CNAPS Interface
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1. About this Manual

1.1 Introduction

This manual is designed to help you quickly get acquainted with the Interface between Oracle FLEXCUBE and CNAPS(China National Advanced Payment System) Interface.

It provides an overview of the process that takes place when messages are sent from Oracle FLEXCUBE to CNAPS Interface. It also explains the maintenance needed so that Oracle FLEXCUBE processes and sends the messages to the CNAPS Interface.

1.2 Audience

This manual is intended for the following User/User Roles:

Role	Function
Back office clerk	Input functions for contracts
Back office managers/officers	Authorization functions
Product Managers	Product definition and authorization
End of day operators	Processing during end of day/ beginning of day
Financial Controller / Product Managers	Generation of reports

1.2.1 Related documents

This manual only documents interface between Oracle FLEXCUBE and specific External Systems. This manual is recommended to be read in conjunction with the following User Manuals:

- Payments and Collections
- Gateway

1.2.1.1 Conventions Used in this Manual

Important information is preceded with the  symbol.

2. The CNAPS Interface

2.1 Introduction

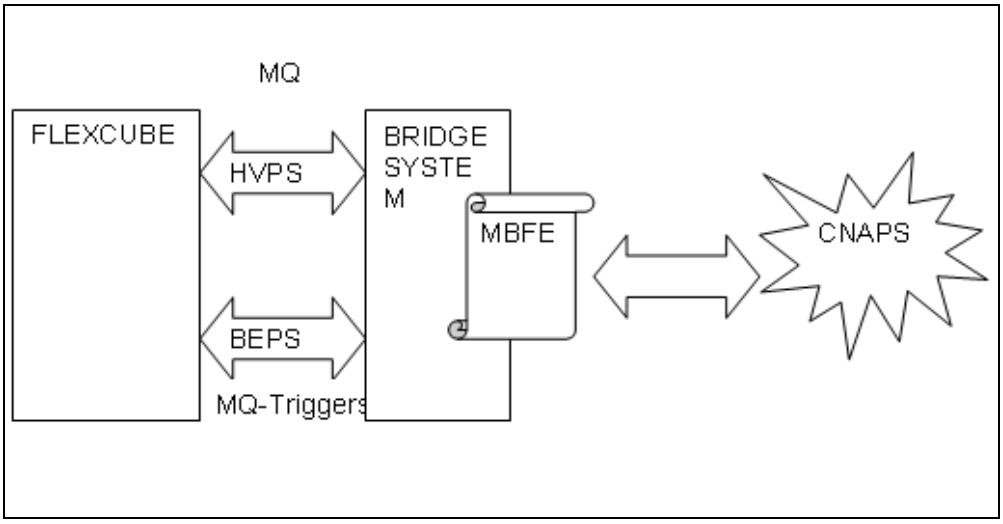
Oracle FLEXCUBE interfaces with the CNAPS Interface installed at your bank. In order to streamline the exchange of data between Oracle FLEXCUBE and CNAPS, several functions have been added to Oracle FLEXCUBE and this document describes these functions.

2.2 Process Flow

As part of clearing payments, Oracle FLEXCUBE interfaces with CNAPS. CNAPS provides participants and authorized participants with services like High Value Payment System (HVPS) and Bulk Electronic Payment System (BEPS).

Oracle Flexcube interacts with CNAPS through a vendor, BRIDGE system for payment/collection messages.

The following diagram illustrates this:



The process flow is as follows:

1. Oracle FLEXCUBE interacts with the BRIDGE System through the MQ.
2. The CNAPS interacts with the BRIDGE System through the MBFE (Merchant Bank Front End).
3. The BRIDGE System is connected to Oracle FLEXCUBE via two message queues, HVPS and BEPS.
4. One Queue is used for High Value Payment System (HVPS) messages. The messages are transferred Real time (STP) using SWIFT format.
5. The next queue is used for Bulk entry Payment System (BEPS) Messages. The message will be transferred Real time (STP) using a specific format.

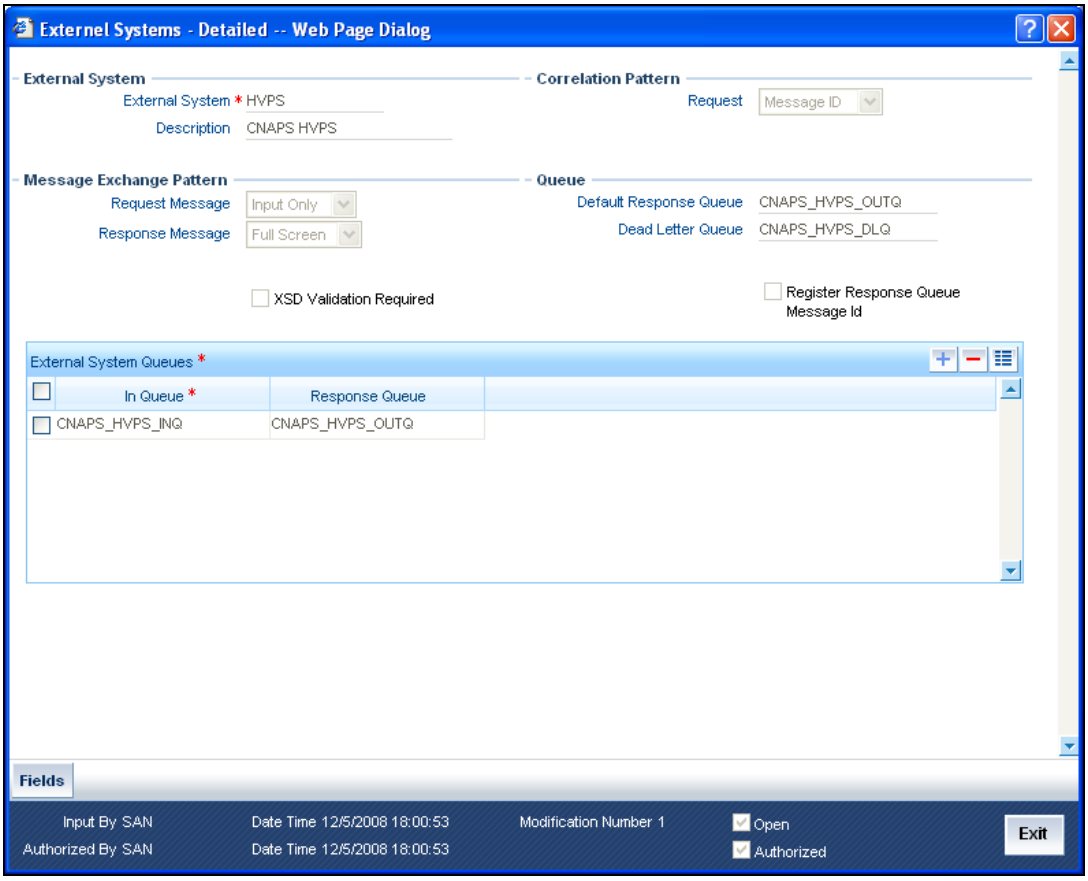
6. In case of the failure of MQ between FLEXCUBE and BRIDGE there is a provision at the BRIDGE side for the Manual upload of the message files.
7. All the Limit checks and cut-off times are maintained in FLEXCUBE.
8. Straight through Processing (STP) is terminated if the validation rules are not matched.
9. There is a cut-off time for HVPS and BEPS it is 4:00 PM and 5:00 PM respectively in the CNAPS but it is half an hour ahead of time in BRIDGE System. That is 3:30 PM and 4:30 PM.
10. In BEPS the concept of Bulk is of Multiple debit or credit to a single account.

2.3 Maintenances for CNAPS Interface

The various maintenances required for CNAPS Interface are mentioned below.

2.3.1 Maintaining External Systems

You should define the external systems (CNAPS HVPS/CNAPS BEPS) that will communicate with the Oracle FLEXCUBE Integration Gateway using 'External Systems Detailed' screen. You can invoke this screen by typing '**GWDEXSYS**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

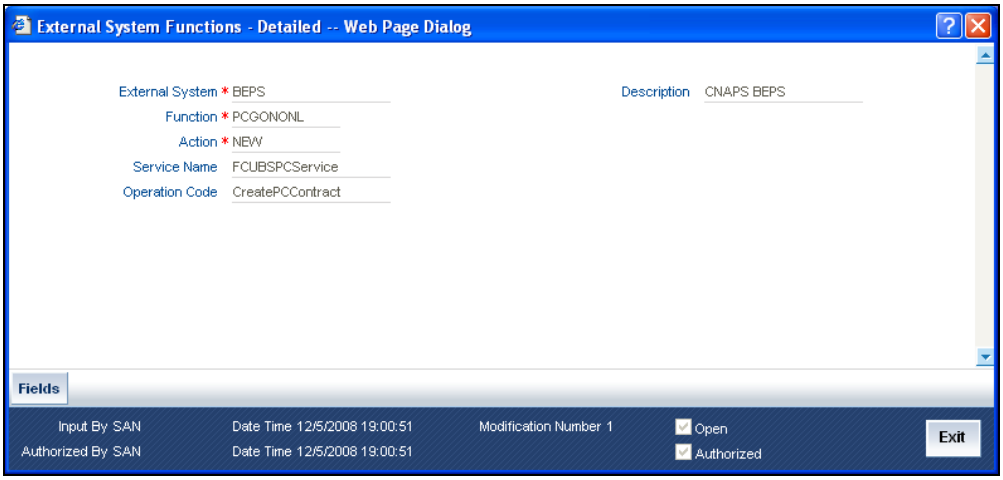


For more details on the this screen, refer to the section, 'Defining an External System' in the chapter, 'External System Maintenance' of the 'Gateway' User Manual.

2.3.2 Maintaining External System Functions

You should define access rights to the external systems (CNAPS HVPS/CNAPS BEPS) using 'External Systems Functions Detailed' screen.

You can invoke this screen by typing '**GWDEXFUN**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

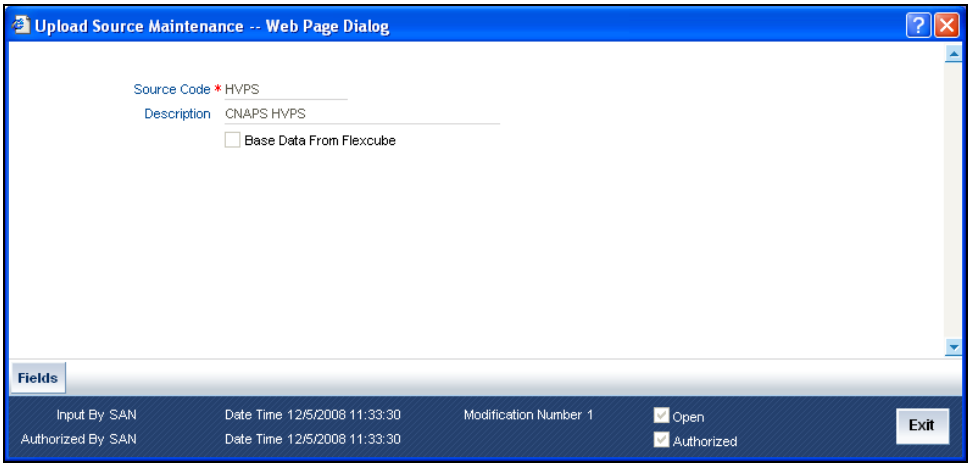


For more details on the this screen, refer to the section, 'Defining Access Rights to an External System' in the chapter, 'External System Maintenance' of the 'Gateway' User Manual.

2.3.3 Maintaining Upload Source

You should maintain the details of the Upload Source (CNAPS HVPS/CNAPS BEPS) in the 'Upload Source Maintenance' screen.

You can invoke this screen by typing '**CODSORCE**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

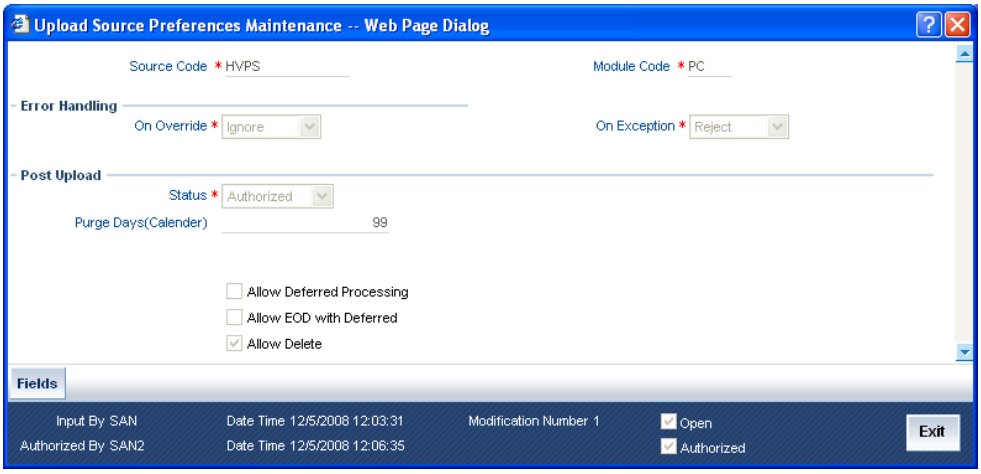


In the above screen you can maintain the Source Code – HVPS/BEPS and the brief description of the source.

2.3.4 Maintaining Upload Source Preferences

You should the preferences for the External System (CNAPS HVPS/CNAPS BEPS) using 'Upload Source Preferences Maintenance' screen.

You can invoke this screen by typing '**CODUPLDM**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

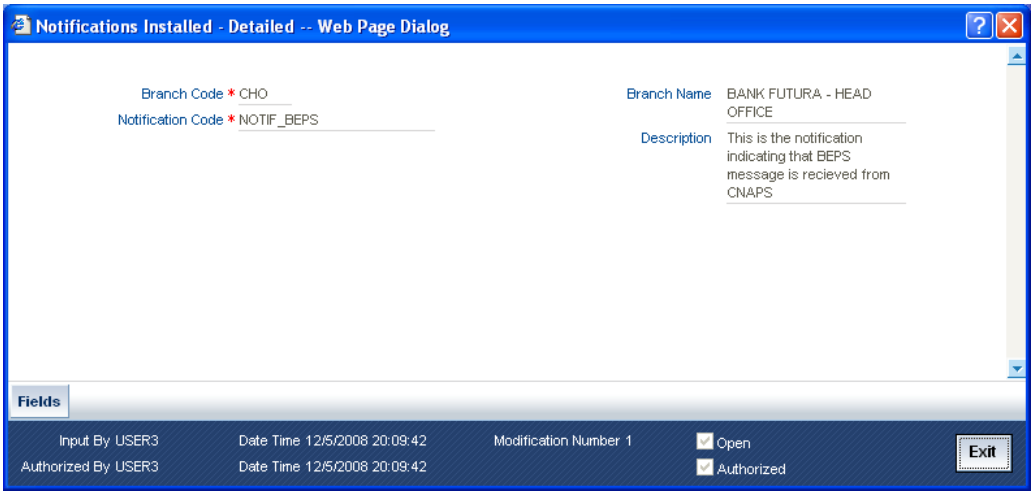


For more details on the this screen, refer to the section, 'Specifying Source Preferences' in the chapter, 'Switch Interface Gateway' of the 'IF_SWITCH' User Manual.

2.3.5 Maintaining Installed Notifications

You should maintain the details of the Installed notifications (CNAPS HVPS/CNAPS BEPS) in the 'Notifications Installed' screen..

You can invoke this screen by typing '**GWDNTFIN**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

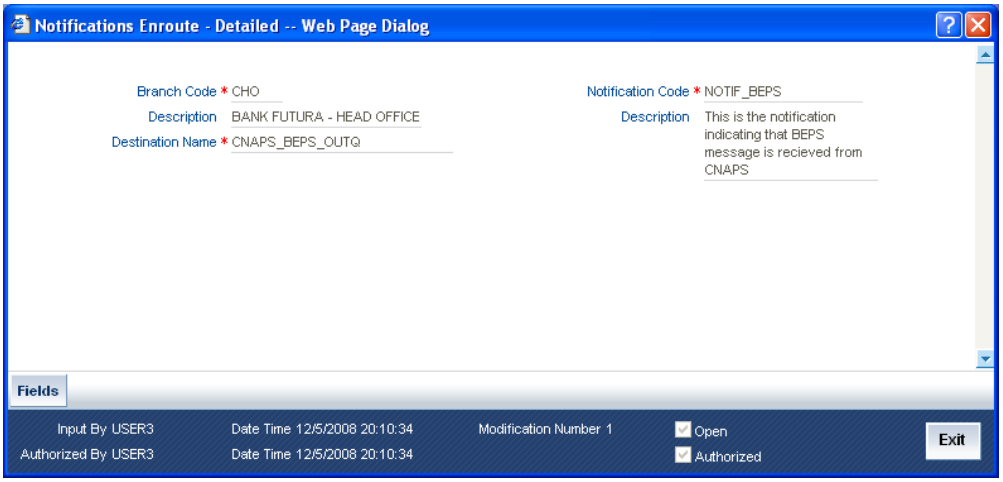


For more details on the this screen, refer to the section, 'Defining Notification Messages' in the chapter, 'External System Maintenance' of the 'Gateway' User Manual.

2.3.6 Maintaining Notifications Enroute

You should maintain the details of the notifications enroute (CNAPS HVPS/CNAPS BEPS) in the 'Notifications Enroute Detailed' screen.

You can invoke this screen by typing '**GWDNTFEN**' in the field at the top right corner of the Application tool bar and clicking on the adjoining arrow button.

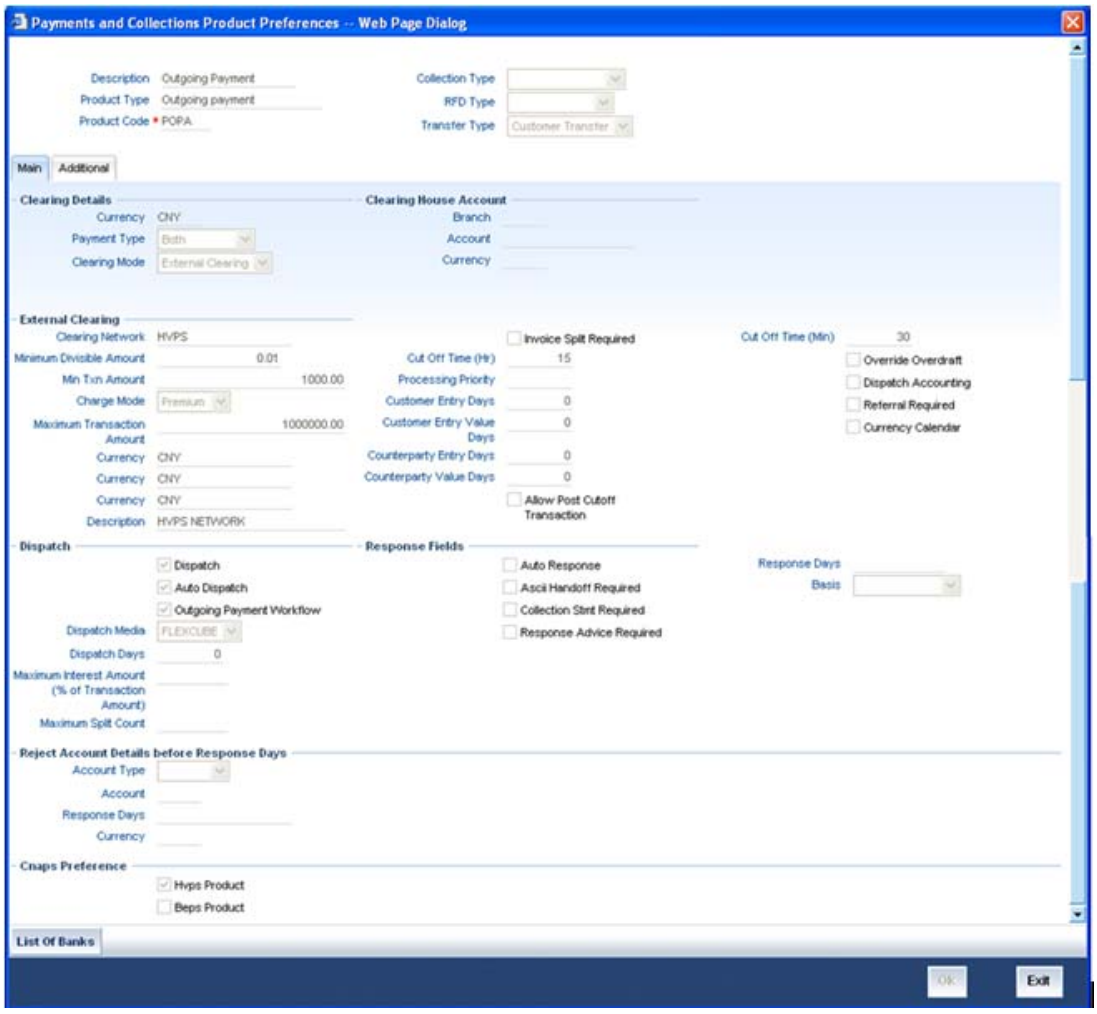


For more details on the this screen, refer to the section, 'Defining the Notifications Enroute' in the chapter, 'External System Maintenance' of the 'Gateway' User Manual.

2.3.7 Specifying Preferences for a Product

Preferences are the options available to you for defining the attributes of a product. The options you choose, ultimately, shape the product. For example, you can specify the cutoff time, entry dates, re dispatch dates and response days for transactions processed under a product. This specification will apply to all transactions processed under the product. You can invoke the 'Payment and Collection Product Preferences' screen by clicking 'Preferences' button in the 'Payments and collections Product Definition' screen.

The screen is displayed below:



For more information on this screen refer to the section, 'Specifying Preferences for a Product' in the chapter entitled, 'Defining Attributes Specific to Payments and Collections Products' of the PC module.

2.4 Processing for HVPS messages

1. HVPS messages are in Swift format.
2. The field, HVPS Product in the PC Product Preferences screen is used to identify the products requiring HVPS support.
3. BRIDGE puts the incoming messages into the Oracle Flexcube incoming queue.
4. Oracle Flexcube services picks up the message from queue.
5. The system then validates the message. If the message validation is successful, then ACK1 is sent .In case of a failure NAK1 is sent. ACK1/NAK1 only validates the field format of the message.
6. System puts ACK1/NAK1 in the outgoing messages table. Oracle Flexcube services picks the message and puts it into OUT queue.

7. After validation, if ACK1 is generated successfully then message will be processed. Alternatively, message can be generated from the incoming messages browser screen.
8. After successful processing and authorization of message, system sends ACK-2. In case of failure, system sends a NAK-2. Oracle Flexcube services puts the ACK-2/NAK-2 message into OUT queue.
9. Outgoing messages are generated on authorization of PC contracts.(As part of DCLG event)
10. Once the contract is authorized and outgoing message is generated the same is picked by the Oracle Flexcube Gateway notification service. Oracle Flexcube services picks up the same and puts it into OUT queue. The external system picks up the message from the OUT queue.
11. If the message format is valid then the external system sends ACK1, and once the message is successfully cleared by the external system's clearing network, Oracle Flexcube receives the ACK2. Once ACK1/ACK2 is received, system updates the contract status. (Ack_staus of pctb_contract _master table).
12. In case the message is received after a specified cut-off time, the same needs to be processed on the next working day. This is identified using CUTOFF_HR and CUTOFF_MIN fields in PC product preferences screen.
13. The minimum and maximum limit for a HVPS transaction can be specified using Min and maximum transaction amount in the PC product preferences screen. In case a transaction is above/below the limit the same will be rejected.

2.5 Processing for BEPS messages

14. BEPS is a 2-line message (one line for Header and one line for data) which is in a non-swift format.
15. The field, BEPS Product in the PC Product Preferences screen is used to identify the products requiring BEPS message uniquely.
16. All outgoing and incoming messages are individual.
17. Oracle Flexcube puts bulk messages into OUT queue.
18. BRIDGE puts the incoming messages into the Oracle Flexcube incoming queue.Oracle Flexcube services picks up the message from queue.
19. Then system validates the message. If the message validation is successful, then ACK1 is sent. In case of a failure NAK1 is sent. ACK1/NAK1 only validates the field format of the message.
20. System puts ACK1/NAK1 in the outgoing messages table. Oracle Flexcube services picks the message and puts it into OUT queue.
21. After validation, if ACK1 is generated successfully then message will be processed. Alternatively, message can be generated from the incoming messages browser screen.
22. After successful processing and authorization of message, system sends ACK-2. In case of failure, system sends a NAK-2. Oracle Flexcube services puts the ACK-2/NAK-2 message into OUT queue.

23. Outgoing messages are generated on authorization of PC contracts.(As part of DCLG event)
24. Once the contract is authorized and outgoing message is generated the same is picked by the Oracle Flexcube Gateway notification service. Oracle Flexcube services picks up the same and puts it into OUT queue. The external system picks up the message from the OUT queue.
25. If the message format is valid then the external system will send ACK1, and once the message is successfully cleared by the external system's clearing network, Oracle Flexcube receives the ACK2. Once ACK1/ACK2 is received, system will update the contract status. (Ack_staus of pctb_contract _master table).
26. In case the message is received after a specified cut-off time, the same needs to be processed on the next working day. This will be identified using CUTOFF_HR and CUTOFF_MIN fields in PC product preferences screen.
27. The minimum and maximum limit for a BEPS transaction can be specified using Min and maximum transaction amount in the PC product preferences screen. In case a transaction is above/below the limit the same will be rejected.
28. Oracle Flexcube Gateway notifications are used to generate ACK/NAK.

2.5.1 Incoming HVPS/BEPS ACK/NACK Message Status

Following are the status of HVPS/BEPS incoming ACK/NACK message of ACK_STATUS in PCTB_CONTARCT_MASTER table.

- ACK1 - PCTB_CONTRACT_MASTER ACK_STATUS = 'A'
- ACK2 - PCTB_CONTRACT_MASTER ACK_STATUS = 'B'
- NAK1 - PCTB_CONTRACT_MASTER ACK_STATUS = 'N'
- NAK2 - PCTB_CONTRACT_MASTER ACK_STATUS = 'C'

The status is updated when same ACK/NACK is uploaded. However, it has no financial implications and there is no reversal of these status for the PC contract.

The status is updated even when multiple ACK/NACK messages for the same contract reference number are sent. However, there is no financial impact on outgoing message.

ACK/NACK incoming message is not processed in case the contract reference number is incorrect. Also, no error message is sent to Bridge.

The formats of incoming ACK/NACK messages are same as that of outgoing messages.

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