES
14	USEREMAIL	Email of Customer	String(50)	No	ramkarans@gmail.com Display : YES
15	USERMOBILE	Mobile of Customer	String(12)	No	9876543219 Display : YES
16	CRN	Currency of Transaction	String(5)	No	INR Display : NO

\*\*\* In addition to above parameters, e-Mitra will forward any FIXED parameters as required by Aggregator.

**Sample User Interface to Bank's Customer / e-Mitra user on Aggregator's website.**

Transaction Details:		
Transaction Id :	<input type="text" value="12345678989999"/>	* PRN
Pay To :	<input type="text" value="Rajasthan Pollution Control Board"/>	* ITC
Amount :	<input type="text" value="1000"/>	* AMT
Purpose :	<input type="text"/>	* PURPOSE
User Info :		
User :	<input type="text" value="Kiosk Name / Citizen Name"/>	* USERNAME
Email Id :	<input type="text" value="User Mail Id like, &lt;acb@gmail.com&gt;"/>	* USEREMAIL
Mobile No :	<input type="text" value="User Mobile Number like +91-8789786756"/>	* USERMOBILE

## Process

1. Customer goes to e-Mitra website, fills up payment details and selects any aggregator as payment mode.
2. Before moving to aggregator's website, e-Mitra Transaction Id (**PRN**) will be provided to customer for future reference
3. *e-Mitra will send parameter by POST method using designated security mechanism defined per SLA*
4. Control will be transferred to aggregator's website for further action
5. User selects any mode of payment available at aggregator and completes the transaction.
6. OR Click cancel button to return back to e-Mitra
7. If cancelled, Aggregator must return proper response in parameters described in RESPONSE section
8. If successful, Aggregator must redirect customer to URL given in RU parameter along with parameters specified in RESPONSE section
9. In the POST RESPONSE sent by Aggregator, e-Mitra would receive the final status of the transaction on the same day (T+0), such transaction shall be marked as success/failure in e-Mitra.

**RESPONSE from Aggregator**

Response for the transaction is to be provided at RU (Return URL) provided with original request. The parameters required by e-Mitra in response are as follows:

#	Parameter	Description	Data Type - Size	Mandatory
1	PRN	<i>Payment Reference Number- The unique transaction id generated at e-Mitra to identify transaction</i>	String(20)	Yes
2	MODE	<i>CC' for credit-card / 'NB' for net-banking / 'DC' for debit card / 'COD' for Cash on delivery/ 'CASH' for Cash Card</i>	String(10)	Yes
3	MODE_TYPE	<i>Type of the Credit Card/Debit Card/Wallet e.g. Master/Visa/Mastro etc.</i>	String(10)	No
4	MODE_BANK_NAME	<i>Name of the Credit Card/Debit Card/Wallet</i>	String(100)	No
5	MODE_BID	<i>Transaction number of the Credit Card/Debit Card/Wallet</i>	String(20)	No
6	MODE_CARD_TYPE	<i>Whether card is International or National</i>	String(10)	No
7	AMT	<i>Total amount of transaction to be collected from customer</i>	Number (12, 2)	Yes
8	UNIQUE_TRANSACTION_ID (Aggregator ID)	<i>The reference number generated at Aggregator end to identify the transaction in customers account</i>	String Yes	Yes
9	STATUS	<i>The transaction status - SUCCESS, PENDING, FAIL</i>	String (10)	Yes
10	STATUS_DESC	<i>Status in detail, like - success, Cancelled by user, Insufficient balance, wrong OTP, Pending for authorization, etc. In case, transaction is cancelled or not completed, status must be FAIL.</i>	String (200)	Yes
11	BANKTIMESTAMP	<i>VALUE DATE/Time - Timestamp of transaction at Aggregator (in format - YYYYMMddHHmmssttt)</i>	String(20)	Yes
12	EMITRATIMESTAMP	<i>Value Date/Time - Timestamp of transaction at Emitra (in format - YYYYMMddHHmmssttt)</i>	String(20)	Yes

**NOTE: (Transaction Status and if any action needed)**

<b>Status</b>	<b>Meaning (INTERPRETATION)</b>
<b>SUCCESS</b>	Aggregator respond with SUCCESS, EMITRA will mark transaction as successful and no further communication needed with Aggregator for such transaction. But in some cases, e-Mitra may initiate refund process for such transactions in daily routine.
<b>PENDING</b>	<p>In case a SUCCESS/FAILURE response is not received from the bank the status would remain as Pending. All such transaction of Day T+X will be considered as a failed. e-Mitra will be the authority to define value of x based on type of service is being offered.</p> <p>In following cases this status is assumed</p> <p>Case A:</p> <ol style="list-style-type: none"> <li>Aggregator must give PENDING Status in original request so that e-Mitra can mark status as Pending for further action from either end.</li> </ol> <p>Case B:</p> <ol style="list-style-type: none"> <li>For transactions marked as PENDING, e-Mitra <b>may</b> facilitate its customers to VERIFY transaction status. On verification, e-Mitra will mark transaction as SUCCESS/FAIL or still PENDING</li> <li>For transactions marked as PENDING, e-Mitra <b>may not</b> facilitate its customers to VERIFY transaction status. In this case all transaction will be marked as FAIL and refund will be initiated in daily routine as defined.</li> </ol>
<b>FAIL</b>	Aggregator respond with FAIL, EMITRA will mark transaction as failed and no further communication needed with Aggregator for such transaction.

## VERIFICATION

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Verification is an inquiry activity to be carried out by e-Mitra server to recheck the status of transaction.

- It should be a server to sever communication and not through browser.
- It is a mandatory process carried out by e-Mitra for all transactions irrespective of the reception/non reception of the responses for the transaction requests from aggregator.

### Section A: URL to post the verification request (POST)

URL will be provided by Aggregator.

### Section B: Verification Request Parameters

#	Parameter	Description	Data Type - Size	Mandatory	Remarks / Sample value
1	PID <Payee Id- merchant Id given to e-Mitra by bank>	Payee Id - Merchant Id given to e-Mitra by BANK	String -30	Yes	EMITRA-RAJ (just a sample) <b>Display : NO</b>
2	PRN	Payment Reference Number- The unique transaction id generated at e-Mitra to identify transaction	String-20	Yes	151000000978901 or 000000008975645 <b>Display : YES</b>
3	AMT	Total amount of transaction to be collected from customer	Number (12, 2). Total 12 digits with paisa in last 2 places	Yes	15010.00 1035600.90 1234567890.99 <b>Display : YES</b>

E-Mitra will send above specified parameters by **POST** method with encryption a method (as agreed with aggregator)

Case I (in HTML objects)

POST with any encryption designated by aggregator.

```
<form name="form" method="post" action="BANK_URL_FOR_POSTING_DATA">
<input type="hidden" name="PID" value="-----">
<input type="hidden" name="PRN" value="-----">
<input type="hidden" name="AMT" value="-----">
(+ Any Fixed data required by bank)
```

Case II (in XML)

POST with encryption of variable using AES 256bit or Triple DES algorithm.

```
<form name="form" method="post" action="BANK_URL_FOR_POSTING_DATA">
<input type="hidden" name="PID" value="-----">
<input type="hidden" name="encdata" value="encrypted XML data">
(+ Any Fixed data required by bank)
```

**NOTE:** First data will be converted into XML string and then Encryption will be applied on xml string. On decryption, bank need to extract values from XML string thus obtained.

(+ Any Fixed data required by Aggregator)

```
<?xml version="1.0" encoding="utf-8"?>
  <EmitraData
    PRN="----"
    AMT="---"
  />
```

### Section C: Verification Response

Aggregator should return response in XML/pipe separated format with parameters given below

#	Parameter	Description	Data Type - Size	Mandatory
1	PRN	<i>Payment Reference Number- The unique transaction id generated at e-Mitra to identify transaction</i>	String-20	Yes
2	AMT	<i>Total amount of transaction to be collected from customer</i>	Number (12, 2)	Yes

3	UNIQUE_TRANSACTION_ID (Aggregator ID)	<i>The reference number generated at Aggregator's end to identify the transaction in customers account&gt;</i>	String Yes	Yes
4	STATUS	<i>The transaction status -SUCCESS, PENDING, FAIL</i>	String (10)	Yes
5	STATUS_DESC	<i>Status in detail, like - Cancelled by user, Insufficient balance, wrong OTP, Pending for authorization, etc.</i>	String (200)	Yes
6	BANKTIMESTAMP	Value Date/Time - Timestamp of transaction at Aggregator (in format - YYYYMMddHHmmsstt t)	String(20)	Yes
7	MODE	Transaction Mode (NB for Net banking, CC for credit card, DC for Debit card, "-" for unknown)	String(10)	Yes
7	MODE_TYPE	<i>Type of the Credit Card/Debit Card/Wallet e.g. Master/Visa/Mastro etc.</i>	String(10)	No
9	MODE_BANK_NAME	<i>Name of the Credit Card/Debit Card/Wallet</i>	String(100)	No
10	MODE_BID	<i>Transaction number of the Credit Card/Debit Card/Wallet</i>	String(20)	No
11	MODE_CARD_TYPE	<i>Whether card is International or National</i>	String(10)	No

12	EMITRATIMESTAMP	Value Date/Time - Timestamp of transaction at Emitra (in format - YYYYMMddHHmmsstt t)	String(20)	Yes
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***Response will be having content-type header as application/xml. -***

```
<? xml version="1.0" encoding="utf-8"?>
  <EmitraData
    PRN="----"
    AMT="---"
    UNIQUE_TRANSACTION_ID ="-----"
    STATUS="-----"
    STATUS_DESC="-----"
    BANKTIMESTAMP="----"
    MODE ="---"
    MODE_TYPE="----"
    MODE_BANK_NAME="----"
    MODE_BANK_BID="----"
    MODE_CARD_TYPE ="----"
    EMITRATIMESTAMP="---"
```

/>

Or

```
PRN|AMT| UNIQUE_TRANSACTION_ID|STATUS|STATUS_DESC| BANKTIMESTAMP|MODE
|MODE_TYPE|MODE_BANK_NAME|MODE_BANK_BID|MODE_CARD_TYPE| EMITRATIMESTAMP
```



## **DAILY RECONCILIATION: SUCCESS TRANSACTION FILE**

### **FROM Aggregator to e-Mitra - for reconciliation**

e-Mitra will reconcile the transaction with Aggregator. Aggregator will post back the response to e-Mitra of the transactions were marked as succeeded on T +0 Day.

e-Mitra will send PRN's number to aggregator , Aggregator would return an output of transaction status.

**File Type:** CSV

**Contents:** Delimited with “|”

**Parameters required:**

- PRN
- AMT
- EMITRATIMESTAMP
- UNIQUE\_TRANSACTION\_ID
- STATUS\_REFUND
- STATUS\_DESC
- MODE
- MODE\_TYPE
- MODE\_BANK\_NAME
- MODE\_BANK\_BID
- MODE\_CARD\_TYPE
- BANKTIMESTAMP

## e-Mitra REFUND

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### FROM e-Mitra to Aggregator - for REFUND

Parameters specified below will be provided by e-Mitra as per requirement for transactions to be rolled back so that customers will get money back to their accounts.

#### Parameters required in request:

- UNIQUE TRANSACTION ID (Aggregator ID)
- PRN
- AMT

The response to the Refund file will be provided in the same SFTP location. The files will be in .csv format. These parameters will be sent in a file with multiple records.

Parameter	Sample Value	Description
<i>UNIQUE_TRANSACTION_ID</i>	<i>MSBI0412001668</i>	<i>The reference number generated at Aggregator end to identify the transaction in customers account</i>
<i>PRN</i>	<i>151000000978901</i>	<i>Payment Reference Number- The unique transaction id generated at EMITRA to identify transaction</i>
<i>AMT</i>	<i>15010</i>	<i>Total amount of transaction to be collected from customer</i>
<i>STATUS</i>	<i>FAILED</i>	<i>The transaction status - SUCCESS, FAILED</i>
<i>STATUS_DESC</i>	<i>Transaction ID does not exist</i>	<i>Reason for refund record processing error.</i>

#### Structure of a record in the file:

UNIQUE\_TRANSACTION\_ID, PRN, AMT, STATUS, STATUS\_DESC

#### Sample Refund Response Data

MSBI0412001668, 151000000978901, 15010, SUCCESS, SUCCESS