Lozik

upaywise

Merchant Integration Document
V 1.5

September 2017

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A. DOCUMENT VERSION

This section lists the details of reviews for this document:

Version No.	Prepared by	Role	Comments	Date
1.0	Neha Kheddo	Testing Engineer	Merchant Integration	09/03/2017
1.0	Rigvi Bansoodeb	Testing Engineer	Merchant Integration	09/03/2017

B. CHANGE HISTORY

This section details the changes this document has undergone:

Version No.	Details of Change	Changed Sections	Date
1.0	Base Version	Merchant Integration	09/03/2017
1.1		Recurring	28/04/2017
1.4	User Define fields added for 3d Transactiosn	3D-Secure Integration	21/07/2017
1.5	Remove blank udf5 from request Transactiosn	Request Example	15/09/2015

C. APPROVALS

	Name	Team	Date

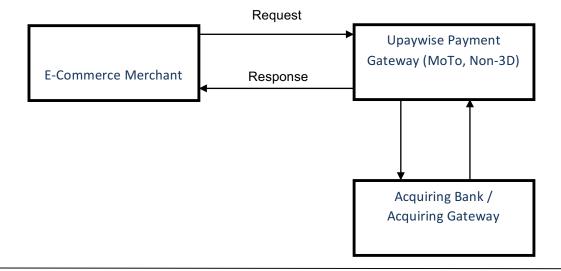| Prepared by	Neha Kheddo	SoftConnect Ltd	09/03/2017
Prepared by	Rigvi Bansoodeb	SoftConnect Ltd	09/03/2017
Verified by	Treshwar Coorjee Visram	SoftConnect Ltd	16/06/2017
Approved by	Treshwar Coorjee Visram	SoftConnect Ltd	16/06/2017
Changed by	Nagarajan Ramsasamy	SoftConnect Ltd	21/07/2017
Changed by	Nagarajan Ramsasamy	SoftConnect Ltd	15/09/2017

1. Overview

Upaywise is a PCI-DSS compliant platform with the ability to support strong data encryption for secure transactions. The target of Upaywise payment gateway is to keep the merchants' online e-commerce business up and running by applying simple integration methods and by offering advanced payment technology with high end risk management solutions.

This document is intended for programmers responsible for the merchant payment gateway interface. It describes the interface that merchant systems use to process the e-commerce transactions by means of standard form posting method. This interface supports various integration methods as Transport method.

2. Logical Components

Upaywise payment gateway exchanges data between merchant and gateway in the form of Request and Response.

The following diagram explains the components involved in the process:

A Merchant integrated with the Gateway initiates the transaction by sending request to gateway by **HTTPS POST** method. The Gateway sends back the response over the same socket to the merchant. Response time depends on the acquiring bank / acquiring gateway processing with the interbank networks.

Request/Response process is identified by a set of XML message fields which provides the transaction interface between the merchant and the Upaywise payment gateway. Each integration URL will be provided along with the integration document to the merchant.

We recommend to timeout the request connection after **30 seconds.**

3. Communication Protocol Specification – Direct API integration

Protocol: *https*

Method: *Post in REST*

URL: https://upaywise.com/paymentgateway/payments/performXmlTransaction

Content-Type: *URL Encoded*

> *We use application/xml;charset=utf-8content type.*

Encryption Level: *SSL Version 3.0*

As an example – The following XML message can be sent by the merchant as one of the permitted service requests by means of HTTPS RESTFULL Post method:

```xml
<?xml version='1.0' encoding='ISO-8859-1' ?>
<request>
        <terminalid>Term1</terminalid>
        <password>password</password>
        <action>1</action>
        <card>4444444444444444</card>
        <cvv2>115</cvv2>
        <expYear>2012</expYear>
        <expMonth>12</expMonth>
        <member>Test User</member>
        <currencyCode>USD</currencyCode>
        <address>Ebene</address>
        <city>MOKA</city>
        <statecode>MOKA</statecode>
        <zip>152458</zip>
        <CountryCode>Mauritius</CountryCode>
        <email>test@test.com</email>
        <amount>1.25</amount>
```

```
        <trackid>soft1256</trackid>
        <udf1></udf1>
        <udf2></udf2>
        <udf3></udf3>
        <udf4></udf4>
</request>
```

4. TRANSACTIONS

Request and response message data exchange depends on the following factors:

1. Each request sent by the merchant will get a response from the gateway on the same socket or the connection will be closed by the timeout of either the Gateway or the merchant;

2. The request and response have fields that provide authorization and authentication on both sides;

3. Request and response messages have some matching fields to maintain consistency between two interacted parties;

4. Every requested service has exact set of request and response fields.

There are several transactions Upaywise payment gateway provides to the merchants within the scope of current version.

Transaction	Action Code
Purchase Transaction	1
Refund / Credit Transaction	2
Pre-Authorization Transaction	4
Capture Transaction	5
Void Pre-Authorization Transaction	9

5. Purchase Transaction (Action Code – 1)

Purchase transaction is an operation of debiting the cardholder's account.

XML Request for Purchase:

<request>

<terminalid>Term1</terminalid>

<password>password</password>

```
<action>4</action>

<card>444444444444444</card>

<cvv2>310</cvv2>

<expYear>2017</expYear>

<expMonth>12</expMonth>

<member>Test user</member>

<currencyCode>USD</currencyCode>

<address> Test address</address>

<city> Test </city>

<statecode>MNK</statecode>

<zip>45638</zip>

<CountryCode>US</CountryCode>

<amount>2.00</amount>

<trackid> Test </trackid>

<email>test@b.com</email>

</request>
```

XML Response:

```
<?xml version="1.0" encoding="UTF-
8"?><response><result>Successful</result><responsecode>000</responsecode><authcode></authcode><RRN>
</RRN><ECI></ECI><tranid>2584589010416223482</tranid><trackid>Test</trackid><terminalid>
Term1</terminalid><udf1></udf1><udf2></udf2><udf3></udf3><udf4></udf4><udf5>Transaction Successful -
Transaction Status : Approved Description : 0: Approved | </udf5></response>
```
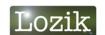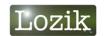
The transaction request should include the following fields:

Field Name	Data Type	Field Maximum Length	Mandatory / Optional	Description

Terminal ID	AN		10	Mandatory	Field indicates the unique terminal ID provided by the Gateway administrator. This field helps identify the merchant on the gateway.
password	AN		15	Mandatory	Field indicates the password associated with the terminal ID provided to the merchant. It is required in order to authenticate the merchant on the gateway.
action	N		2	Mandatory	Field indicates the transaction service action code for processing the transaction. Refer to Appendix A for valid action codes.
card	N		19	Mandatory	Credit card number involved in the transaction. Required for purchase and pre-authorization transactions.
CVV2	N		3	Conditional	Card Verification Value (security code) provided with the card. Required for purchase and pre-authorization transactions.
expYear	N		4	Conditional	Credit card expiration year. It should be in YYYY format (2016). Required for purchase and pre-authorization transactions.
expMonth	N		2	Conditional	Credit card expiration month. 2 digit number from 01 to 12. Required for purchase and pre-authorization transactions.
member	A		40	Conditional	Full Name of the card holder. Required for purchase and pre-authorization transactions.
Currency Code	A		3	Mandatory	Alphabetic currency code of the transaction. Refer to Appendix B for valid currency codes
address	AN		50	Optional	Customer's address. This field is mandatory if AVS check is enabled.
city	AN		30	Optional	Customer's city. This field is mandatory if AVS check is enabled.
State Code	AN		30	Optional	Customer's state. This field is mandatory if AVS check is enabled.
zip	AN		20	Optional	Customer's Postal code. This field is mandatory if AVS check is enabled.
Country Code	AN		30	Mandatory	Customer's Country. This field is mandatory if AVS check is enabled. Refer to Appendix C for valid country Codes.
Email	AN		30	Mandatory	Customer's email address.
amount	N		12	Mandatory	Amount of the transaction with or without decimal points, i.e. 2.25 or 2

Merchant Track ID	AN	50	Mandatory	**Unique** merchant tracking ID provided by the merchant when sending a transaction request to identify the transaction on the gateway. Avoid using space and special characters.
Merchant IP	N	15	Optional	IP address of the merchant's system from which the transaction is generated.
Customer IP	N	15	Optional	IP address of the customer's system from which the transaction is generated.
udf1	AN	30	Optional	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	Optional	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	Optional	User defined field3. User can provide additional information which will be stored on the gateway.
udf4	AN	30	Optional	User defined field4. User can provide addition information which will be stored on the gateway.
udf5	AN	30	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

6. Refund / Credit Transaction (Action Code – 2)

Refund transaction is an operation to credit back the funds onto customer's card account. Merchant can refund any amount which has been debited by the previously successful purchase or capture transactions.

XML Request for Refund:

<request>

<terminalid>Term1</terminalid>

<password>password</password>

<action>2</action>

<currencyCode>USD</currencyCode>

<CountryCode>US</CountryCode>

<amount>2.00</amount>

<transid>0035245601821955669</transid>

<trackid>test</trackid>

</request>

XML Response:

<?xml version="1.0" encoding="UTF-8"?><response><result>Successful</result><responsecode>000</responsecode><authcode></authcode><RRN></RRN><ECI></ECI><tranid>2922627518652618877</tranid><trackid>test</trackid><terminalid>Term1</terminalid><udf1></udf1><udf2></udf2><udf3></udf3><udf4></udf4><udf5>Transaction Successful - Transaction Status : Approved Description : 0: Approved | </udf5></response>

The transaction request should include the following fields:

Field Name	Data Type	Field Maximum Length	Mandatory / Optional	Description
Terminal ID	AN	10	Mandatory	Field indicates the unique terminal ID provided by the Gateway administrator. This field helps identify the merchant on the gateway.
password	AN	15	Mandatory	Field indicates the password associated with the terminal ID provided to the merchant. It is required in order to authenticate the merchant on the gateway.
action	N	2	Mandatory	Field indicates the transaction service action code for processing the transaction. Refer to Appendix A for valid action codes.
Currency Code	A	3	Mandatory	Alphabetic currency code of the original transaction. Refer to Appendix B for valid currency codes.
amount	N	12	Mandatory	Amount of the transaction with or without decimal points, i.e. 2.25 or 2.
Merchant Track ID	AN	25	Mandatory	**Unique** merchant tracking ID provided by the merchant in the original **Purchase/ Pre-Authorisation**.
Tran Message ID	AN	50	Mandatory	Original transaction reference number provided by the gateway in the original **Purchase/ Pre-Authorisation** transaction.
Merchant IP	N	15	Optional	IP address of the merchant's system from which the transaction is generated.

Customer IP	N	15	Optional	IP address of the customer's system from which the transaction is generated
udf1	AN	30	Optional	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	Optional	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	Optional	User defined field3. User can provide addition information, which will stored on the gateway
udf4	AN	30	Optional	User defined field4. User can provide additional information which will be stored on the gateway.
udf5	AN	30	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

7. Pre-Authorization Transaction (Action Code – 4)

Pre-Authorization transaction is an authorization of payment on card. In case of successful authorization, the transaction amount will be frozen on customers account without debiting.

XML Request for Pre-Authorization:

<request>

<terminalid>Term1</terminalid>

<password>password</password>

<action>4</action>

<card>4444444444444444</card>

<cvv2>310</cvv2>

<expYear>2017</expYear>

<expMonth>12</expMonth>

<member>test user</member>

<currencyCode>USD</currencyCode>

<address> test address</address>

<city> test </city>
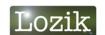
MNK

<zip>45638</zip>

<CountryCode>US</CountryCode>

<amount>2.00</amount>

<trackid> test </trackid>

<email>test@b.com</email>

</request>

XML Response:

<?xml version="1.0" encoding="UTF-8"?><response><result>Successful</result><responsecode>000</responsecode><authcode></authcode><RRN></RRN><ECI></ECI><tranid>**5868885818957796198**</tranid><trackid>test</trackid><terminalid>Term1</terminalid><udf1></udf1><udf2></udf2><udf3></udf3><udf4></udf4><udf5>Transaction Successful - Transaction Status : Approved Description : 0: Approved | </udf5></response>

The transaction request should include the following fields:

Field Name	Data Type	Field Maximum Length	Mandatory / Optional	Description
Terminal ID	AN	10	Mandatory	Field indicates the unique terminal ID provided by the Gateway administrator. This field helps identify the merchant on the gateway.
password	AN	15	Mandatory	Field indicates the password associated with the terminal ID provided to the merchant. It is required in order to authenticate the merchant on the gateway.
action	N	2	Mandatory	Field indicates the transaction service action code for processing the transaction. Refer to Appendix A for valid action codes.
card	N	19	Mandatory	Credit card number involved in the transaction. Required for purchase and pre-authorization transactions.

CVV2	N	3	Conditional	Card Verification Value (security code) provided with the card. Required for purchase and pre-authorization transactions.
expYear	N	4	Conditional	Credit card expiration year. It should be in YYYY format (2016). Required for purchase and pre-authorization transactions.
expMonth	N	2	Conditional	Credit card expiration month. 2 digit number from 01 to 12. Required for purchase and pre-authorization transactions.
member	A	40	Conditional	Full Name of the card holder. Required for purchase and pre-authorization transactions.
Currency Code	A	3	Mandatory	Alphabetic currency code of the transaction. Refer to Appendix B for valid currency codes.
address	AN	25	Optional	Customer's address. This field is mandatory if AVS check is enabled.
City	AN	20	Optional	Customer's city. This field is mandatory if AVS check is enabled.
State Code	AN	20	Optional	Customer's state. This field is mandatory if AVS check is enabled.
Zip	AN	10	Optional	Customer's Postal code. This field is mandatory if AVS check is enabled.
Country Code	AN	20	Mandatory	Customer's Country. This field is mandatory if AVS check is enabled. Refer to Appendix C for valid country Codes.
Email	AN	30	Mandatory	Customer's Email address.
amount	N	12	Mandatory	Amount of the transaction with or without decimal points, i.e. 2.25 or 2
Merchant Track ID	AN	25	Mandatory	**Unique** merchant tracking ID provided by the merchant when sending a transaction request to identify the transaction on the gateway. Avoid using space and special characters.
Merchant IP	N	15	Optional	IP address of the merchant's system from which the transaction is generated.
Customer IP	N	15	Optional	IP address of the customer's system from which the transaction is generated.
udf1	AN	30	Optional	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	Optional	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	Optional	User defined field3. User can provide additional information which will be stored on the gateway.

udf4	AN	30	Optional	User defined field4. User can provide additional information which will be stored on the gateway.
udf5	AN	30	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

8. Capture Transaction (Action Code – 5)

Capture transaction is the actual amount debited from the customer's account after the previous successful Pre-Authorization transaction.

XML Request for Capture:

<request>

<terminalid>Term1</terminalid>

<password>password</password>

<action>5</action>

<currencyCode>USD</currencyCode>

<amount>2.00</amount>

<trackid> test </trackid>

<transid>3213874245790117249</transid>

</request>

XML Response:

<?xml version="1.0" encoding="UTF-8"?><response><result>Successful</result><responsecode>000</responsecode><authcode></authcode><RRN></RRN><ECI></ECI><tranid>4030835365049819081</tranid><trackid>test</trackid><terminalid>Term1</terminalid><udf1></udf1><udf2></udf2><udf3></udf3><udf4></udf4><udf5>Transaction Successful - Transaction Status : Approved Description : 0: Approved | </udf5></response>

The transaction request should include the following fields:

Field Name	Data Type	Field Maximum Length	Mandatory / Optional	Description
Terminal ID	AN	10	Mandatory	Field indicates the unique terminal ID provided by the Gateway administrator. This field helps identify the merchant on the gateway.

password	AN	15	Mandatory	Field indicates the password associated with the terminal ID provided to the merchant. It is required in order to authenticate the merchant on the gateway.
action	N	2	Mandatory	Field indicates the transaction service action code for processing the transaction. Refer to Appendix A for valid action codes.
Currency Code	A	3	Mandatory	Alphabetic currency code of the original transaction. Refer to Appendix B for valid currency codes.
amount	N	12	Mandatory	Amount of the original transaction with or without decimal points, i.e. 2.25 or 2
Merchant Track ID	AN	25	Mandatory	Unique merchant tracking id provided by the merchant in the original **Pre-Authorisation**.
Tran Message ID	AN	50	Mandatory	Original transaction reference number provided by the gateway for a **Pre-Authorisation** transaction.
Merchant IP	N	15	Optional	IP address of the merchant's system from which the transaction is generated.
Customer IP	N	15	Optional	IP address of the customer's system from which the transaction is generated.
udf1	AN	30	Optional	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	Optional	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	Optional	User defined field3. User can provide additional information which will be stored on the gateway.
udf4	AN	30	Optional	User defined field4. User can provide additional information which will be stored on the gateway.
udf5	AN	30	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

9. Void Pre-Authorization Transaction (Action Code – 9)

Void Pre-Authorization transaction is used to unfreeze the amount held by the successful Pre-Authorization transaction. Once the amount is captured, it cannot be voided.

XML Request for Void:

<terminalid>Term1</terminalid>

<password>password</password>

<action>9</action>

<currencyCode>USD</currencyCode>

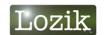<amount>2.00</amount>

<trackid> test </trackid>

<transid>4454874175595575617</transid>

</request>

XML Response:

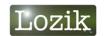<?xml version="1.0" encoding="UTF-8"?><response><result>Successful</result><responsecode>000</responsecode><authcode></authcode><RRN></RRN><ECI></ECI><tranid>7296489321379159269</tranid><trackid>test</trackid><terminalid>Term1</terminalid><udf1></udf1><udf2></udf2><udf3></udf3><udf4></udf4><udf5>Transaction Successful - Transaction Status : Approved Description : 0: Approved | </udf5></response>

The transaction request includes the following fields:

Field Name	Data Type	Field Maximum Length	Mandatory / Optional	Description
Terminal ID	AN	10	Mandatory	Field indicates the unique terminal ID provided by the Gateway administrator. This field helps identify the merchant on the gateway.
password	AN	15	Mandatory	Field indicates the password associated with the terminal ID provided to the merchant. It is required in order to authenticate the merchant on the gateway.
action	N	2	Mandatory	Field indicates the transaction service action code for processing the transaction. Refer to Appendix A for valid action codes.
Currency Code	A	3	Mandatory	Alphabetic currency code of the original transaction. Refer to Appendix B for valid currency codes.
amount	N	12	Mandatory	Amount of the original transaction with or without decimal points, i.e. 2.25 or 2.
Merchant Track ID	AN	25	Mandatory	**Unique** merchant tracking ID provided by the merchant in the original **Pre-Authorisation**.
Tran Message ID	AN	50	Mandatory	Original transaction reference number provided by the gateway for a **Pre-Authorisation** transaction.

Merchant IP	N	15	Optional	IP address of the merchant's system from which the transaction is generated.
Customer IP	N	15	Optional	IP address of the customer's system from which the transaction is generated.
udf1	AN	30	Optional	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	Optional	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	Optional	User defined field3. User can provide additional information which will be stored on the gateway.
udf4	AN	30	Optional	User defined field4. User can provide additional information which will be stored on the gateway.
udf5	AN	30	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

10. 3D-Secure Integration

The Upaywise Payment Gateway service offers the "3D Secure Host" service for authorization of credit card transactions originated from payment orders received by the Merchants on their websites.

3-D Secure is an authenticated payment system to improve online transaction security and encourage the growth of e-commerce payments. Collectively Visa, MasterCard and AMEX secure systems are brand identities of the 3-D Secure Cardholder Authentication Scheme.

3-D secure is a protocol introduced to provide issuer banks with the ability to actually authenticate the cardholders during e-commerce transaction, to reduce the fraudulent usage of Credit/Debit cards in e-commerce transactions and to benefit merchants, consumers and acquirers.

A 3D Secure transaction introduces some extra steps to a normal credit card transaction, necessary to achieve cardholder authentication. The complete sequence of activities is as follows:

1. The Cardholder browses the Merchant website, chooses one or more items from the catalogue and provides personal data for subsequent goods shipping. For example, when the merchant initiates Purchase transaction, the Upaywise payment gateway checks if the merchant is configured to process the 3D secure validation.

2. The Cardholder provides, on a secure web page, its credit card data.

3. The payment service queries VISA or MasterCard Directory Server to know if the Cardholder is 3-D Secure enrolled:

a. If the Cardholder is enrolled in the 3D Secure Directory Server, the gateway responses with the 3D-Secure Processing URL and payment id generated by gateway in the request.

XML request for purchase and pre-authorization are the same as above. See section 5 and 7.

Xml response:

<?xml version="1.0" encoding="UTF-8"?><response><targetUrl>http://test.upaywise.com/paymentgateway-external/processthreed.xhtml?payId=</targetUrl><payId>122</payId></response>

b. If card is not configured for the 3D secure verification process, gateway processes the transaction as NON-3D transaction and returns the result to the merchant over same communication channel. Following are the response fields returned in the response as described above for purchase and pre-authorization.

Response Message Fields

Field Name	Data Type	Field Maximum Length	Description
Result	A	12	Result of the transaction processing on gateway. This field have two values "Successful" or "Unsuccessful"
responsecode	AN	3	Response code of the transaction. Refer to Appendix D for valid response codes
Authcode	AN	6	Authorization code generated by bank
ECI	N	2	Electronic Commerce Authentication Indicator
Tranid	AN	50	Unique transaction id generated by gateway. In case of Capture and refund transaction requests this id should be Send as original transaction reference.

Trackid	AN	50	Unique merchant tracking id sent in the request
Terminalid	AN	10	Terminal id provided in the request
RRN	N	12	Retrieval Reference Number from international exchange
Currency	A	3	Alphabetic currency code of the transaction.
Amount	N	12	Amount of the transaction with or without decimal points, i.e. 2.25 or 2
Email	AN	50	Customer's email address.
udf5	AN	30	It is reserved to receive bank response code as an additional detail from some acquirers.
udf1	AN	30	User defined field1. User can provide additional information which will be stored on the gateway.
udf2	AN	30	User defined field2. User can provide additional information which will be stored on the gateway.
udf3	AN	30	User defined field3. User can provide additional information which will be stored on the gateway.
udf4	AN	30	User defined field4. User can provide addition information. which will be stored on the gateway

4. The Cardholder is directed to a page on which Merchant, transactions and bank data are displayed, along with the "Verified by Visa" or "MasterCard Secure Code" logo which encourages the Cardholder to trust the ongoing transaction process. An input field is also displayed on the page, which the cardholder must fill with the secret password associated with its credit card.

10.1 3D Secure Verification
When selecting Pay Now, the user will be redirected for verification purposes.

The user is prompted to insert a password to validate its transaction. From here, the payment gateway will notify your website if the transaction is successful or problems have arisen.

5. The Cardholder provides the secret password.

6. The server redirects the Cardholder browser to the Merchant payment service, carrying the authentication result field as a hidden field.

7. The Merchant payment service checks the Cardholder authentication result:
   a. If positive, the transaction is processed and authorization results are displayed to the Cardholder browser.
   b. If negative, the process is stopped and an error message is displayed to the Cardholder browser.

10.2 Transaction Details

Merchant can extract response details from the following:

http://test.upaywise.com/paymentReceipt.html?results=successful&transid=12345&ecis=07&trackids=testTrack&responsecodes=000&auths=12345&rrns=456789&udfs5=succcess&currencys=USD&amounts=1.0&email=test@upaywise.com&udfs1=test1&udfs2=test2&udfs3=test3&udfs4=test4

You may use the following option to retrieve the data from the above URL. This is an e.g. of a receipt url html files:

```html
<html>

  <head>

    <meta charset="UTF-8">

    <title>Receipt</title>

  </head>

  <body>

    <form>

      <h1>Transaction Receipt</h1>

      <table>

        <tr>

          <td>Result</td>

          <td id="result"/>

        </tr>

        <tr>

          <td>Tran Id</td>

          <td id="tranid"/>

        </tr>

        <tr>

          <td>ECI</td>

          <td id="eci"/>

        </tr>


        <tr>
```

```
    <td>Track Id</td>

    <td id="trackid"/>

</tr>

<tr>

    <td>Response Code</td>

    <td id="responsecode"/>

</tr>

<tr>

    <td>Auth Code</td>

    <td id="auth"/>

</tr>

<tr>

    <td>RRN</td>

    <td id="rrn"/>

</tr>

<tr>

    <td>Additional Data</td>

    <td id="udf5"/>

</tr>

<tr>

    <td>Amount</td>

    <td id="amount"/>

</tr>

<tr>

    <td>Email</td>
```

```html
            <td id="email"/>
        </tr>
        <tr>
            <td>User Defined Field 1</td>
            <td id="udf1"/>
        </tr>
        <tr>
            <td>User Defined Field 2</td>
            <td id="udf2"/>
        </tr>
        <tr>
            <td>User Defined Field 3</td>
            <td id="udf3"/>
        </tr>
        <tr>
            <td>User Defined Field 4</td>
            <td id="udf4"/>
        </tr>
    </table>
    <script>
        var url = decodeURI(window.location.href);
        var urlafter = url.split('?');
        var params = urlafter[1].split('&');
        var results = params[0].split('=');
        document.getElementById("result").innerHTML = results[1];
```

```
if(params[1]){

                    var transid = params[1].split('=');

                    var ecis = params[2].split('=');

                    var trackids = params[3].split('=');

                    var responsecodes = params[4].split('=');

                    var auths = params[5].split('=');

                    var rrns = params[6].split('=');

                    var udfs5 = params[7].split('=');

                    var currencys = params[8].split('=');

                    var amounts = params[9].split('=');

                    var email = params[10].split('=');

                    var udfs1 = params[11].split('=');

                    var udfs2 = params[12].split('=');

                    var udfs3 = params[13].split('=');

                    var udfs4 = params[14].split('=');


                    document.getElementById("tranid").innerHTML = transid[1];

                    document.getElementById("eci").innerHTML = ecis[1];

                    document.getElementById("trackid").innerHTML = trackids[1];

                    document.getElementById("responsecode").innerHTML =
responsecodes[1];

                    document.getElementById("auth").innerHTML = auths[1];

                    document.getElementById("rrn").innerHTML = rrns[1];

                    document.getElementById("udf5").innerHTML = udfs5[1];

                    document.getElementById("amount").innerHTML = currencys[1]+ ' '
+amounts[1];
```

```
                                        document.getElementById("email").innerHTML = email[1];

                                        document.getElementById("udf1").innerHTML = udfs1[1];
                                        document.getElementById("udf2").innerHTML = udfs2[1];
                                        document.getElementById("udf3").innerHTML = udfs3[1];
                                        document.getElementById("udf4").innerHTML = udfs4[1];

            }

        </script>

    </form>

  </body>

</html>
```

In this scenario, javascript is used to retrieve the data.
For e.g:

```
var results = params[0].split('=');
```

then, assign the result to the receipt URL

```
document.getElementById("result").innerHTML = results[1];
```

Note: You will have to implement a script to follow up on any situation that might have arisen

Note: 3D-secure integration only applies to Purchase and Pre-Authorization transactions where user has to provide card details. Transaction processing for transactions other than Purchase and Pre-Authorization happens as stated earlier in the document.

11. Recurring

Recurring flows consists of mainly two types of requests

1. Down payments

2. Intimation

Down payments occurs when payment amount (Tag <amount>10.00</amount>) is greater than 0 .

Initmation occurs when payment is equal to zero.

2 kinds of requests can be sent for recurring

1. Purchase

2. Pre-Authorisation

In order to identify a recurring transaction, following parameters should be added in your XML requests

Tag	Sample Valid Value	Comments
Paymenttype	R,r	Identification of first recurring transaction
Paymentmethod	CC,cc (Credit card),DC,dc(Debit card)	Card which is being used for recurring transaction either debit card or credit card.
Subscriptiontype	I,i (Installment), S,s (Subscription)	Type of recurring payment. Instalment or Subscription
Paymentcycle	D/d(Daily),W/w (Weekly), M/m (Monthly), Y/y (Yearly)	Payment cycle for recurring transaction.
Paymentdays	1 to 30 or 31 (Monthly) , MONDAY to SUNDAY or Monday to Sunday (Weekly)	Payment days as per payment cycle. Eg. 25 of each month if cycle is monthly or 04,25 in a month if cycle is monthly i.e every 4th and 25th of each month or Every Tuesday if cycle is weekly. Not applicable for daily recurring payments.
Noofrecurringpayments	5	Number of instalment payments. Applicable only for installment payments.

| Paymentstartdate | DD/MM/YYYY | Date should be greater than current date. Date is the date when recurring payments are to be triggered |
| Recurringpaymen tamount | 1200 | Recurring payment amount. |

Examples of Purchase and Pre-Authorization XMLs are displayed below:

Purchase:

<request>
<terminalid>BKONE</terminalid>
<password>password</password>
<action>1</action>
<card>5414830037610101</card>
<cvv2>310</cvv2>
<expYear>2017</expYear>
<expMonth>12</expMonth>
<member>test user</member>
<currencyCode>USD</currencyCode>
<address>test address</address>
<city>Gotham</city>
<statecode>MNK</statecode>
<zip>45638</zip>
<CountryCode>US</CountryCode>
<amount>2.00</amount>
<trackid>test</trackid>
<email>test@d.com</email>
<paymenttype>R</paymenttype>
<paymentmethod>CC</paymentmethod>
<subscriptiontype>i</subscriptiontype>
<paymentcycle>D</paymentcycle >
<paymentdays></paymentdays>
<noOfRecurringpayments>5</noOfRecurringpayments>
<paymentstartdate>20/03/2017</paymentstartdate>
<recurringpaymentamount>2.00</recurringpaymentamount>
</request>

Pre auth:

<request>
<terminalid>BKONE</terminalid>
<password>password</password>
<action>4</action>
<card>5414830037610101</card>
<cvv2>310</cvv2>
<expYear>2017</expYear>
<expMonth>12</expMonth>
<member>test user</member>
<currencyCode>USD</currencyCode>
<address> test address</address>
<city>Gotham</city>
<statecode>MNK</statecode>
<zip>45638</zip>
<CountryCode>US</CountryCode>
<amount>10.00</amount>
<trackid> test </trackid>
<email> test @d.com</email>
<paymenttype>R</paymenttype>
<paymentmethod>CC</paymentmethod>
<subscriptiontype>i</subscriptiontype>
<paymentcycle>D</paymentcycle >
<paymentdays></paymentdays>
<noOfRecurringpayments>5</noOfRecurringpayments>
<paymentstartdate>20/03/2017</paymentstartdate>
<recurringpaymentamount>2.00</recurringpaymentamount>
</request>

If recurring request is successful, the following email will be sent to the Merchant and the Institution.

Dear CUSTOMER,

**Your subscription id
1973758412647228721 for Daily
Installment has been schedule as below:**

Payment No.	Date	Amount
1	4/15/2017	1.00
2	4/16/2017	1.00
3	4/17/2017	1.00

| 4 | 4/18/2017 | 1.00 |
| 5 | 4/19/2017 | 1.00 |

Thanks and Regards,

Admin Group

Note: This is system generated email

If recurring payment is successful, the following email will be sent to the Merchant and the Institution.

Dear CUSTOMER,

Your Daily Installment has been successfully generated. Your subscription id is 1973758412647228721.

Thanks and Regards,

Admin Group

Note: This is system generated email

12. PG HOSTED- 3D SECURE

To make a successful payment, on a website for which you need to add a purchase button for a particular item, you will have to send a small series of confidential information to the payment gateway which will deduct money from your client's bank account and deposit the amount on the bank account on the owner's website. For the Information to be sent, a button on the merchant website will trigger a page on the payment gateway which will pass the small series of data to the payment gateway. This will deduct and credit money on relevant bank accounts.

The data passed to the payment gateway will not update your stock records or trigger shipping of your item. This section will have to be handled by the website integrator. The other records keeping might be needed, and all this will have to be implemented by you in a sequence you deem fit, in the code triggered by the purchase button. The payment gateway only handles financial transactions and will return a value that indicates if the banking transaction was successful or if any problems arose. From there, you will be able to make "IF-ELSE" or "SWITCH" statements to handle any situation that might arise.

For example, if you have many products, and each product has a price and various details associated with it, each purchase button is an object on your website that has an "on click" event.

Let us make a trivial example where we pass four minimal data values that need to be sent to the gateway. This is only for educational purposes, and not meant for use in production.

To inspect an object, e.g. button on a website, right click and choose "inspect" from the pop-up menu.

12.1 'Pay Now' button code

You can find below the code being executed each time the 'Pay Now' button is selected:

Purchase

12.2 VARIABLES

This code segment will pass four variables to the gateway:

1) terminalId= *test3D*
2) amount=*1.00*
3) currency=*USD*
4) trackId= *test1*

1) "test3D" is the identification provided to each merchant, or department the merchant requires. A merchant may have several terminal IDs, in case there are several sales departments for different categories of products and services.

2) The amount is the amount of money to be deducted.

3) The currency is the currency on which all calculations will be base and it must be valid for the terminal.

4) The TrackId is an identifier for the transaction provided by the merchant.

From there, the client will be forwarded to the secure page of the payment gateway. The merchant is not allowed to obtain credit card details from customers directly on their own website. The level of security would be inadequate and it is preferable to always offset credit card detail captures on the gateway systems where the security has been properly audited. While integrating your website, these four values might change if there are several terminals. The prices are different and the currency might change depending on the country of the customer.

12.3   3D Secure PG Hosted Page Sample

<div align="right">

Fig. 1: 3D Secure PG Hosted Page

</div>

The client will see this page on our payment gateway and the client may now enter his credit card details.

12.4   Authentication 3D Secure

When selecting Pay Now, the user will be redirected to Modirum for verification purposes. See section **10.1**.

From here, the payment gateway will notify your website if the transaction is successful or problems have arisen. It will be notified by the receipt URL you provided.

In the receipt url, you will have to map the values obtained from our response.

For example,

http://test.upaywise.com/paymentReceipt.html?results=successful&transid=12345&ecis=07&trackids=testTrack &responsecodes=000&auths=12345&rrns=456789&udfs5=succcess&currencys=USD& amounts=1.0&email=test@upaywise.com

Merchants will have to provide their receipt URL to be configured on the terminal, else it will go to Upaywise as default receipt URL.

You may use a receipt URL html file to retrieve the data. See section **10.2**.

13.   Special characters accepted by PG

Field Name	Optional/Mandatory	APLHABET/NUMNERS/ALPHA NUMER/SPECIAL CHARACTER
First Name*	Mandatory	Alphabets and space as special characters only.
Last Name*	Mandatory	Alphabets and space as special characters only.
Address	Optional	Alphanumeric and special characters include **space,#/**.
Postal Code	Optional	Alphanumeric and special characters include **space** and **-**
City	Optional	Alphanumeric and special characters include **space,#**.
State	Optional	Alphanumeric and special characters include **space,#**.
Country*	Mandatory	Alphabets only. Does not accept special characters and numbers.
Email Id*	Mandatory	Alphanumeric and special characters include **@ _ -**.
Card Number*	Mandatory	Numbers only.
CVV	Optional/Mandatory	Numbers only.
Amount*	Mandatory	Numbers and dot as special character only.
Track Id*	Mandatory	Alphanumeric and underscore as special characters only.
User Field 1	Optional	Alphanumeric and space as special characters only.
User Field 2	Optional	Alphanumeric and space as special characters only.

User Field 3	Optional	Alphanumeric and space as special characters only.
User Field 4	Optional	Alphanumeric and space as special characters only.
User Field 5	Reserved	**It is reserved to receive additional information for the response code from some acquirers.**

14. Appendix A – Action Codes

Action Code	Transaction Service	Description
1	Purchase	Automatic capture transaction which is authorized and captured instantly.
4	Pre-Authorization	Authorization transaction which freezes the amount on the customer card.
5	Capture	2nd Leg of Pre-Authorization transaction in which the amount will be captured.
9	Void Pre-Authorization	Cancel the successful Pre-Authorization transaction.
2	Refund / Credit	Refund of purchase or capture transaction.

15. Appendix B – Currency Codes

Currency Code	Currency Description
AED	United Arab Emirates Dirham
AFN	Afghanistan Afghani
ALL	Albanian Lek
AMD	Armenian Dram
ANG	Netherlands Antillean Guilder
AOA	Angolan Kwanza
ARS	Argentine Peso
AUD	Australian Dollar
AWG	Aruban Guilder
AZN	Azerbaijan New Manat
BAM	Bosnia-Herzegovina Convertible Marka
BBD	Barbados Dollar
BDT	Bangladeshi Taka
BGN	Bulgarian Lev

BHD	Bahraini Dinar
BIF	Burundi Franc
BND	Brunei Dollar
BOB	Bolivian Boliviano
BOV	Bolivian Mvdol
BRL	Brazilian Real
BSD	Bahamian Dollar
BTN	Bhutan Ngultrum
BWP	Botswana Pula
BYR	Belarusian Ruble
BZD	Belize Dollar
CAD	Canadian Dollar
CDF	Congolese Franc
CHE	WIR Euro
CHF	Swiss Franc
CHW	WIR Franc
CLF	Chilean Unidad de Fomento
CLP	Chilean Peso
CNY	China Yuan Renminbi
COP	Colombian Peso
CRC	Costa Rican Colon
CUC	Cuban Convertible Peso
CUP	Cuban Peso
CVE	Cape Verde Escudo
CZK	Czech Koruna
DJF	Djibouti Franc
DKK	Danish Krone
DOP	Dominican Peso
DZD	Algerian Dinar
EGP	Egyptian Pound
ERN	Eritrean Nakfa
ETB	Ethiopian Birr
EUR	Euro
FJD	Fiji Dollar
FKP	Falkland Islands Pound
GBP	United Kingdom Pound
GEL	Georgian Lari
GHS	Ghana Cedi
GIP	Gibraltar Pound
GMD	Gambian Dalasi
GNF	Guinea Franc

GTQ	Guatemalan Quetzal
GYD	Guyana Dollar
HKD	Hong Kong Dollar
HNL	Honduran Lempira
HRK	Croatian Kuna
HTG	Haitian Gourde
HUF	Hungarian Forint
IDR	Indonesian Rupiah
ILS	Israeli New Shekel
INR	Indian Rupee
IQD	Iraqi Dinar
IRR	Iranian Rial
ISK	Iceland Krona
JMD	Jamaican Dollar
JOD	Jordanian Dinar
JPY	Japanese Yen
KES	Kenyan Shilling
KGS	Kyrgyzstani Som
KHR	Cambodian Riel
KMF	Comoros Franc
KPW	North Korean Won
KRW	South Korean Won
KWD	Kuwaiti Dinar
KYD	Cayman Islands Dollar
KZT	Kazakhstani Tenge
LAK	Lao Kip
LBP	Lebanese Pound
LKR	Sri Lankan Rupee
LRD	Liberian Dollar
LSL	Lesotho Loti
LYD	Libyan Dinar
MAD	Moroccan Dirham
MDL	Moldovan Leu
MKD	Macedonian Denar
MMK	Burmese (Myanmar) Kyat
MNT	Mongolian Tugrik
MOP	Macau Pataca
MRO	Mauritanian Ouguiya
MUR	Mauritian Rupee
MVR	Maldives Rufiyaa
MWK	Malawi Kwacha

MXN	Mexican Peso
MYR	Malaysian Ringgit
NAD	Namibian Dollar
NGN	Nigerian Naira
NIO	Nicaraguan Cordoba Oro
NOK	Norwegian Krone
NPR	Nepalese Rupee
NZD	New Zealand Dollar
OMR	Omani Rial
PAB	Panamanian Balboa
PEN	Peruvian Nuevo Sol
PGK	Papua New Guinea Kina
PHP	Philippine Peso
PKR	Pakistani Rupee
PLN	Polish Zloty
PYG	Paraguayan Guarani
QAR	Qatari Rial
RON	Romanian New Leu
RSD	Serbian Dinar
RUB	Russian Ruble
RWF	Rwanda Franc
SAR	Saudi Riyal
SBD	Solomon Islands Dollar
SCR	Seychelles Rupee
SDG	Sudanese Pound
SEK	Swedish Krona
SGD	Singaporean Dollar
SHP	Saint Helenian Pound
SLL	Sierra Leonean Leone
SOS	Somali Shilling
STD	Sao Tomean Dobra
SVC	Salvadoran Colon
SYP	Syrian Pound
SZL	Swazi Lilangeni
THB	Thai Baht
TJS	Tajikistani Somoni
TND	Tunisian Dinar
TOP	Tongan Pa'anga
TRY	Turkish Lira
TTD	Trinidadian Dollar
TWD	Taiwan New Dollar

TZS	Tanzanian Shilling
UAH	Ukrainian Hryvnia
UGX	Ugandan Shilling
USD	US Dollar
USN	US Dollar (Next day)
USS	US Dollar (Same day)
UYU	Uruguayan Peso
UZS	Uzbekistani Sum
VEF	Venezuelan Bolivar
VND	Vietnamese Dong
VUV	Vanuatu Vatu
WST	Samoan Tala
XAF	Communauté Financière Africaine (BEAC) CFA Franc BEAC
XCD	East Caribbean Dollar
XOF	Communauté Financière Africaine (BCEAO) Franc
XPF	Comptoirs Français du Pacifique (CFP) Franc
YER	Yemeni Rial
ZAR	South African Rand
ZMK	Zambian Kwacha
ZWL	Zimbabwean Dollar

16.   Appendix C – Country Codes

Country Code	Country Name
AF	Afghanistan
AX	Åland Islands
AL	Albania
DZ	Algeria
AS	American Samoa
AD	Andorra
AO	Angola
AI	Anguilla
AQ	Antarctica
AG	Antigua and Barbuda

AR	Argentina
AM	Armenia
AW	Aruba
AU	Australia
AT	Austria
AZ	Azerbaijan
BS	Bahamas
BH	Bahrain
BD	Bangladesh
BB	Barbados
BY	Belarus
BE	Belgium
BZ	Belize
BJ	Benin
BM	Bermuda
BT	Bhutan
BO	Bolivia
BA	Bosnia and Herzegovina
BW	Botswana
BV	Bouvet Island
BR	Brazil
IO	British Indian Ocean Territory
BN	Brunei Darussalam
BG	Bulgaria

BF	Burkina Faso
BI	Burundi
KH	Cambodia
CM	Cameroon
CA	Canada
CV	Cape Verde
KY	Cayman Islands
CF	Central African Republic
TD	Chad
CL	Chile
CN	China
CX	Christmas Island
CC	Cocos (Keeling) Islands
CO	Colombia
KM	Comoros
CG	Congo
CD	Congo, The Democratic Republic of The
CK	Cook Islands
CR	Costa Rica
CI	Cote D'ivoire
HR	Croatia
CU	Cuba
CY	Cyprus
CZ	Czech Republic
DK	Denmark

DJ	Djibouti
DM	Dominica
DO	Dominican Republic
EC	Ecuador
EG	Egypt
SV	El Salvador
GQ	Equatorial Guinea
ER	Eritrea
EE	Estonia
ET	Ethiopia
FK	Falkland Islands (Malvinas)
FO	Faroe Islands
FJ	Fiji
FI	Finland
FR	France
GF	French Guiana
PF	French Polynesia
TF	French Southern Territories
GA	Gabon
GM	Gambia
GE	Georgia
DE	Germany
GH	Ghana
GI	Gibraltar
GR	Greece

GL	Greenland
GD	Grenada
GP	Guadeloupe
GU	Guam
GT	Guatemala
GG	Guernsey
GN	Guinea
GW	Guinea bissau
GY	Guyana
HT	Haiti
HM	Heard Island and Mcdonald Islands
VA	Holy See (Vatican City State)
HN	Honduras
HK	Hong Kong
HU	Hungary
IS	Iceland
IN	India
ID	Indonesia
IR	Iran, Islamic Republic of
IQ	Iraq
IE	Ireland
IM	Isle of Man
IL	Israel
IT	Italy
JM	Jamaica
JP	Japan
JE	Jersey

JO	Jordan
KZ	Kazakhstan
KE	Kenya
KI	Kiribati
KP	Korea, Democratic People's Republic of
KR	Korea, Republic of
KW	Kuwait
KG	Kyrgyzstan
LA	Lao People's Democratic Republic
LV	Latvia
LB	Lebanon
LS	Lesotho
LR	Liberia
LY	Libyan Arab Jamahiriya
LI	Liechtenstein
LT	Lithuania
LU	Luxembourg
MO	Macao
MK	Macedonia, The Former Yugoslav Republic of
MG	Madagascar
MW	Malawi
MY	Malaysia
MV	Maldives
ML	Mali
MT	Malta

MH	Marshall Islands
MQ	Martinique
MR	Mauritania
MU	Mauritius
YT	Mayotte
MX	Mexico
FM	Micronesia, Federated States of
MD	Moldova, Republic of
MC	Monaco
MN	Mongolia
ME	Montenegro
MS	Montserrat
MA	Morocco
MZ	Mozambique
MM	Myanmar
NA	Namibia
NR	Nauru
NP	Nepal
NL	Netherlands
AN	Netherlands Antilles
NC	New Caledonia
NZ	New Zealand
NI	Nicaragua

NE	Niger
NG	Nigeria
NU	Niue
NF	Norfolk Island
MP	Northern Mariana Islands
NO	Norway
OM	Oman
PK	Pakistan
PW	Palau
PS	Palestinian Territory, Occupied
PA	Panama
PG	Papua New Guinea
PY	Paraguay
PE	Peru
PH	Philippines
PN	Pitcairn
PL	Poland
PT	Portugal
PR	Puerto Rico
QA	Qatar
RE	Reunion
RO	Romania
RU	Russian Federation

RW	Rwanda
SH	Saint Helena
KN	Saint Kitts and Nevis
LC	Saint Lucia
PM	Saint Pierre and Miquelon
VC	Saint Vincent and The Grenadines
WS	Samoa
SM	San Marino
ST	Sao Tome and Principe
SA	Saudi Arabia
SN	Senegal
RS	Serbia
SC	Seychelles
SL	Sierra Leone
SG	Singapore
SK	Slovakia
SI	Slovenia
SB	Solomon Islands
SO	Somalia
ZA	South Africa
GS	South Georgia and The South Sandwich Islands
ES	Spain
LK	Sri Lanka
SD	Sudan
SR	Suriname

SJ	Svalbard and Jan Mayen
SZ	Swaziland
SE	Sweden
CH	Switzerland
SY	Syrian Arab Republic
TW	Taiwan, Province of China
TJ	Tajikistan
TZ	Tanzania
TH	Thailand
TL	Timor leste
TG	Togo
TK	Tokelau
TO	Tonga
TT	Trinidad and Tobago
TN	Tunisia
TR	Turkey
TM	Turkmenistan
TC	Turks and Caicos Islands
TV	Tuvalu
UG	Uganda
UA	Ukraine
AE	United Arab Emirates
GB	United Kingdom
US	United States
UM	United States Minor Outlying Islands
UY	Uruguay

UZ	Uzbekistan
VU	Vanuatu
VE	Venezuela
VN	Viet Nam
VG	Virgin Islands, British
VI	Virgin Islands, U.S.
WF	Wallis and Futuna
EH	Western Sahara
YE	Yemen
ZM	Zambia
ZW	Zimbabwe

17.   Appendix D – Response Codes

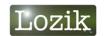| Response Code	Response Code Descriptions
000	Transaction Successful
001	Pending for Authorisation
101	Field is blank in a request
102	Internal Mapping for ISO not set
103	ISO message field configuration not found
104	Response Code not found in ISO message
105	Problem while creating or parsing ISO Message
201	Terminal does not exist
202	Merchant does not exist
203	Institution does not exist
204	Card prefix does not belong to corresponding card Type
205	Card not allowed for this transaction
206	Negative IP, Customer is not allowed to perform Transaction
207	Original Transaction not found
208	Transaction Flow not set for Transaction Type
209	Terminal status is Deactive, Transaction Declined
210	Terminal status is Closed, Transaction Declined

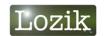| 211	Terminal status is Invalid, Transaction Declined
212	Merchant status is Deactive, Transaction Declined
213	Merchant status is Closed, Transaction Declined
214	Merchant status is Invalid, Transaction Declined
215	Institution status is Deactive, Transaction Declined
216	Institution status is Closed, Transaction Declined
217	Institution status is Invalid, Transaction Declined
218	MOD10 Check Failed
219	Card Type not supported by Merchant
220	CVV Check Failed, CVV value not present
221	AVS Capture Check Failed, Could not find Customer Address
222	Customer Info Check failed, Could not find Customer Information
223	Card expiry date is not greater than current date
224	Invalid Login Attempts exceeded
225	Wrong Terminal password, Please Re-Initiate transaction
226	Negative Country, Customer is not allowed to perform Transaction
227	Card type not supported by institution
228	Multiple captures not allowed
301	Transaction is not allowed for given Terminal
302	Transaction is not allowed for given Merchant
303	Transaction is not allowed for given Institution
304	Currency not supported for given Terminal
305	Currency not supported for given Merchant
306	Currency not supported for given Institution
307	Velocity Check Failed, Velocity Profile not found, Level - Terminal
308	Velocity Check Failed, Velocity Profile not found, Level - Merchant
309	Velocity Check Failed, Velocity Profile not found, Level - Institution
310	Transaction Profile not set for Terminal, Unable to check Transaction Profile
311	Transaction Profile not set for Merchant, Unable to check Transaction Profile
312	Transaction Profile not set for Institution, Unable to check Transaction Profile
313	Currency Profile not set for Terminal, Unable to check Currency Profile
314	Currency Profile not set for Merchant, Unable to check Currency Profile
315	Currency Profile not set for Institution, Unable to check Currency Profile
316	Velocity Profile not set for Terminal, Unable to check Velocity Profile
317	Velocity Profile not set for Merchant, Unable to check Velocity Profile
318	Velocity Profile not set for Institution, Unable to check Velocity Profile
319	Refund Limit exceeded for Terminal
320	Refund Limit exceeded for Merchant
321	Refund Limit exceeded for Institution

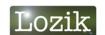|	
322	Velocity Check Failed, Transaction amount below Minimum amount allowed, Level - Terminal
323	Velocity Check Failed, Transaction amount below Minimum amount allowed, Level - Merchant
324	Velocity Check Failed, Transaction amount below Minimum amount allowed, Level - Institution
325	Velocity Check Failed, Transaction amount exceeds Maximum amount allowed, Level - Terminal
326	Velocity Check Failed, Transaction amount exceeds Maximum amount allowed, Level - Merchant
327	Velocity Check Failed, Transaction amount exceeds Maximum amount allowed, Level - Institution
328	Velocity Check Failed, Level - Terminal
329	Velocity Check Failed, Level - Merchant
330	Velocity Check Failed, Level - Institution
331	Velocity Check Failed, Transaction exceeds Total transaction count, Level - Terminal
332	Velocity Check Failed, Transaction exceeds Total transaction count, Level - Merchant
333	Velocity Check Failed, Transaction exceeds Total transaction count, Level - Institution
334	Velocity Check Failed, Transaction amount exceeds Total transaction amount allowed, Level - Terminal
335	Velocity Check Failed, Transaction amount exceeds Total transaction amount allowed, Level - Merchant
336	Velocity Check Failed, Transaction amount exceeds Total transaction amount allowed, Level - Institution
337	Velocity Check Failed, Transaction exceeds Total transaction count of this Card, Level - Terminal
338	Velocity Check Failed, Transaction exceeds Total transaction count of this Card, Level - Merchant
339	Velocity Check Failed, Transaction exceeds Total transaction count of this Card, Level - Institution
401	Destination is not configured
402	Cannot lookup Destination to send message
403	Unable to route Message to Destination
404	Unable to get routing details
405	Destination does not log on
501	Refer to card issuer
502	Refer to card issuer, special condition
503	Invalid Merchant or Service Provider
504	Pick-up card
505	Do not honour
506	Error

507	Pick-up card, special condition
508	Honour with identification
509	Request in progress
510	Approved, partial
511	Approved, VIP
512	Invalid transaction
513	Invalid amount
514	Invalid card number
515	No such issuer
516	Approved, update track 3
517	Operator Cancelled
518	Customer dispute
519	Re-enter transaction
520	Invalid response
521	No action taken
522	Suspected malfunction
523	Unacceptable transaction fee
524	File update not supported
525	Unable to locate record
526	Duplicate record
527	File update edit error
528	File update file locked
530	File update failed
531	Bank not supported
532	Completed partially
533	Expired card, pick-up
534	Suspected fraud, pick-up
535	Contact acquirer, pick-up
536	Restricted card, pick-up
537	Call acquirer security, pick-up
538	PIN tries exceeded, pick-up
539	No credit account
540	Function not supported
541	Lost card (Contact Bank)
542	No universal account
543	Stolen card
544	No investment account
551	Not sufficient funds (Client to Contact Bank)
552	No check account
553	No savings account

554	Expired card (Contact Bank)
555	Incorrect PIN
556	No card record
557	Transaction not permitted to cardholder
558	Transaction not permitted on terminal
559	Suspected fraud
560	Contact acquirer
561	Exceeds withdrawal limit
562	Restricted card
563	Security violation
564	Original amount incorrect
565	Exceeds withdrawal frequency
566	Call acquirer security
567	Hard capture
568	Response received too late
575	PIN tries exceeded
576	Approved country club
577	Intervene, bank approval required
578	Original transaction could not be found
579	approved administrative transaction
580	Approved national negative file hit OK
581	Approved commercial
582	No security module
583	No accounts
584	No PBF
585	PBF update error
586	Invalid authorisation type
587	Bad Track 2 bank offline
588	PTLF error
589	Invalid route service
590	Cut-off in progress
591	Issuer or switch inoperative
592	Routing error
593	Violation of law
594	Duplicate transaction
595	Reconcile error
596	Communication System malfunction
597	Communication Error
598	Exceeds cash limit
599	Host Response, Please check bank response code

5N0	Unable to authorize / Card type incorrect
5N1	Invalid PAN length
5N2	Preauthorization full
5N3	Maximum online refund reached
5N4	Maximum off-line refund reached
5N5	Maximum credit per refund
5N6	Maximum refund credit reached
5N7	Decline for cvv2 failure
5N8	Over floor limit
5N9	Maximum number refund credits
5O0	Referral file full
5O1	NEG file problem
5O2	Advance less than minimum
5O3	Delinquent
5O4	Over limit table
5O5	PIN required
5O6	Mod 10 check
5O7	Force post
5O8	Bad PBF
5O9	NEG file problem
5P0	CAF problem
5P1	Over daily limit
5P2	CAPF not found
5P3	Advance less than minimum
5P4	Number of times used
5P5	Delinquent
5P6	Over limit table
5P7	Advance less than minimum
5P8	Administrative card needed
5P9	Enter lesser amount
5Q0	Invalid transaction date
5Q1	Invalid expiration date
5Q2	Invalid transaction code
5Q3	Advance less than minimum
5Q4	Number of times used
5Q5	Delinquent
5Q6	Over limit table
5Q7	Amount over maximum
5Q8	Administrative card not found
5Q9	Administrative card not allowed

5R0	Approved administrative request
5R1	Approved administrative request
5R2	Approved administrative request
5R3	Chargeback-customer file updated
5R4	Chargeback-customer file updated -acquirer not found
5R5	Chargeback-incorrect prefix number
5R6	Chargeback-incorrect response code or CPF configuration
5R7	Administrative transactions not supported
5R8	Card on national negative file
5S4	PTLF full
5S5	Chargeback-approved, customer file not updated
5S6	Chargeback-approved, customer file not updated, acquirer not found
5S7	Chargeback-accepted, incorrect destination
5S8	ADMN file problem
5S9	Unable to validate PI
5T1	Invalid credit card advance amount
5T2	Invalid transaction date
5T3	Card not supported
5T4	Amount over maximum
5T5	CAF status = 0 or 9
5T6	Bad UAF
5T7	Cash back exceeds daily limit
5T8	Multiple invalid required fields
601	System Error, Please contact System Admin.
602	System Error, Please try again
603	Transaction timed out
604	Invalid Card Number
605	Invalid CVV
606	Invalid Track Id
607	Invalid Terminal Id
608	Invalid Address
609	Invalid Terminal Password
610	Invalid Action Code
611	Invalid Currency Code
612	Invalid Transaction Amount
613	Invalid Transaction Reference.
614	Invalid User Fields
615	Invalid City
616	Invalid characters encountered
617	Invalid Card Expiry Date

618	Invalid State
619	Invalid Country
620	Invalid Cardholder Name
621	Invalid Zip Code
622	Invalid IP Address
623	Invalid Email Address
624	Transaction cancelled by the user
625	3D Transaction Failed
626	Invalid CVV, CVV Mandatory
627	Capture not allowed, Mismatch in Capture and Original Auth Transaction Amount
628	Transaction has not been Captured/Purchase, Refund not allowed
629	Refund Amount exceeds the Captured/Purchase Amount
630	Transaction is Void, Capture not allowed
631	Transaction has been Captured, Void Auth not allowed
632	Original Transaction not found
633	Transaction already Refunded, Duplicate refund not allowed
634	Transaction is Void, Refund not allowed
635	Transaction has been Captured, Multiple captures not allowed
636	Transaction has been Voided, Multiple voids not allowed
637	A purchase transaction cannot be captured. It should be an Auth transaction
638	Purchase transaction cannot be Voided
639	Invalid Void Transaction, Mismatch in Void and Original Auth Transaction Amount
640	Refund transaction in progress, Cannot process duplicate transaction
641	Capture transaction in progress, Cannot process duplicate transaction
642	Void Auth transaction in progress, cannot process duplicate transaction
644	Transaction is fully refunded, refund not allowed
645	Transaction is chargeback transaction, refund not allowed
646	Transaction is chargeback transaction, refund amount exceeds allowed amount
670	Communication error while writing in Socket
671	Communication error while reading in Socket
699	Transaction timed out from bank