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BillDesk Payment Gateway

-- Technical Interface Document v1.0



PVR Limited



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1. Background

This note briefly describes the mode/manner of technical integration between BillDesk Payment Gateway and '**PVR Limited.**' [Herein after referred to as '**PVRL**'] for enabling online transactions.


2. BillDesk Payment Gateway Service

BillDesk offers electronic payment gateway services to **PVRL** organizations through its partnerships with various banks and card companies. BillDesk would facilitate the payment gateway integration for **PVRL**.

3. Process Flow

This section briefly details the overall transaction flow, and the related reconciliation and reporting processes

Transaction Process

- ❑ User logs-in at the **PVRL** website for Online payment
- ❑ User then decides to pay; clicks on 'Pay'
- ❑ **PVRL** website will log the order by generating a unique Order Number; and establish a connection with the BillDesk Payment Gateway Interface [refer the section on Payment Request]
- ❑ At the BillDesk Payment Gateway; the customer is displayed (there are two possible methods for integration):
 - (For individual Booking)-Various 'Payment Categories' that the customer can use for e.g. Credit Cards, Debit Cards, Online Net Banking, Cash Cards etc. Customer chooses the specific payment category out of all the available categories displayed on the BillDesk page


And
 - (Corporate Booking)-(Cash Card/Wallets) 'Payment Category' – depending on the predefined identifier passed along with Payment request pertaining to a specific 'Payment Category'.
- ❑ User chooses the payment option at BillDesk Payment Gateway, and is taken to the page of that specific bank. User then enters the relevant authentication details [i.e. User ID/ Card Number/ Password] at the bank's website
- ❑ User's account is debited and the User is then directed back to the designated Return URL [RU] at **PVRL** website
- ❑ BillDesk Payment Gateway will provide the return response to the designated **PVRL** website return URL received in the initial transaction request. **PVRL** can use this

response to update its system and display to the User that the payment process was successful

- ❑ BillDesk payment gateway also generates a **unique Transaction ID** against each order number that is received – this could be displayed to the User; and used for any queries relating to the transaction.

Reconciliation Process [at BillDesk]

- ❑ On the next day, BillDesk will reconcile the online transactions with the credits received based on the batch files received from the bank(s)
- ❑ After reconciling, BillDesk will generate an MIS report – that will include the Order Number; and the Transaction ID generated by BillDesk
 - ❑ This report will contain the successful transactions; and the refunds that would have been initiated by **PVRL** for specific transactions
 - ❑ Net amount [of BillDesk Charges] will be provided to **PVRL** with an MIS Report [**Merchant TID Report**]

4. Technical Integration with BillDesk

Key aspects of the integration between the **PVRL** website and BillDesk are described in the paragraphs below.

Payment Request

- ❑ **PVRL** website constructs a pipe separated message [refer below] containing some key inputs such as:
 - Order Number – is unique reference generated by **PVRL** for each transaction initiated by **PVRL**
 - Amount – is the transaction amount
 - Return Response URL
- ❑ For the constructed pipe separated message, **PVRL** website computes a checksum and appends it as the last value of the pipe separated string
- ❑ **PVRL** website then redirects the payment request to the payment gateway at a specified URL with the parameter 'msg' containing the pipe separated string

After the User clicks on PAY [within **PVRL** website], a request needs to be generated by **PVRL** to a designated BillDesk URL for each payment:

Merchant		
Parameter	Sample Value	Description
MerchantID	ABCD	Will be provided by Billdesk
CustomerID	123456789	PVRL's unique Order / Reference Number
TxnAmount	94.00	Transaction Amount
CurrencyType	INR	Fixed Value (max length 3)

TypeField1	R	Fixed Value (max length 1)
SecurityID	abcd	Will be provided by Billdesk
TypeField2	F	Fixed Value (max length 1)
RU	http://www.domain.com/response.jsp	Return URL where the payment gateway response is to be received by PVRL

Note:

- There are two methods of integration:
 - Complete redirection to BillDesk PG and BillDesk shows the payment categories and options under those categories [Only Payment Request 'msg' to be passed]
 - Specific Payment Category method wherein merchant passes the predefined payment category identifier [Parameter 'txtPayCategory' to be passed along with the Payment Request 'msg']

Note: The pipe separate message to be constructed must be in line with the message description provided below. Only the key fields have been described in the table above. For some fields which are fixed as NA refer the 'Message description' below in the Payment Request section.

Payment Request

Message description

Merchant|CustomerID|NA|TxnAmount|NA|NA|NA|CurrencyType|NA|TypeField1|SecurityID|NA|NA|TypeField2|AdditionalInfo1|AdditionalInfo2|AdditionalInfo3|AdditionalInfo4|AdditionalInfo5|AdditionalInfo6|AdditionalInfo7|RU

Sample message for checksum value generation

ABCD|123456789|NA|94.00|NA|NA|NA|INR|NA|R|abcd|NA|NA|F|NA|NA|NA|NA|NA|NA|NA|http://www.domain.com/response.jsp

Assume the checksum value generated was 3712345678

Sample Txn Initiation Message to be sent to BillDesk URL as parameter 'msg' for Method 1

```
<form name="form1" method="POST"
action="https://pgi.billdesk.com/pgidsk/PGIMerchantPayment">
<input type="hidden" name="msg"
value="ABCD|ARP10234|NA|94.00|NA|NA|NA|INR|NA|R|abcd|NA|NA|F|NA|NA|NA|NA|NA|NA|NA|http://www.domain.com/response.jsp|B4BDE245856DD5B1E24D6535AD74DCB88671B881591EEEEAE5361FAC5D2396F4B">
```

Sample Txn Initiation Message to be sent to BillDesk URL as parameter 'msg' for Method 2

```
<form name="form1" method="POST"
action="https://pgi.billdesk.com/pgidsk/PGIMerchantPayment">
<input type="hidden" name="msg"
value="ABCD|ARP10234|NA|94.00|NA|NA|NA|INR|NA|R|abcd|NA|NA|F|NA|NA|NA|NA|NA|
NA|NA|http://www.domain.com/response.jsp|B4BDE245856DD5B1E24D6535AD74DCB886
71B881591EEEEAE5361FAC5D2396F4B">
<input type="hidden" name="txtPayCategory" value="PPI">
```

Payment Response

The payment response is sent to the Return URL [RU] specified dynamically by **PVRL** for each transaction.

This response is a **browser** response and the message will be posted to the **PVRL**'s Return URL as a parameter - **msg**

Response Message description:

[MerchantID](#)|[CustomerID](#)|[TxnReferenceNo](#)|[BankReferenceNo](#)|[TxnAmount](#)|[BankID](#)|[BankMerchantID](#)|[TxnType](#)|[CurrencyName](#)|[ItemCode](#)|[SecurityType](#)|[SecurityID](#)|[SecurityPassword](#)|[TxnDate](#)|[AuthStatus](#)|[SettlementType](#)|[AdditionalInfo1](#)|[AdditionalInfo2](#)|[AdditionalInfo3](#)|[AdditionalInfo4](#)|[AdditionalInfo5](#)|[AdditionalInfo6](#)|[AdditionalInfo7](#)|[ErrorStatus](#)|[ErrorDescription](#)|[Checksum](#)

Sample Response Message

[ABCD](#)|[123456789](#)|[MSBI0412001668](#)|[NA](#)|[00000094.00](#)|[SBI](#)|[22270726](#)|[NA](#)|[INR](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[29-05-2013](#)|[16:08:56](#)|[0300](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[NA](#)|[3734835005](#)

☐ Please note – [Merchant ID](#) and the [CHECKSUM KEY](#) would be provided at the time of integration.

5. Server to Server Direct Response

The payment response is sent to a designated URL specified upfront by **PVRL** at the time of the integration.

The way this works is, in addition to the browser based response BillDesk will also send a 'Server to Server' response to **PVRL** in the same format (i.e. as of the 'msg' parameter) as is being currently sent in the browser response mode.

However it is important to note:

- (1) The Server to Server response handling must be agnostic of the HTTP GET/POST method at **PVRL**'s end.
- (2) There should be no prefixed parameter appended to this URL that **PVRL** will provide BillDesk for setting up for the server to server direct response

The message will be sent to the **PVRL** designated URL as a parameter – **msg**

Response Message description:

MerchantID|CustomerID|TxnReferenceNo|BankReferenceNo|TxnAmount|BankID|BankMerchantID|TxnType|CurrencyName|ItemCode|SecurityType|SecurityID|SecurityPassword|TxnDate|AuthStatus|SettlementType|AdditionalInfo1|AdditionalInfo2|AdditionalInfo3|AdditionalInfo4|AdditionalInfo5|AdditionalInfo6|AdditionalInfo7|ErrorStatus|ErrorDescription|Checksum

Sample Response Message

ABCD|123456789|MSBI0412001668|NA|00000094.00|SBI|22270726|NA|INR|NA|NA|NA|NA|29-05-2013|16:08:56|0300|NA|AAA12345|NA|NA|NA|NA|NA|NA|NA|NA|3734835005

To be able to setup the Server to Server direct response mechanism BillDesk would require the following information from **PVRL**:

1. **PVRL**'s Server to Server Direct Response URL
2. Underlying static Public IP address [based on the direct response URL] for setting up of network/ firewall rule at BillDesk end.

If need be, **PVRL** may allow the following BillDesk IP address at its end so that the Server to Server direct response sent by BillDesk could be accepted.

BillDesk IP Address: 210.210.24.74

It is highly recommended that the server to server responses sent by BillDesk are logged for about a week and are checked against the transaction status updated in the merchant system.

Payment Updation process at Merchant's end

The following process should be followed at **PVRL** end for receiving and processing the payment response:

- (a) Receive and Read the Payment Response message
- (b) Generate the 'checksum value' for the Payment Response and validate it with the 'checksum value' received in the Payment Response. If they match; proceed to step (c) below; else log it as a FAILURE.
- (c) Update the original record in the **PVRL** system based on the 'AuthStatus' field received in the Payment Response.

Refer the table below for various values that are received in the AuthStatus field, and the related Transaction Status. The updation to the original record must be done as follows:

Successful transaction

Update <record> set STATUS = 'SUCCESS' where ORIGINALSTATUS='PENDING' and ORDERNUMBER=' 123456789' and TRANSACTIONAMOUNT='94.00'

Failure transaction

Update <record> set STATUS = 'FAILURE' where ORIGINALSTATUS='PENDING' and ORDERNUMBER=' 123456789' and TRANSACTIONAMOUNT='94.00'

(d) The above updation process ensures the following:

- ☐ Only the original record is updated [through the Unique Order Number]
- ☐ The record is updated only once [for original status=PENDING]
- ☐ The record is updated for the same 'Transaction Amount' that was initiated by the **PVRL**.

Authorization status

AuthStatus	Status Reason	Proposed Transaction Status
"0300"	Success	Successful Transaction
"0399"	Invalid Authentication at Bank	Cancel Transaction
"NA"	Invalid Input in the Request Message	Cancel Transaction
"0002"	BillDesk is waiting for Response from Bank	Pending Transaction
"0001"	Error at BillDesk	Cancel Transaction

For all AuthStatus that is not a Success, an ErrorDescription would be provided in the Payment Response.

6. Merchant TID Report

The **PVRL** will be able to login to the BillDesk Merchant Interface and download a daily Merchant TID Report. This report provides a summary of:

- ☐ Settled Transactions
- ☐ Refund Transactions
- ☐ Chargeback Transactions

In addition to providing details as mentioned above, the Merchant TID Report gives an overall summary with respect to the 'Net Credit' amount.

7. Refund Processing

- a) Refunds can be initiated via email by the **PVRL** Operations/Service Delivery Team to the BillDesk Operations/Service Delivery Team
- b) **PVRL's** Operations/Service Delivery Team should include following details in the email sent to BillDesk for Refunds:
 - i. BillDesk Transaction ID received in the Payment Response
 - ii. Transaction Amount
 - iii. Amount to be refunded

- c) Refunds that are received are processed with each of the banks as per the workflow defined with the banks

Refund – a transaction that is already settled for the **PVRL**. Part of the transaction amount can also be refunded by the **PVRL**

Cancellation – a transaction that is not settled for the **PVRL**. Only the entire transaction amount can be cancelled by the **PVRL**

- d) Refunds successfully processed will be displayed as a deduction in the next 'Merchant TID Report' that is generated for the **PVRL**.

Format of the refund file will be as follows:

txn_id,txn_date,customer_id,txn_amount(Paise format),refund_amount(Paise format)

Field Name	Notes
txn_id	BillDesk Transaction ID received in the Payment Response
txn_date	Transaction Date in YYYYMMDD format
customer_id	Will be the value set in 'txtCustomerID' in the Payment Request
txn_amount	Transaction Amount; in paise format [for e.g. 100.00 will be 10000]
refund_amount	Amount to be refunded; in paise format

For example:

MUTI0803612345, 20080731, 6012345,100000,100000

Sample Refund File Naming Convention:

MERCHANTID_Refund_yyyymmddhhmmss.txt



8. Key Points for a Successful Integration

Payment Request

No	Area	Description
1.	Secure BillDesk URL	Always use "https" for the BillDesk URL where the request will be posted.
2.	POST method	* Always Use "POST" method * Variables must be sent as HIDDEN values
3.	Referral URL	Always call the BillDesk production URL from the Referral URL only; which needs be shared at the time of integration.
4.	Length of parameters	Each parameter field should not be more than 120 characters. A 'NULL' value will not be accepted for any parameter.
5.	Special characters	Not allowed
6.	Transaction Amount	In the test phase of your integration, only Rs. 2 can be used as a transaction amount.

Payment Response

No	Area	Description
1.	Checksum Validation	Always validate the checksum before updating the transaction response
2.	Verify whether the updation is as per the process specified in the interface	<input type="checkbox"/> Only the original record is updated [through the Unique Order Number] <input type="checkbox"/> The record is updated only once [for original status=PENDING]

	document	<input type="checkbox"/> The record is updated for the same 'Transaction Amount' that was initiated by the PVRL .
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9. Next Steps

In order to get the service live, the following next steps are required:

- Merchant to confirm the integration process and discuss any clarifications required
- Merchant to confirm their tech platform; parameters for the integration along with validation information
- Merchant to confirm the Referral URL to be used for the test phase
- Merchant to provide Nodal Bank Letter for payout related setup
- BillDesk to initiate the technical integration development at its end
- BillDesk to share the URL for testing / UAT post completion of the development
- Merchant to provide a UAT signoff
- Merchant to confirm their Referral URL to be setup for production phase
- Merchant to provide Operations Contact Matrix for the process
- BillDesk to complete the go-live related setup
- BillDesk to confirm go-live readiness to Merchant
- Go live

10. Contact Persons

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