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BillDesk Payment Gateway

-- Technical Interface Document v1.1

National Insurance Company Limited
[Broker/Aggregator Direct Integration]

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1.   Background

National Insurance has entered into direct agreements with Insurance Brokers and Insurance Aggregators basis which those Insurance Brokers and Insurance Aggregators would source insurance policies of National Insurance Company – these could be any insurance policy, for e.g. Accident Insurance Policy, Motor Insurance Policy, Home Insurance Policy etc.

This note briefly describes the mode/manner of technical integration between BillDesk Payment Gateway and the aforesaid Insurance Brokers and Insurance Aggregators for sourcing insurance policies of National Insurance Company Limited.

Notes

1. National Insurance Company Limited will hereinafter be referred to as "NIC".

2. Insurance Broker/Aggregator will hereinafter be referred to as "BK/AGR".

2.   BillDesk Payment Gateway Service

BillDesk offers electronic payment gateway services through its partnerships with various banks and card companies. BillDesk would facilitate the payment gateway integration at the BK/AGR website to enable electronic commerce transactions for sourcing NIC policies.

3.   Process Flow

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

Transaction Process

❑   User is at the logs-in at the BK/AGR website.

❑   User then goes through the policy purchase workflow and is ready to make the payment; he/she clicks on 'Pay'.

❑   BK/AGR's 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 User is displayed various 'payment options' that he can use for e.g. Online Net Banking.

❑   User chooses the payment option and is taken to the respective bank's page. User then enters the relevant authentication details [i.e. User ID/ Password etc.] at the bank's website; and then is requested to confirm the payment amount.

❑ User's account is debited and he/she is then directed back to the designated Return URL [RU] at BK/AGR's website.

❑ The BillDesk Payment Gateway will provide the return response to the designated BK/AGR return URL received in the initial transaction request. BK/AGR 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 **<u>unique Transaction ID</u>** against each order number that is received.

Reconciliation/ Reporting 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 Unique Order Number generated by BK/AGR as well as the Transaction ID generated by BillDesk.

❑ This report will contain the successful transactions.

❑ Net amount [of BillDesk Charges] will be provided to NIC with an MIS Report ['TID Report'].

4.   Technical Integration with BillDesk

Key aspects of the integration between the BK/AGR's website and BillDesk are described in the paragraphs below.

Payment Request

❑ BK/AGR's website constructs a pipe separated message [refer below] containing some key inputs such as:
  o Order Number – is unique reference generated by BK/AGR for each transaction initiated by the BK/AGR.

    To make the Order No. unique across all Brokers/Aggregators in this implementation, we recommend that it be prefixed by an abbreviated word which could be a concatenation of 'Name of Insurer' (a suitable short form, preferably of 4 characters) and 'Name of Broker/Aggregator' (a suitable short form, preferably of 4 characters).

  o Amount – is the transaction amount
  o Unique Reference required by the Insurer
  o BK/AGR Identifier
  o Return Response URL

❑ For the constructed pipe separated message, BK/AGR's website computes a checksum and appends it as the last value of the pipe separated string.

❑ BK/AGR's 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 BK/AGR website], a request needs to be generated by the BK/AGR to the specified BillDesk URL for each payment with the parameters indicated.

Following are parameters that need to be provided to BillDesk:

Merchant		
Parameter	Sample Value	Description
MerchantID	LMXY	To be provided after setup
CustomerID	NICLABCD538574	BK/AGR's unique Order Number
TxnAmount	94.00	Transaction Amount
CurrencyType	INR	Fixed Value (max length 3)
TypeField1	R	Fixed Value (max length 1)
UserID	KPYN-NA	Fixed Value – unique value for every 'BK/AGR' set up developed in BillDesk PG. This value to be provided by BillDesk after the necessary development is done.
TypeField2	F	Fixed Value (max length 1)
AdditionalInfo1	6723210	Unique Reference required by the Insurer
AdditionalInfo2	NFRGVUW	BK/AGR Identifier - value mutually agreed for each 'BK/AGR' to be mandatorily passed in every payment request for BillDesk to bifurcate payments to NIC pertaining to the respective 'BK/AGR' and to generate corresponding Payment MIS Report. [BillDesk and NIC to mutually agree upon the value]
RU	http://www.domain.com/response.jsp	Return URL where the payment gateway response is to be received by BK/AGR.

Payment Request Message description

MerchantID|CustomerID|NA|TxnAmount|NA|NA|NA|CurrencyType|NA|TypeField1|UserID|NA|NA|TypeField2|AdditionalInfo1|AdditionalInfo2|AdditionalInfo3|AdditionalInfo4|AdditionalInfo5|AdditionalInfo6|AdditionalInfo7|RU

Sample message for checksum value generation

LMXY|NICLABCD538574|NA|94.00|NA|NA|NA|INR|NA|R|KPYN-NA|NA|NA|F|6723210|NFRGVUW|NA|NA|NA|NA|NA|http://www.domain.com/response.jsp

Assume the checksum value generated was 2595340170

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

LMXY|NICLABCD538574|NA|94.00|NA|NA|NA|INR|NA|R|KPYN-NA|NA|NA|F|6723210|NFRGVUW|NA|NA|NA|NA|NA|http://www.domain.com/response.jsp|2595340170

Payment Response

The payment response is sent to the Return URL [RU] specified dynamically by BK/AGR for each transaction.

This response is a **browser** response and the message will be posted to the BK/AGR'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

LMXY|NICLABCD538574|MSBI0412001668|NA|00000094.00|SBI|NA|01|INR|NA|NA|NA|NA|12-12-200416:08:56|0300|NA|6723210|NFRGVUW|NA|NA|NA|NA|NA|NA|NA|8928536106

☐ Please note – the CHECKSUM KEY would be provided at the time of integration.

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Payment Updation process at BK/AGR's end

The following process should be followed at BK/AGR's end for receiving and processing the payment response:

- (a) Receive and Read the Payment Response message – msg at the Return URL

- (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 display a Payment Rejection message to the User.

- (c) Update the original record in BK/AGR's 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='NICLABCD538574' and TRANSACTIONAMOUNT='94.00'

Failure transaction

Update <record> set STATUS = 'FAILURE' where ORIGINALSTATUS='PENDING' and ORDERNUMBER=' NICLABCD538574' 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 BK/AGR.

Authorization status

AuthStatus	Status Reason	Proposed Transaction Status
"0300"	Success	Successful Transaction
"0399"	Invalid Authentication at Bank	Failed Transaction
"NA"	Invalid Input in the Request Message	Cancel Transaction
"0002"	Unable to ascertain the status of the txn.	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.

5.   Server to Server Direct Response to Broker/Aggregator

Payment Response

The payment response is sent to a designated URL specified upfront by BK/AGR 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 BK/AGR in the same format (i.e. of the 'msg' parameter) as 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 BK/AGR's end.
   (2) There should be no parameter appended to the URL that BK/AGR will provide BillDesk for setting up for the server to server direct response.

The message will be sent to the BK/AGR's 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

LMXY|NICLABCD538574|MSBI0412001668|NA|00000094.00|SBI|NA|01|INR|NA|NA|NA|NA|12-12-200416:08:56|0300|NA|6723210|NFRGVUW|NA|NA|NA|NA|NA|NA|NA|8928536106

☐ Please note – the MerchantID and CHECKSUM KEY will be exactly same as the web integration.

Payment Updation process at BK/AGR's end

The following process should be followed at BK/AGR's 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 REJECT.

(c) Update the original record in the BK/AGR 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='NICLABCD538574' and TRANSACTIONAMOUNT='94.00'

Failure transaction

Update <record> set STATUS = 'FAILURE' where ORIGINALSTATUS='PENDING' and ORDERNUMBER='NICLABCD538574' 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 BK/AGR.

Authorization status

AuthStatus	Status Reason	Proposed Transaction Status
"0300"	Success	Successful Transaction
"0399"	Invalid Authentication at Bank	Failed Transaction
"NA"	Invalid Input in the Request Message	Cancel Transaction
"0002"	Unable to ascertain the status of the txn.	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.

To be able to setup the Server to Server direct response mechanism, BillDesk would require the following information from BK/AGR:

1. BK/AGR's Server to Server Direct Response URL.

   Server to Server direct response URL to be provided by the Broker/Aggregator must be a generic one i.e. which caters to all policies of NIC which the Broker/Aggregator will source based upon the aforesaid agreement.

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

If need be, BK/AGR 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

Notes:

- The Server to Server (S2S) URL that will be provided by BK/AGR to setup at BillDesk's end can be an HTTP:// based URL. If it is an HTTPS:// based URL then it adds an extra operational overhead at BK/AGR, National Insurance Company Limited and BillDesk's end. Hence this option of whether it will be an HTTP:// or HTTPS:// URL should be chosen keeping in mind the process that it entails with respect to timely notifying the relevant teams of a change in the HTTPS SSL certificate of BK/AGR. The section below explains this process in detail, and hence is assumed acceptable if an HTTPS:// protocol has been chosen for the S2S URL.

PROCESS FOR SSL CERTIFICATE UPDATION

- In case BK/AGR shares an HTTPS based URL, since HTTPS requires on-going maintenance with respect to importing the public SSL certificate, BK/AGR should notify and share the renewed SSL certificate with National Insurance Company Limited at least 10 business days prior to when the certificate change will happen at BK/AGR.

- National Insurance Company Limited should share the renewed SSL certificate with BillDesk at least 7 business days prior to when the certificate change will happen at BK/AGR. This will ensure that 'server to server' responses post the SSL certificate change at BK/AGR are not getting impacted.

  - National Insurance Company Limited must share this renewed SSL certificate with BillDesk Service Delivery Team.

  - While sharing the renewed SSL certificate with BillDesk Service Delivery Team, National Insurance Company Limited must clearly mention in its e-mail **that this pertains to 'server to server' payment response to only BK/AGR for BK/AGR's transactions.**

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6. Auto Cancellation

This is for transactions where BillDesk did not receive an online transaction status from the bank [referred to as a broken transaction] which would also mean that the BK/AGR would not have received an online transaction 'success' status response.

As a process, the banks provide BillDesk with reconciliation handoff data the next day. In case a broken transaction has been provided as a SUCCESS in the bank recon file such cases when reconciled at BillDesk will be processed for auto-cancellation at the BillDesk Payment Gateway i.e. such broken transactions would not be settled with NIC but instead refunded to the User.

7.   Merchant TID Report

NIC will be made available a daily 'Payment MIS Report' [called Merchant TID Report] which will be at a BK/AGR level i.e. a daily 'Payment MIS Report' specific to every 'BK/AGR set up. This report provides a summary of:

☐ Settled Transactions
☐ Refund Transactions
☐ Chargeback Transactions

In addition to the above Report, a Payment Voucher pertaining to the Report will be provided – this payment voucher gives an overall summary with respect to the 'Net Credit' amount.

8.   Refund File

NIC can initiate a refund for a transaction through the web interface of BillDesk.

9.   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 should be shared at the time of integration.
4.	Length of parameters	Each parameter field should not be more than 100 characters. A 'NULL' value will not be accepted for any parameter.

5.	Special characters	Special characters are not allowed. If required, BK/AGR and NIC should specify the required characters and BillDesk will check internally and confirm if those characters could be allowed or not.

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 document	☐ 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 BK/AGR.

10.   Next Steps

The following next steps are required:

- BK/AGR to discuss any clarification required.
- BK/AGR to confirm the integration process.
- BillDesk and NIC to mutually agree upon the 'BK/AGR' Identifier value.
- BK/AGR to confirm their technology platform.
- BK/AGR to confirm the Referral URL(s) to be used and Server to Server Direct Response URL along with the Underlying static IP address to be used in the UAT phase.
- BillDesk to initiate the technical integration development at its end.
- BillDesk to share the URL etc. post completion of the development.
- BK/AGR to provide sign off on e-mail with NIC concerned official marked in that mail.
- BK/AGR to confirm their Referral URL as well as Server to Server Direct Response URL along with Underlying static IP address to be setup to be setup for production phase
- BK/AGR and NIC to confirm to BillDesk to begin the go-live set up activities.
- NIC to provide NIC's Operations Contact Matrix for the daily Operations/Service Delivery related processes.
- BillDesk to complete the go-live related setup.
- BillDesk to confirm go-live readiness to BK/AGR and NIC.
- Go live *[BK/AGR and* NIC *to confirm to BillDesk that services have been made LIVE at their ends].*

11. Contact Persons

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