

Switch Interface Gateway User Guide

Oracle FLEXCUBE Universal Banking

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Switch Interface Gateway User Guide
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Contents

1. Preface	1-1
1.1 Introduction	1-1
1.2 Audience	1-1
1.3 Documentation Accessibility	1-1
1.4 Abbreviations	1-2
1.5 Organization	1-2
1.6 Related Documents	1-3
1.7 Glossary of Icons	1-3
2. Switch Interface Gateway	2-1
2.1 Introduction	2-1
2.2 Interface Functionalities	2-1
2.2.1 ATM Transactions	2-1
2.2.2 Point Of Sale Transactions	2-3
2.2.3 IVR Transactions	2-4
2.3 Gateway Maintenance for Switch Interface	2-4
2.3.1 Maintaining Upload Source	2-5
2.3.2 Maintaining FLEXSWITCH External System	2-5
2.3.3 Specifying External System Functions	2-7
2.3.4 Specifying Source Preferences	2-7
2.4 Switch Interface Maintenance	2-8
2.4.1 Defining Currency for Currency Code Conversion	2-8
2.4.2 Maintaining Card Transaction Limits	2-9
2.4.3 ATM/Debit Card Mapping for Card Account Number Conversion	2-10
2.4.4 Maintaining Channel Details	2-13
2.4.5 Maintaining Process Code Mapping Details	2-13
2.4.6 Maintaining Network Details	2-15
2.4.7 Maintaining Merchant Details	2-16
2.4.8 Maintaining Terminal Details	2-17
2.4.9 Maintaining Utility Provider Details	2-18
2.4.10 Maintaining Product Types for Product Derivation	2-19
2.4.11 Showing Amount Block Transactions in Account Statements	2-20
2.4.12 Modifying a Product Preferences Screen	2-21
2.4.13 Maintaining Charges for Non-financial Transactions	2-22
2.4.14 ARC Maintenance	2-23
2.4.15 Service Charges for Inter-branch Transactions	2-24
2.4.16 Forwarding Institution ID Details	2-25
2.4.17 Viewing Forwarding Institution ID	2-26
2.4.18 Uploading Forwarding Institution ID	2-27
2.5 Batch Processes	2-28
2.5.1 Maintaining Batches for Batch Operations	2-28
2.5.2 Settlement Upload	2-28
2.5.3 Intra Day Batch	2-29
2.5.4 Viewing Transaction Monitor	2-31
2.6 Uploading Cards	2-31

2.7	Uploading Terminal ID.....	2-33
2.8	Processing ATM Cash Deposits.....	2-33
3.	Annexure A	3-1
3.1	Switch Software and Card Transactions Business.....	3-1
3.2	ISO8583 Protocol Overview	3-1
3.3	Switch Transaction Categories.....	3-2
3.4	Accounting Entries – ATM Transactions	3-2
3.4.1	<i>Accounting Entries for Cash Withdrawal Transactions.....</i>	3-2
3.4.2	<i>Accounting Entries for Balance Enquiry</i>	3-3
3.4.3	<i>Accounting Entries for Deposit</i>	3-4
3.4.4	<i>Accounting Entries for Funds Transfer</i>	3-5
3.5	Accounting Entries - POS Purchase.....	3-5
3.6	Balance Handoff File Formats	3-8
3.7	Network Settlement Message Format	3-8
3.8	Merchant Settlement File Format	3-10
3.9	Maintaining SWTB_PARAM Table	3-11
4.	Function ID Glossary	4-1

1. Preface

1.1 Introduction

This manual talks about the interface between Oracle FLEXCUBE and the Switch software system used in your bank. The maintenances required for the proper functioning of this interface, the interface workflow, validations, and processing for the interface have been documented in this manual.

1.2 Audience

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

Role	Function
Back office data entry Clerks	Input functions for maintenance related to the interface
Back office Managers/ Officers	Authorization functions

1.3 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

1.4 Abbreviations

Abbreviation	Description
System	Unless specified, it shall always refer to Oracle FLEXCUBE
CCY	Currency
SWITCH	Switch Software
BIN	Bank Identification Number
IMD	International Member Descriptor
OLTP	Online Transaction Processing
ATM	Automatic Teller Machine
POS	Point Of Sale
ISO	International Organization for Standardization
CMS	Card Management System
STAN	System Trace Audit Number
RRN	Retrieval Reference Number
Acquirer	Bank that deploys ATM/POS for acquiring transactions
Issuer	Bank that issues Cards to facilitate the Transactions
IC	Interest and Charges – Oracle FLEXCUBE module
EOC	End of Cycle
EOD	End of Day
SAF	Store and Forward
Msg	Message
MTI	Message Type Indicator
PAN	Primary Account Number
IVR	Interactive Voice Response

1.5 Organization

This manual is organized into the following chapters:

Chapter 1	<i>About this Manual</i> gives information on the intended audience. It also lists the various chapters covered in this User Manual.
Chapter 2	<i>Switch Interface Gateway</i> - helps in processing both Financial and Non-Financial Transactions.
Chapter 3	<i>Annexure A</i> – briefs the account of the Switch software domain and the components in a Cards Transactions Business network.

Chapter 4	<i>Function ID Glossary</i> has alphabetical listing of Function/Screen ID's used in the module with page references for quick navigation.
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1.6 Related Documents

You may refer the following manuals for more information

- User Manual of the Switch System installed in your Bank (This User manual is not included in Oracle FLEXCUBE Manuals)
- ISO documentation on ISO8583 protocol (This manual is not included in Oracle FLEXCUBE User Manuals)

1.7 Glossary of Icons

This User Manual may refer to all or some of the following icons:

Icons	Function
	Exit
	Add row
	Delete row
	Option List

Refer the Procedures User Manual for further details about the icons.

2. Switch Interface Gateway

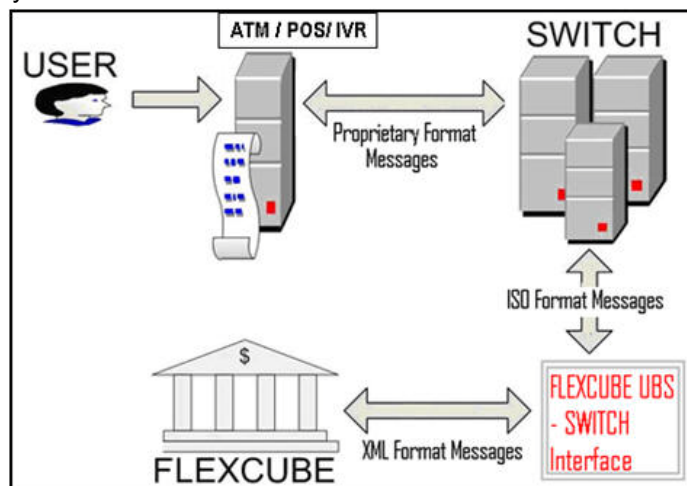
2.1 Introduction

Oracle FLEXCUBE Switch Interface helps in processing both Financial and Non-Financial Transactions. The interface helps in first validating each transaction request against the Oracle FLEXCUBE database and then posting the transactions into the system.

The interface with Switch software system supports Automatic Teller Machine (ATM) and Point Of Sale (POS) transactions originating from bank terminals or from Interchanges such as VISA or MasterCard. Switch Interface also supports Interactive Voice Response (IVR) transactions. The interface functionality includes the following:

- Interface with support for ISO 1987/1993/2003 protocols
- Authorization and posting of Switch/IVR transactions into Oracle FLEXCUBE

The following diagram illustrates the flow of messages via the Oracle FLEXCUBE – Switch system interface.



2.2 Interface Functionalities

Following are the functionalities of the Oracle FLEXCUBE – Switch system interface.

2.2.1 ATM Transactions

The following functionalities are with respect to ATM transactions. This section describes all Transactions required for Switch interface and expected accounting entries.

2.2.1.1 Cash Withdrawal

During a Cash Withdrawal transaction the product is determined and the preferences are checked for processing. Amount blocking or account posting is done depending upon the class of the message. Amount blocking will include all the charge components also (for Online and Issuer). The balance amount is recorded after amount posting is done.

Refer the Annexure chapter for the corresponding accounting entries.

2.2.1.2 Balance Enquiry

This facility produces a quote of the Account Balance for a given account. The following balances are provided:

- Ledger balance
- Available balance
- Unclear balance

You can select the 'Include OD limit' option when showing balance.

Refer the Annexure chapter for the corresponding accounting entries.

2.2.1.3 Mini Statement Enquiry

The interface facilitates the enquiry for Mini Statements. You can specify number of rows/the period for which the statement is to be generated.

The statement can have the following columns:

- Originating Branch Code
- Transaction Literal
- Transaction Amount Sign
- Transaction Amount
- Flag Dr/Cr
- Value Date
- Transmission Date
- Transaction Reference Number

The accounting entries are the same as those for Balance Enquiry

2.2.1.4 Deposit

The system can automatically select the product based on the check or cash deposit. In case of cash deposits the system checks whether immediate accounting or posting is required or whether it is to be only logged.

Refer the Annexure chapter for the corresponding accounting entries.

2.2.1.5 Funds Transfer

This facility is used when a customer initiates a Fund Transfer between his accounts or to another customer's account. The Switch system will send both Account numbers in ISO messages.

Refer the Annexure chapter for the corresponding accounting entries.

2.2.1.6 Utility Payments

This facility helps in making payments into a Utility Provider's account.

Accounting entries are same as that of Fund Transfer.

2.2.1.7 Ad-Hoc Statement Generation Request

Here the customer requests a Statement through the ATM. This request is reaches the Switch interface at the bank where is passed to the Oracle FLEXCUBE system. Oracle FLEXCUBE system will generate Book Dated statements by default. The period for which the statement is required can be specified.

Accounting entries are same as that of Balance Enquiry.

2.2.1.8 Cheque Book Issue

The customer requests a Cheque Book via the ATM, thereby informing the bank. This request is sent to the Oracle FLEXCUBE system via the interface. The number for cheque leaves can be specified. The cheque numbers are automatically generated.

Accounting entries are same as those for Balance Enquiry.

Note

ATM transaction data will be handed-off to Mantas for the branch as per the Mantas maintenance. Transactions whose value date is same as the branch EOD date is extracted for Mantas hand off. Transactions whose status is other than 'Success or Reversed' will not be handed off to Mantas.

2.2.2 Point Of Sale Transactions

The following are the facilities provided for Point Of Sale (POS) Transactions.

2.2.2.1 POS Purchase

The customer initiates a normal purchase at Merchants POS Terminal. This purchase request reaches Oracle FLEXCUBE via the Switch interface. Based on the purchase a product is identified and the preferences are considered. Depending upon the message class, either amount blocking or account posting is done. Amount blocking will include all the charge components. The account balance is recorded after the amounts are posted.

Refer the Annexure chapter for the corresponding accounting entries.

2.2.2.2 Cash Advance

For cash advances the Oracle FLEXCUBE product is derived at and the preferences are checked for processing. Depending upon the message class, either amount blocking or account posting is done. Amount blocking will include all the charge components. The account balance is recorded after the amounts are posted.

Accounting entries are same as that of POS purchase.

2.2.2.3 Refund

Accounting entries are similar to those of Cash Deposit.

2.2.2.4 Adjustments

The Adjustments facility corresponds to Partial Reversals in ATM, the difference being that Cr Adjustments are also possible.

Accounting entries are same as that of POS purchase.

2.2.2.5 Pre-auth-Completion

Pre-auth completion involves removing amount block.

Accounting entries are similar to those of POS purchase.

Note

Point of Sale (POS) transaction data will be handed-off to Mantas for the branch as per the Mantas maintenance. Transactions whose value date is same as the branch EOD date is extracted for mantas hand off. Transactions whose status is other than 'Success or Reversed' will not be handed off to Mantas.

2.2.3 IVR Transactions

The following transactions are supported by IVR:

- Balance Enquiry
- Mini Statement Enquiry
- Ad-Hoc Statement Generation Request
- Cheque Book Issue
- Funds Transfer
- Utility Payments

Note

IVR transaction data will be handed-off to Mantas for the branch as per the Mantas maintenance. Transactions whose value date is same as the branch EOD date is extracted for Mantas hand off. Transactions whose status is other than 'Success or Reversed' will not be handed off to Mantas.

2.3 Gateway Maintenance for Switch Interface

The following are the interface gateway maintenances done for setting up the Switch Interface Gateway.

2.3.1 Maintaining Upload Source

The Upload Source is maintained in the 'Upload Source Maintenance' screen. You can invoke the 'Upload Source Maintenance' screen by typing 'CODSORCE' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows the 'Upload Source Definition' window. The 'Source Code' field is populated with 'FLEXSWITCH'. The 'Description' field contains 'Base Data From FLEXCUBE'. The 'Base Data From FLEXCUBE' checkbox is checked, while 'System Authorization Required' is unchecked. The bottom section shows a table with columns for 'Input By Date Time', 'Authorized By Date Time', and 'Modification Number'. The 'Modification Number' column includes checkboxes for 'Authorized' and 'Open'.

In the above screen the Source Code – FLEXSWITCH – and the brief description of the source are maintained.

2.3.2 Maintaining FLEXSWITCH External System

The FLEXSWITCH external system is maintained in the 'External System - Detailed' screen. Here you can maintain the Correlation pattern, Message pattern, and Queue names for the external system i.e. FLEXSWITCH.

You can invoke the 'External System - Detailed' screen by typing 'GWDEXSYS' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

You must specify the following in the above screen.

External System and Description

Specify the External System as 'FLEXSWITCH'. You may optionally give a brief description of the External System too.

Correlation Pattern - Request

Select and set 'Correlation ID' against this field.

Message Exchange Pattern – Request Message

Select 'Input only' from the adjoining drop-down list.

Message Exchange Pattern – Response Message

Select 'Full screen' from the adjoining drop-down list.

Default Response Queue

Specify the default response queue as 'SW_MDB_QUEUE_RESPONSE'.

Dead Letter Queue

Specify the dead letter queue as 'MDB_QEUEU_DLQ'.

XSD Validation Required

Select this checkbox if the request xml and response xml has to be validated against the XSD.

Register Response Queue Message Id

Select this checkbox to register the response queue message Id.

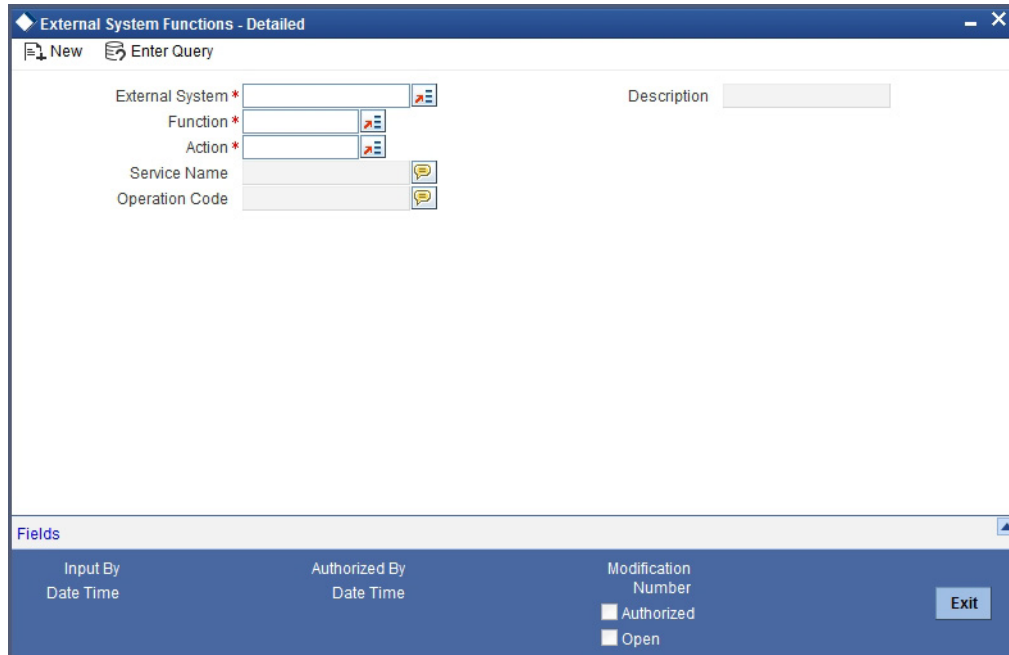
External System Queues

Give the External IN-QUEUE and RESPONSE-QUEUE for Switch.

2.3.3 Specifying External System Functions

You can specify the external system's functions in the 'External System Functions – Detailed' screen. Here you can maintain Function ID, Action, Service name and Operation code for the Switch Interface Gateway External system.

You can invoke the 'External System Functions – Detailed' screen by typing 'GWDEXFUN' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



External System

Select the External system – FLEXSWITCH – from the list of options available.

Function

Select the Function id from list.

Once you have entered the above details the following fields are filled automatically:

- Action
- Service Name
- Operation Code

2.3.4 Specifying Source Preferences

You can set the preferences for the External system in the 'Upload Source Preferences Maintenance' screen. You can invoke the 'Upload Source Preferences Maintenance' screen by typing 'CODUPLDM' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

Source Code

Select Source Code - FLEXSWITCH - from the list.

Module Code

Select Module Code from the list of options.

On Override

Select 'Ignore' to ignore error handling overrides.

On Exception

Select 'Reject' to reject error handling exceptions.

Post Upload Status

Select 'Authorized' for the uploads to be automatically authorized on completion of the upload process.

Leave the following check boxes cleared:

- Allow Deferred Processing
- Allow EOD with Deferred
- Allow Delete

2.4 Switch Interface Maintenance

You must perform the following maintenances for the Oracle FLEXCUBE – Switch system interface.

2.4.1 Defining Currency for Currency Code Conversion

ISO numeric currency codes are converted into Oracle FLEXCUBE's alpha numeric currency code. The definition for the conversion is maintained against the 'ISO Numeric Currency Code' field in the Currency Definition screen as shown below.

You can invoke the 'Currency Definition' screen by typing 'CYDCDEFN' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

2.4.2 Maintaining Card Transaction Limits

You can maintain card and currency wise transaction limits here. You can invoke this screen by typing 'SWDCDTLM' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

Specify the following:

Card Type

Specify the type of card.

Card Description

Give a brief description about the type of card.

Limit Details

Currency Code

Select the currency code from the adjoining option list.

ATM Daily Transaction Limit

Specify the daily transaction limit of the ATM.

ATM Per Transaction Limit

Specify the per transaction limit of the ATM. If the transaction limit is zero, then there is no limit validation.

ATM Daily Count Limit

Specify the daily count limit of the ATM. If the transaction limit is zero, then there is no limit validation.

POS Daily Limit

Specify the daily limit of POS. If the transaction limit is zero, then there is no limit validation.

POS Per Transaction Limit

Specify the per transaction limit of POS. If the transaction limit is zero, then there is no limit validation.

POS Daily Count Limit

Specify the daily count limit of POS. If the transaction limit is zero, then there is no limit validation.

The system changes the card status to 'Activated' while using card and auto creates card to FCC account mapping while authorizing the card master. After authorisation, the system links the cards maintained in 'SWDCDMNT', which is for card to account mapping and updates the limits in card limit maintenance 'SWDCDTLM'.

2.4.3 ATM/Debit Card Mapping for Card Account Number Conversion

The interface facilitates conversion of ATM Card Number and Card Account Number to Oracle FLEXCUBE's alphanumeric account number. For this facility you must map the card account numbers to Oracle FLEXCUBE account numbers. This mapping can be done in the 'Debit Card Oracle FLEXCUBE Account Mapping' screen. Upload will be provided for this date tends to be in bulk and banks will prefer to maintain it using handoffs.

You can invoke the 'ATM/Debit Card FCC Account Mapping' screen by typing 'SWDCDMNT' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

You must maintain the following mandatory fields in the above screen.

Card Number and Card Account Number

Specify the card number and the card account number here. This must be a unique combination. The Card Account Number is mandatory only when the transaction account is the Card Account and not the account maintained in Oracle FLEXCUBE.

Branch

Specify the card issuer branch from the list of options available alongside.

Account Number

From the list of options available alongside, specify the Oracle FLEXCUBE account number for which the card has been issued.

Customer Name

The system displays the name of the customer.

Currency

The system displays the currency of the account.

Card Type

The system displays the card type based on the Account currency maintained in the 'Card Transaction Limits' maintenance screen.

Limit Applicability

Select the limit applicability from the adjoining drop-down list. The values available are:

- Default - On choosing Default, the system defaults the daily limit for ATM/POS maintained at Card Transaction limit level.
- Special - On choosing Special, system allows to enter the daily limits for ATM/POS manually.

Limits

ATM Daily Transaction Limit

Specify the daily transaction limit of the ATM with currency as branch currency.

ATM Daily Count Limit

Specify the daily count limit of the ATM.

POS Daily Transaction Limit

Specify the daily transaction limit of the POS with currency as branch currency.

POS Daily Count Limit

Specify the daily count limit of the POS.

Note

CASA account closure is validated if any active card mapping exists in the card to account mapping screen

Utilization

ATM Utilized Limit

The system defaults the utilized limit when ATM Cash withdrawal transaction is posted.

ATM Utilized Count

The system displays the utilized count when the ATM cash withdrawal transaction is posted

POS Utilized Limit

The system displays the utilized count when the POS transaction is posted.

POS Utilized Count

The system displays the utilized count when the POS transaction is posted.

The above limits are updated for both ON-US and Remote ON-US transactions

When any of the ATM/POS transaction is reversed respective utilized limit/count will also be updated accordingly.

Note

If Daily transaction limit is lesser than the per transaction limit for both ATM/POS, then the system throws an appropriate error.

2.4.4 Maintaining Channel Details

You can define channel names using 'Channel Details' screen. You can invoke this screen by typing 'SWDCHNID' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows a software window titled "Channel Details". At the top, there is a toolbar with "New" and "Enter Query" buttons. Below the toolbar, the main area is titled "Channel Details" and contains two input fields: "Channel *" and "Description". The bottom of the window is a dark blue footer with several labels: "Maker", "Checker", "Mod No", "Date Time:", "Record Status", and "Authorization Status". An "Exit" button is located in the bottom right corner of the footer.

Specify the following details here:

Channel

Specify the channels like ATM/IVR/POS and ALL. These channels are factory shipped.

Description

Enter a brief description about channels.

2.4.5 Maintaining Process Code Mapping Details

All transaction requests from the switch system are conveyed in ISO transaction codes. These are resolved into corresponding specific transactions in Oracle FLEXCUBE. For this you must maintain the ISO transaction code and its corresponding Oracle FLEXCUBE transaction literal in the 'Process Code Mapping Details' maintenance screen.

Create and maintain process code types for all Oracle FLEXCUBE literals in the 'Process Code Mapping Details' screen. You can invoke the 'Process Code Mapping Details' screen

by typing 'SWDFCLTL' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows the 'Process Code Mapping Details' application window. It includes a toolbar with 'New' and 'Enter Query' buttons. The 'Details' section contains four text input fields: 'Process Code Type *', 'FLEXCUBE Literal *', 'External Transaction Code', and 'Description'. The 'Channel Details' section features a table with one row and one column, and a 'Go' button. At the bottom of the window is a status bar with fields for 'Maker', 'Checker', 'Mod No', 'Date Time:', 'Record Status', and 'Authorization Status', along with an 'Exit' button.

Specify the following details here.

Oracle FLEXCUBE Literal

Select the Oracle FLEXCUBE literal from the drop-down list available alongside. This is a mandatory field. You can enter additional information in the editor that is displayed on clicking the adjoining icon.

Process Code Type

Specify the first two characters from the ISO process code here. It is a two-digit unique number. This is a mandatory field.

Channel

Specify a channel that should be used. The adjoining option list displays all valid channels maintained in the system. You can choose the appropriate one.

External Transaction Code

Specify the external transaction code here. This is an optional field.

Description

Optionally you can specify a brief description of your maintenance here.

When a Remote On-Us transaction happens, the product code is derived based on the type of transaction and the network. Accounting entries will be passed based on the product.

You can allow the bank to debit or credit different GLs/Accounts based on the network and settlement types of the transaction performed on the ATM. Following are the settlement type:

- Cash Withdrawal
- Fund Transfer
- Cash Deposit
- Payment
- Debit Purchase

You can associate different Retail teller product to different networks. Follow the below mentioned steps to allow the bank to debit or credit different GLs/Accounts:

1. Map the Oracle FLEXCUBE literal to the processing code of the ATM transaction. The literal basically specifies the type of transaction, for example Cash withdrawal, Funds Transfer and so on.
2. Do network for various networks in the networks maintenance screen.
3. In the product network maintenance, maintain the RT product to be used for each of the network and settlement types (Literals)

2.4.6 Maintaining Network Details

For every network interacting with the SWITCH system, you need to maintain the Network, Issuers and Acquirer details. This maintenance is done in the 'Network Details' screen as shown below.

You can invoke the 'Network Details' screen by typing 'SWDNWDET' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows the 'Network Details' application window. At the top, there are buttons for 'New' and 'Enter Query'. The main area contains several input fields: 'Network Id *', 'Description', 'Account Number *', and 'Account Branch'. Below these are two table-like sections: 'Acquirer Details' and 'Issuer Details'. Each section has a header row with 'Acquirer BIN *' and 'Acquirer Description' (or 'Issuer BIN *' and 'Issuer Description') and a data row. At the bottom, there are fields for 'Input By', 'Date Time', 'Authorized By', 'Date Time', and 'Modification Number'. There are also checkboxes for 'Authorized' and 'Open'.

Network ID

Specify the Network Id of the card issuing agency here. This is a mandatory field.

Account Number and Account Branch

Specify the Account Number from the list of options available alongside each field. This account number – a Nostro account – belongs to the specify Network Id. This is used to post entries when the corresponding network is involved in the transaction. It is a mandatory field. Depending on the Account Number selected, the corresponding Account Branch is displayed.

Issuer and Acquirer Details

Acquirer is the Bank that owns the ATM and POS terminals and offer access to card holders from their own and also other banks. Issuer is the Bank that issues the Card to account holders and authorizes/posts transactions.

You must maintain the Issuer and Acquirer Banks for the network here. Specify the BIN (Bank Identification Number) alias IMD (International Member Descriptor) to identify the Acquirer and Issuer. You may also specify a description for each.

When a Remote On-Us transaction happens, the product code is derived based on the type of transaction and the network. Accounting entries will be passed based on the product.

You can allow the bank to debit or credit different GLs/Accounts based on the network and settlement types of the transaction performed on the ATM. Following are the settlement type:

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- Payment
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1. Map the Oracle FLEXCUBE literal to the processing code of the ATM transaction. The literal basically specifies the type of transaction, for example Cash withdrawal, Funds Transfer and so on.
2. Do network for various networks in the networks maintenance screen.
3. In the product network maintenance, maintain the RT product to be used for each of the network and settlement types (Literals)

2.4.7 Maintaining Merchant Details

You may have various POS machines at different locations, each having their own Merchant Details. For facilitating POS transaction you must maintain the Merchant Details in the screen as shown below.

You can invoke the 'Merchant Details' screen by typing 'SWDMRCID' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows a software window titled "Merchant Details". At the top left, there are two buttons: "New" and "Enter Query". The main area contains three input fields, each with an asterisk indicating it is required: "Merchant Id *", "Account Branch *", and "Account Number *". Each field has a small icon to its right. At the bottom of the window, there is a status bar with three columns: "Input By" with a "Date Time" field, "Authorized By" with a "Date Time" field, and "Modification Number" with a "Modification Number" field. Below the "Modification Number" field, there are two checkboxes: "Authorized" and "Open".

Merchant Id

Specify the Merchant ID of the POS machine here. This is mandatory.

Account Branch

Specify the related branch of the Merchant's account here. This is mandatory.

Account Number

Specify the Merchant's account number here. This is mandatory. This will be the Oracle FLEXCUBE account to which postings will be done.

2.4.8 Maintaining Terminal Details

You must maintain Terminal Details such as the Originating branch, Cash GL and Terminal ID for each ATM or POS Terminal. This is done in the 'Terminal Details' screen as shown below.

You can invoke the 'Terminal Details' screen by typing 'SWDTRMID' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows a software window titled "Terminal Details". At the top left, there are buttons for "New" and "Enter Query". The main area contains the following fields and controls:

- Terminal ID * (text input)
- Channel (text input)
- Originating Branch * (text input)
- Cash General Ledger Number (text input)
- Merchant ID (text input)
- Terminal Address (text input)
- Intelligent Deposit

At the bottom of the window, there are labels for "Maker", "Checker", "Mod No", "Date Time:", "Record Status", and "Authorization Status". An "Exit" button is located in the bottom right corner.

Terminal ID

Specify the unique terminal ID of the ATM machine/POS machine to uniquely identify them. This is mandatory.

Channel

Specify a channel that should be used. The adjoining option list displays all valid channels maintained in the system. You can choose the appropriate one.

Note

- If you select the channel as IVR, then you need to leave 'Intelligent Deposit' option unchecked.
 - If you select the channel as IVR, then the options 'Cash General Ledger number' and 'Merchant ID' should be blank.
-

Originating Branch

Specify the Originating Branch from the list of options given alongside. It is either the issuer branch of the POS or the ATM branch, as the case may be.

Cash GL Account

This field is enabled and is mandatory for ATM type terminals only. Specify the Cash GL Account form the adjoining list of options.

Merchant ID

This field is enabled and is mandatory for POS type terminals only. Specify the Merchant ID here.

Terminal Address

Specify the address of the terminal here.

Intelligent Deposits

This checkbox is valid only for ATM terminals. Select this checkbox to indicate the ATM provides Intelligent Deposits facility. In the Intelligent Deposits facility, accounting entries are done as soon as the customer makes the Deposit.

2.4.9 Maintaining Utility Provider Details

Maintain the details of a utility provider in the 'Utility Provider Details' screen. You can invoke the 'Utility Provider Details' screen by typing 'SWDUTLPR' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows a software window titled "Utility Provider Details". At the top, there is a toolbar with "New" and "Enter Query" buttons. The main content area contains four input fields with labels: "Utility Provider Id *", "Description", "Account Branch *", and "Account No *". The asterisks indicate mandatory fields. At the bottom of the window, there is a status bar with the following text: "Maker", "Checker", "Date Time:", "Mod No", "Record Status", "Authorization Status", and an "Exit" button.

Utility Provider Id

Specify the Utility Provider Id here.

Description

Specify a brief description of the utility provider here.

Account Branch

Specify the related branch of the Merchant's account here. This is mandatory.

Account Number

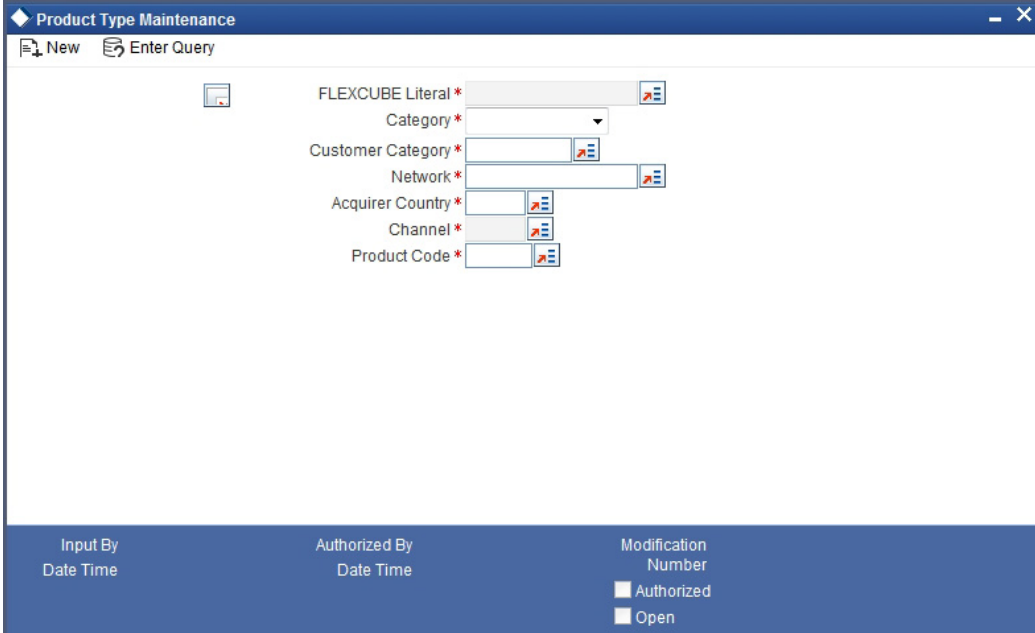
Specify the Merchant's account number here. This is mandatory. This will be the Oracle FLEXCUBE account to which postings will be done.

2.4.10 Maintaining Product Types for Product Derivation

Every transaction request from the switch system is assigned under a particular product type. This maintenance is done in the 'Product Type Maintenance' screen. Here, you can map products to Oracle FLEXCUBE literals.

For every transaction request the Oracle FLEXCUBE product is derived based on the Category, Oracle FLEXCUBE literal and the Customer Category.

You can invoke the 'Product Type Maintenance' screen by typing 'SWDPRMAP' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



The screenshot shows the 'Product Type Maintenance' application window. It features a toolbar with 'New' and 'Enter Query' buttons. The main area contains several mandatory fields (indicated by an asterisk): 'FLEXCUBE Literal *', 'Category *', 'Customer Category *', 'Network *', 'Acquirer Country *', 'Channel *', and 'Product Code *'. Each field has a small icon to its right. At the bottom, there are fields for 'Input By Date Time', 'Authorized By Date Time', and 'Modification Number'. There are also checkboxes for 'Authorized' and 'Open'.

You can specify the following details here.

Oracle FLEXCUBE Literal

Select a three digit literal from the list of options available alongside.

Category

Select the category of the transaction – On-Us, Off-Us or Remote-On-Us – from the list of options available alongside.

Customer Category

Select a customer category from the list of options available alongside.

Channel

Specify the channel that should be used for transaction. The adjoining option list displays all the channels maintained in the system.

Note

ATM, POS and IVR requests may come from the same port or from different ports based on the configuration done in the property file. If they are configured to arrive from different ports, then the channel is identified based on the port number. If they are configured to

arrive from the same port then the channel is identified as 'ALL'. It is also possible that some of the channels alone share a port.

Product Code

From the list of options available alongside, select the Oracle FLEXCUBE product code to be mapped to the specified literal.

Network

Select the network from the list of options available alongside.

Acquirer Country

Select the country of the acquirer from the list of options available alongside.

When a Remote On-Us transaction happens, the product code is derived based on the type of transaction and the network. Accounting entries will be passed based on the product.

You can allow the bank to debit or credit different GLs/Accounts based on the network and settlement types of the transaction performed on the ATM. Following are the settlement type:

- Cash Withdrawal
- Fund Transfer
- Cash Deposit
- Payment
- Debit Purchase

You can associate different Retail teller product to different networks. Follow the below mentioned steps to allow the bank to debit or credit different GLs/Accounts:

1. Map the Oracle FLEXCUBE literal to the processing code of the ATM transaction. The literal basically specifies the type of transaction, for example Cash withdrawal, Funds Transfer and so on.
2. Do network for various networks in the networks maintenance screen.
3. In the product network maintenance, maintain the RT product to be used for each of the network and settlement types (Literals)

2.4.11 Showing Amount Block Transactions in Account Statements

You can have any field from the transaction log included in the Customer Account statement generation. Additionally you can also choose to include transactions that resulted in amount blocks.

You can invoke the 'Amount Block Input' screen by typing 'CADAMBLK in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button. Click the new button on the Application toolbar.

Note

The system performs the action level access rights validation only on 'Save' operation.

The screenshot shows a software interface for entering amount block details. The window is titled "Amount Block Input" and includes a "New" button and an "Enter Query" button. The main content area is labeled "Account Block Details" and contains the following fields:

- Branch
- Account *
- Amount *
- Amount Block Type (dropdown menu, currently set to FLEXCUBE)
- Hold Code
- Amount Block Number *
- Effective Date
- Expiry Date
- Reference No
- Hold Description
- Remarks

At the bottom of the window, there is a "Fields" section with the following labels:

- Maker
- Checker
- Mod No
- Date Time:
- Record Status
- Authorization Status

An "Exit" button is located in the bottom right corner of the window.

Account Number

Specify the Oracle FLEXCUBE account number for blocking the amount. This field is mandatory.

Amount Block Number

Amount block number is unique and is created after the amount block creation.

Amount

Specify the Amount blocked. This field is mandatory.

Expiry Date

Specify the expiry date of the Amount Block.

Effective Date

Specify the date from which the Amount block is effective.

Amount Block

This list shows Switch, Oracle FLEXCUBE, and Pre-Auth. If the amount block is done via Switch, then it must be selected here.

Remark

Optionally you may add your remarks here.

2.4.12 Modifying a Product Preferences Screen

During the implementation of the Switch interface system you can use the following facility to modify the 'Preferences' screen for a product.

You can invoke the 'Retail Teller Product Preferences' screen by typing 'DEDRTPRM' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

◆ Preferences

Product Code *

Product Description

Transaction Limit *

Block Expiry Days

RD payments allowed

Cash GL Posting Allowed

Track Receivable

Reversal Includes Charges

Partial Reversal Allowed

Switch Product

Retail Lending Product

PC Transaction

Redemption Allowed

Ok Exit

You may select the following check boxes if you wish to have them in a product's 'Preferences' screen.

- Partial Reversals allowed
- Reversal Includes charges - Reversal should reverse charges
- Switch product

2.4.13 Maintaining Charges for Non-financial Transactions

You can have the following non financial transactions charged:

- Balance Enquiry
- Cheque Book request
- Mini statement request
- Ad-hoc statement request

You can facilitate the above service by first using the 'Retail Teller Product Maintenance' to maintain a Retail Teller product as shown below.

You can invoke the 'Retail Teller Product Maintenance' screen by typing 'DEDRTPRM' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

You must next do the ARC Maintenance for the above product in the 'ARC Maintenance' screen as shown below. In the ARC Maintenance you can maintain the charges for the various non-financial transactions under the CHARGE 1-5 tabs. The transaction amounts will be zero and so the accounting entries will have only the charges.

2.4.14 ARC Maintenance

You can maintain the charges for the product type in the ARC Maintenance screen. You can invoke the 'ARC Maintenance' screen by typing 'IFDATMMN' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The ARC maintenance is done for the product Cash Withdrawal (CHWL). You can maintain charges (under charge tabs CHARGE1 -5) for both financial and non-financial transactions.

CHARGE1 must be the Transaction Fee. The Description under 'CHARGE1' tab should be given as TXN_FEE. CHARGE2 must be the Transaction Processing Fee. The Description under the 'CHARGE2' tab should be given as TXN_PROCESS_FEE.

2.4.15 Service Charges for Inter- branch Transactions

In a transaction, if the account branch of the teller transaction is different from the transaction branch, then charges maintained by inter-branch product will be applied to the transaction.

If the IB check box is checked for a product, then the system will pick up and process the charge entries maintained at the IB product level.

During a transaction, If IB product is not maintained and if the transaction branch is different from account branch, then charges maintained in non-ib product will be applied to the transaction.

IB Transaction

Check this box if you want the system to pick up the product for inter-branch transactions.

You will notice the difference in the service charges processed for two transactions with same kind of product.

Refer the chapter 'Maintaining Account, Rate, and Charge Details' in the FCC_Host_Clearing user manual, for detailed explanation of the fields in this screen..

2.4.16 Forwarding Institution ID Details

You can maintain the domestic and international forwarding institution Identification Code in the 'Forwarding Institution ID Details' screen.

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

The screenshot shows the 'Forwarding Institution ID Details' application window. At the top, there are 'New' and 'Enter Query' buttons. The main area contains several input fields and controls: a required 'Forwarding Institution ID *' field, a 'Description' field, an unchecked 'International Forwarding Institution' checkbox, and 'Transaction Type' radio buttons with 'Disallowed' selected. Below this is a table with one entry: 'FLEXCUBE Literal' under the 'Description' column. The bottom section of the window is a dark blue footer containing fields for 'Maker', 'Checker', 'Mod No', 'Date Time:', 'Record Status', and 'Authorization Status', and an 'Exit' button.

Specify the following details:

Forwarding Institution ID

Specify the forwarding institution ID. This ID will be based on Field No 33 of ISO 8583 compliant message.

Description

Specify the description of forwarding institution.

International Forwarding Institution

If you check this box then the forwarding institution is identified as International, else, it will be identified as Domestic.

Transaction Type

Select the type of transaction. The available options are:

- Allowed - The forwarding institution is allowed to perform the list of transactions.
- Disallowed - The forwarding institution is not allowed to perform the list of transactions.

By default, system will display 'Disallowed'.

FLEXCUBE Literal

The system displays the FLEXCUBE Literal available for the ATM/POS.

Description

The system displays the description of the FLEXCUBE Literal

In this screen, you can perform the following operations:

- New
- Enter Query
- Save
- Authorize
- Copy
- Close
- Unlock
- Print
- Delete

2.4.17 Viewing Forwarding Institution ID

You can view the domestic and international forwarding institution Identification Code in the 'Forwarding Institution ID Details Summary' screen.

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

Authorization Status	Record Status	Forwarding Institution ID	Description	International Forwarding Institution	Transaction Type
----------------------	---------------	---------------------------	-------------	--------------------------------------	------------------

In the above screen, you can base your queries on any or all of the following parameters and fetch records:

- Authorization Status
- Record Status

- Forwarding Institution ID

Select any or all of the above parameters for a query and click 'Search' button. The records meeting the selected criteria are displayed.

System displays the following details pertaining to the fetched records:

- Authorization Status
- Record Status
- Forwarding Institution ID
- Description
- International Forwarding Institution
- Transaction Type

2.4.18 Uploading Forwarding Institution ID

You can upload the domestic and international forwarding institution Identification Code in the 'Forwarding Institution ID Details Upload' screen.

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

Specify the following details:

File Name

Specify the name of the file to be uploaded.

File Path

Specify the path from where the file gets uploaded.

Sequence No

The system displays the sequence number for the uploaded transaction.

2.5 Batch Processes

The following batch processes are part of the Oracle FLEXCUBE – Switch Interface.

For more information on Batch Processes refer the corresponding Oracle FLEXCUBE user manual.

2.5.1 Maintaining Batches for Batch Operations

You can maintain the following batches for Batch Operations in the 'Batch EOD Function Inputs' screen:

- SWSWRECN – Switch Reconciliation Batch
- SWDPRCRT – Process Transaction Batch
- SWNETSET – Network Settlement Batch
- SWMERSET – Merchant Settlement Batch
- SWDPURGE – Adhoc Purge Batch
- SWDRETB – Retry and Suspense Processing Batch.

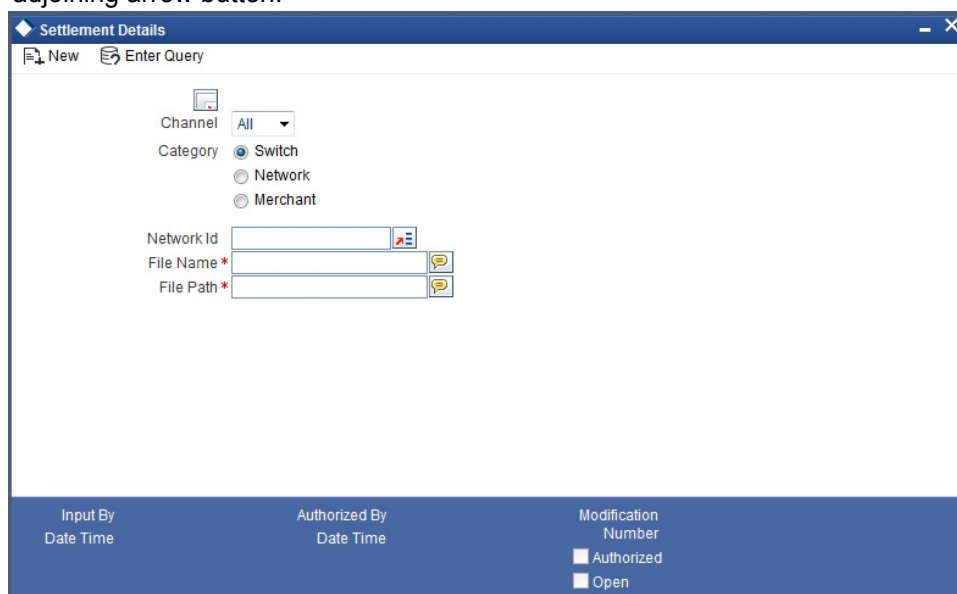
You can invoke the 'Batch EOD Function Inputs' screen by typing 'BADEODFE' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot displays the 'Batch EOD Function Inputs' application window. The interface includes a top navigation bar with 'New' and 'Enter Query' options. The main area is divided into two sections: 'Batch End Of Day Functions' and 'Function Inputs'. The 'Batch End Of Day Functions' section contains input fields for 'Branch Code *', 'Function *', and 'Description'. Below these fields are two groups of radio buttons: 'End of Cycle Group *' with options 'Transaction Input', 'End of Transaction Input', 'End of Financial Input', 'End of Day', and 'Beginning Of Day'; and 'Report Orientation' with options 'Not Applicable', 'Portrait', and 'Landscape'. The 'Function Inputs' section features a table with columns for 'Parameter *', 'Data Type *', 'Value', and 'Date Format'. The table is currently empty. At the bottom of the window, there are fields for 'Maker/Checker', 'Date Time', 'Mod No', 'Record Status', and 'Authorization Status', along with an 'Exit' button.

2.5.2 Settlement Upload

You can perform settlement uploads for the Switch, Network and Merchant categories from the 'Settlement Upload' screen. You can invoke the 'Settlement Upload' screen by typing

'SWDUPLST' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



You need to specify the following details.

Channel

Select the channel to be used while uploading settlement files into Oracle FLEXCUBE, from the adjoining drop-down list. The following values are available:

- ALL
- ATM
- POS
- IVR

Based on the channel specified, the system will pick up the appropriate Retail Teller product and ARC maintenance for settlement and reconciliation processing.

Category

The categories for which you can perform settlement upload are:

- Switch
- Network
- Merchant

In the above screen you can specify the Reconciliation File/Network file/Merchant upload file's name and path.

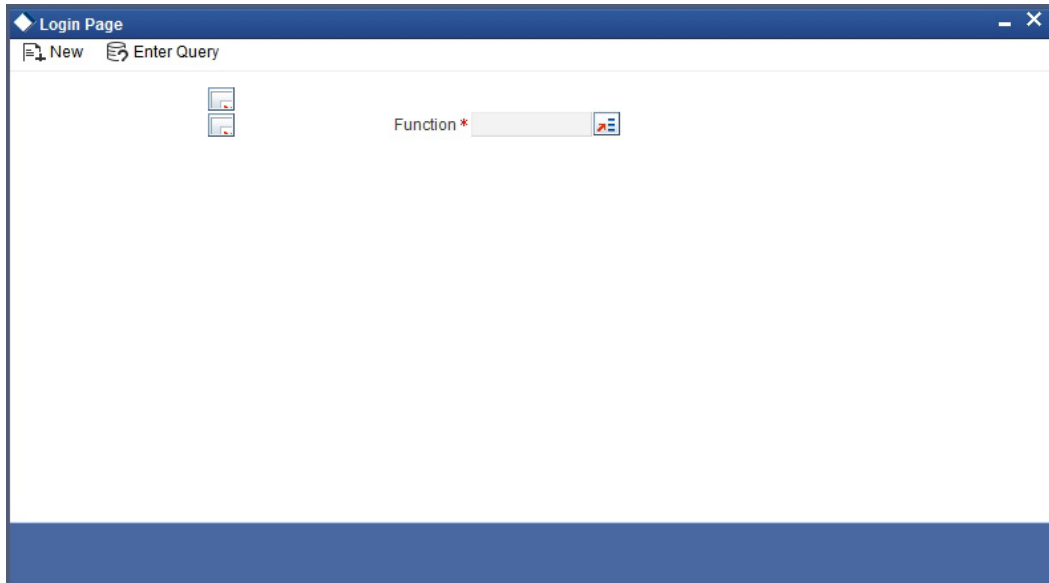
2.5.3 Intra Day Batch

You can run the following Functions in the 'Intra Day Batch Start' screen:

- SWSWRECN – This is the batch for the reconciliation file.
- SWNETSET– This is the batch for the network file.
- SWDPRCRT – This batch removes the amount block.
- SWMERSET – This is the batch for Merchant settlement.
- SWDPURGE – This is the batch for Adhoc purge of transaction data to history table.
- SWDRETB – This is the batch for retry and suspense processing.

Once the batches are successfully run, their corresponding accounting entries will be posted.

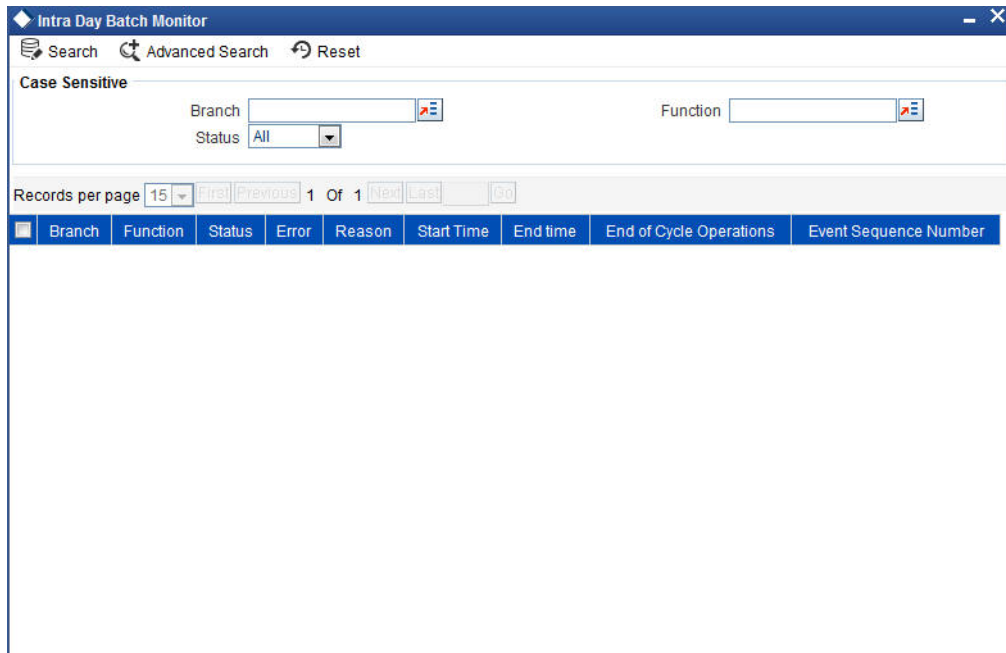
You can invoke the 'Intra Day Batch Start' screen by typing 'BADIDBAT' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



Click 'Ok' button to initiate the Intra Day Batch process.

You can monitor the status of successfully run SWSWRECN and SWNETSET functions in the 'Intra Day Batch Start Monitor' screen.

You can invoke the 'Intra Day Batch Start Monitor' screen by typing 'BASIDMTR' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



2.5.4 Viewing Transaction Monitor

You can view a summary of transaction status in the 'Switch Transaction Monitor' screen. You can invoke this screen by typing 'SWDTXQRY' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

Transaction Log	
Total	
WIP	
Success	
Failed	

Retry Log	
Repair	
Unprocessed	
Success	
Suspense	
Reversed	
Total	

Here you can view the following details.

Transaction Log

You can view the number of transactions in the following statuses.

- WIP
- Success
- Repair
- Failed
- Total

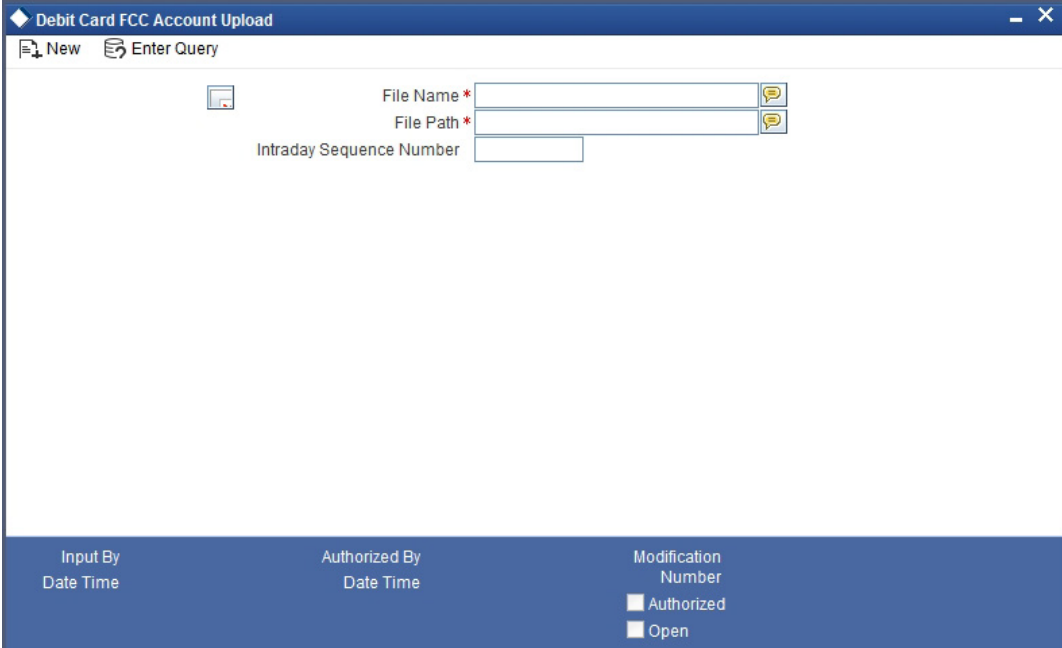
Retry Log

You can view the retry log of transactions in the following statuses.

- Unprocessed
- Success
- Suspense
- Reversed
- Total

2.6 Uploading Cards

You can upload card account mapping maintenance through the 'Debit Card FCC Account Upload' screen. You can invoke this screen by typing 'SWDCDUPL' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



The screenshot shows a software window titled "Debit Card FCC Account Upload". At the top left, there are two buttons: "New" and "Enter Query". The main content area has three input fields: "File Name *" (with a file icon), "File Path *" (with a folder icon), and "Intraday Sequence Number". The bottom of the window is a dark blue bar containing the text "Input By Date Time", "Authorized By Date Time", and "Modification Number". To the right of "Modification Number" are two checkboxes labeled "Authorized" and "Open".

You can specify the following details.

File Name

Specify the name of the file that should be uploaded.

File Path

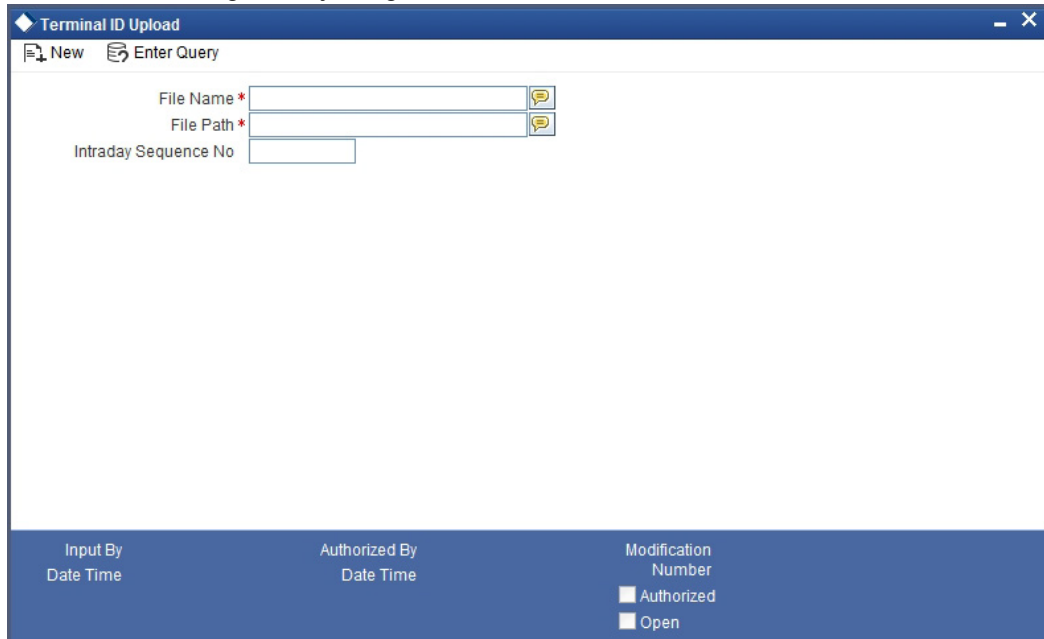
Specify the path from where the file should be picked up for uploading.

Intraday Sequence Number

The system generates a sequence number for the upload transaction and displays it here.

2.7 Uploading Terminal ID

You can upload terminal ID maintenance through the 'Terminal ID Upload' screen. You can invoke this screen by typing 'SWDTIDUP' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



The screenshot shows a window titled "Terminal ID Upload" with a menu bar containing "New" and "Enter Query". The main area contains three input fields: "File Name *" with a help icon, "File Path *" with a help icon, and "Intraday Sequence No". A bottom status bar displays "Input By Date Time", "Authorized By Date Time", and "Modification Number" with checkboxes for "Authorized" and "Open".

You can specify the following details.

File Name

Specify the name of the file that should be uploaded.

File Path

Specify the path from where the file should be picked up for uploading.

Intraday Sequence No

The system generates a sequence number for the upload transaction and displays it here.

2.8 Processing ATM Cash Deposits

Cash deposits can happen at ATMs which don't have the Intelligent Deposits facility. For such ATMs the 'Intelligent Deposits' option also is not selected in Terminal Details maintenance. In the case of such ATMs the cash deposit details are stored as a 'Tanked Deposit Transaction' until you can validate the transaction amount.

For Tanked Deposit Transactions, accounting entries are not passed until the transaction amount is validated and authorised. You can validate the transaction amounts of Tanked Deposit Transactions in the 'ATM Cash Deposit Details' screen.

You can invoke the 'ATM Cash Deposit Details' screen by typing 'SWDCSHDP' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.

The screenshot shows the 'ATM Cash Deposit Details' application window. The window title is 'ATM Cash Deposit Details'. It features a 'Details' section with the following fields: Transaction Account, Transaction Currency, Transaction Amount, Local Currency Amount, Transaction Date, Transaction Reference, and Actual Amount. Below this is a 'Charges' section with four columns of fields for Charge Currency, Charge Amount, and Charge Description. At the bottom, there are status fields for Input By, Authorized By, and Modification Number, along with checkboxes for Authorized and Open.

You must validate the tanked deposit by specifying the actual transaction amount in the 'Actual Amount' field. Once done, click 'Exit' button to exit and save your validation.

The following details are displayed in the above screen. The details give information regarding the cash deposit.

Transaction Account

This displays the Oracle FLEXCUBE account which has been linked to the Card Account Number.

Transaction Currency

This field displays the Oracle FLEXCUBE currency which has been linked to the numeric currency in the ISO message.

Transaction Amount

This is the deposit amount sent through the ISO message.

Local Currency Amount

If a local currency has been maintained then the transaction amount is converted to the local currency and displayed here.

Transaction Date

This is the Deposit transaction date as sent in the ISO message.

Transaction Reference Number

This is the Transaction Reference Number which is generated for the deposit transaction.

Charge Currency and Charge Currency 1-4

Charges may be levied as Transaction Fee, Transaction Processing Fee and as other charges maintained in Oracle FLEXCUBE. The currency that has been defined for the corresponding charge is displayed here.

Charge Amount and Charge Amount 1-4

The charge amount for the corresponding charge is displayed here.

Charge Description and Charge Description 1-4

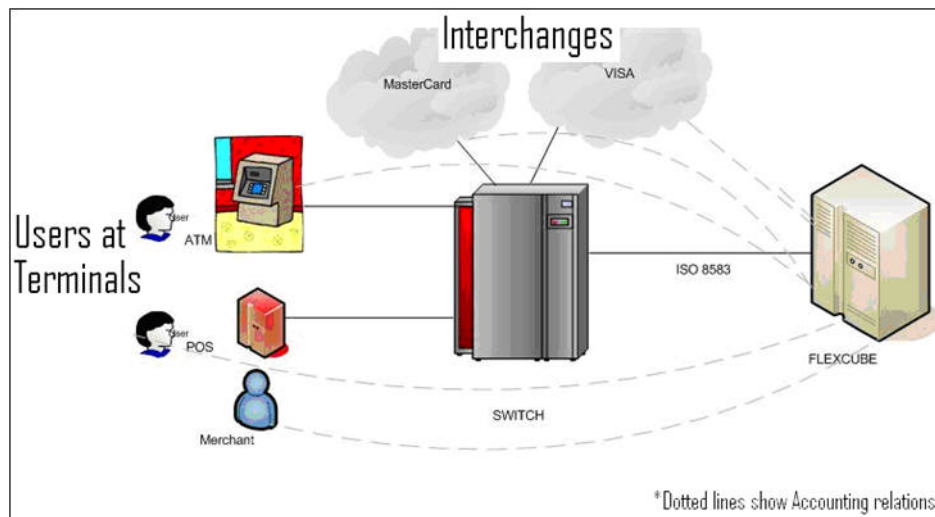
The description for the charge is displayed here.

3. Annexure A

3.1 Switch Software and Card Transactions Business

The following is a brief account of the Switch software domain and the components in a Cards Transactions Business network.

The following diagram illustrates the components in the switch network.



ATMs and POS Terminals are connected with the Switch Software system using proprietary message protocol depending on the upon the terminal device type. Switch software is also connected with 'Interchanges' like VISA and MasterCard.

A switch software system provides the following functionalities:

- Maintaining all ATM / POS / Interchange information
- Maintaining Card Number to Account Number Linkages
- Receiving Card Transactions from ATM / POS terminals and checking PIN and Card status
- Forwarding the Transactions to Host Banking Systems like Oracle FLEXCUBE after converting proprietary protocol into ISO8583 protocol
- Performing 'stand-in' authorization incase of Link to Host systems are down
- Refreshing Account balances from Banking Systems (to use Stand-in)

3.2 ISO8583 Protocol Overview

ISO8583 protocol is called the 'Financial Transaction Standard for Card originated messages and Interchange message specifications'. This protocol provides for the exchange of information between an 'Acquirer' and an 'Issuer' for card transactions. The terms 'Acquirer' and 'Issuer' are explained below.

Acquirer

An Acquirer is the Bank that deploys the self servicing devices like ATM /POS and may have a switch system software and Interchange connections.

Issuer

An Issuer is the Bank that issues cards to its customers. It has the database of accounts and is connected to the Switch system software. In the course of transactions via the switch system, Issuers respond to Acquirers with approval or rejection messages.

3.3 Switch Transaction Categories

The Switch system transaction flows can happen in three different ways. Each flow is termed as a Category of the transaction. The categories are from the Issuer bank's perspective. The following example explains the categories.

Consider that Oracle FLEXCUBE system is installed at YOUR BANK. Consider another bank, say HSBC, with which you can have card based transactions. Then the following are the categories depending upon which bank's Card or Terminal is involved.

Cards	ATM/POS Terminal	Category of Transaction
YOUR BANK Cards	YOUR BANK	On-Us
YOUR BANK Cards	HSBC	Remote-On-Us
HSBC Cards	YOUR BANK	Off-Us

3.4 Accounting Entries – ATM Transactions

The following are the various accounting entries for ATM Transactions.

3.4.1 Accounting Entries for Cash Withdrawal Transactions

ON US

DR CUSTOMER A/CBILL-AMT (converted to a/c ccy)

CR CASH GLTXN-AMT

DR CUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRP&LGLTXN_FEE

DR CUSTOMER A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRP&LGLTXN_PROCESS_FEE

DR CUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

Remote – ON US

DR CUSTOMER A/CBILL-AMT (converted to a/c ccy)

CR NETWORK SUSPENSE GLSETL_AMT

DR CUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

During Network Settlement

DRNETWORK SUSPENSE GL SETL_AMT

CRNETWORK NOSTRO A/CSETL_AMT (converted to a/c ccy)

DRNETWORK SUSPENSE GL TXN_FEE

CRNETWORK NOSTRO A/CTXN_FEE (converted to a/c ccy)

DRNETWORK SUSPENSE GL TXN_PROCESS_FEE

CRNETWORK NOSTRO A/CTXN_PROCESS_FEE (converted to a/c ccy)

OFF- US

DR NETWORK SUSPENSE GLSETL-AMT (converted to a/c ccy)

CRCASH GLTXN-AMT

DRNETWORK SUSPENSE GLTXN_FEE (converted to setl ccy)

CRP&L GLTXN_FEE

DRNETWORK SUSPENSE GLTXN_PROCESS_FEE (converted to a/c ccy)

CRP&L GLTXN_PROCESS_FEE

During Network Settlement

DRNETWORK NOSTRO A/CSETL_AMT (converted to a/c ccy)

CRNETWORK SUSPENSE GL SETL_AMT

DRNETWORK NOSTRO A/CTXN_FEE

CRNETWORK SUSPENSE GLTXN_FEE (converted to a/c ccy)

DRNETWORK NOSTRO A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GL TXN_PROCESS_FEE

3.4.2 Accounting Entries for Balance Enquiry

ON US

DRCUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRP&LGLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRP&LGLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

R-ONUS

DRCUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

During Network Settlement

DRNETWORK SUSPENSE GL TXN_FEE

CRNETWORK NOSTRO A/CTXN_FEE (converted to a/c ccy)

DRNETWORK SUSPENSE GL TXN_PROCESS_FEE

CRNETWORK NOSTRO A/CTXN_PROCESS_FEE (converted to a/c ccy)

OFF-US

DRNETWORK SUSPENSE GLTXN_FEE (converted to setl ccy)

CRP&LGLTXN_FEE

DRNETWORK SUSPENSE GLTXN_PROCESS_FEE (converted to a/c ccy)

CRP&L GLTXN_PROCESS_FEE

During Network Settlement

DRNETWORK NOSTRO A/CTXN_FEE

CRNETWORK SUSPENSE GLTXN_FEE (converted to a/c ccy)

DRNETWORK NOSTRO A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GL TXN_PROCESS_FEE

3.4.3 Accounting Entries for Deposit

ON US

DRCASH GLTXN-AMT

CR CUSTOMER A/CBILL-AMT (converted to a/c ccy)

DRCUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRP&LGLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRP&LGLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

3.4.4 Accounting Entries for Funds Transfer

ON US

DR FROM A/CBILL-AMT (converted to a/c ccy)

CRTO A/CTXN-AMT (converted to a/c ccy)

DRFROM A/CTXN_FEE (converted to a/c ccy)

CRP&LGLTXN_FEE

DRFROM A/CTXN_PROCESS_FEE (converted to a/c ccy)

CRP&LGLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

3.5 Accounting Entries - POS Purchase

ON US

DR CUSTOMER A/CBILL-AMT (converted to a/c ccy)

CRMERCHANT SUSPENSE GLTXN-AMT

DRCUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRP&LGLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (in a/c ccy)

CRP&LGLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (converted to a/c ccy)

CRP&LGLFC_CHARGES

During Merchant Settlement

DRMERCHANT SUSPENSE GL TXN_AMT– COMMISSION (a/c ccy)

CRMERCHANT A/CTXN_AMT– COMMISSION (a/c ccy)

DRMERCHANT SUSPENSE GL COMMISSION

CRP&LGLCOMMISSION

Remote – ON US

DR CUSTOMER A/CBILL-AMT (converted to a/c ccy)

CRNETWORK SUSPENSE GLSETL-AMT

DRCUSTOMER A/CTXN_FEE (converted to a/c ccy)

CRNETWORK SUSPENSE GLTXN_FEE

DRCUSTOMER A/CTXN_PROCESS_FEE (a/c ccy)

CRNETWORK SUSPENSE GLTXN_PROCESS_FEE

DRCUSTOMER A/CFC_CHARGES (a/c ccy)

CRP&LGLFC_CHARGES

During Network Settlement

DRNETWORK SUSPENSE GL SETL_AMT

CRNETWORK NOSTRO A/CSETL_AMT (converted to a/c ccy)

DRNETWORK SUSPENSE GL TXN_FEE

CRNETWORK NOSTRO A/CTXN_FEE (converted to a/c ccy)

DRNETWORK SUSPENSE GL TXN_PROCESS_FEE

CRNETWORK NOSTRO A/CTXN_PROCESS_FEE (a/c ccy)

OFF-US

DR NETWORK SUSPENSE GLSETL-AMT (converted to a/c ccy)

CRMERCHANT SUSPENSE GL TXN-AMT (converted to a/c ccy)

DRNETWORK SUSPENSE GLTXN_FEE (converted to setl ccy)

CRP&LGLTXN_FEE

DRNETWORK SUSPENSE GLTXN_PROCESS_FEE (a/c ccy)

CRP&L GLTXN_PROCESS_FEE

During Network Settlement

DRNETWORK NOSTRO A/CSETL_AMT

CRNETWORK SUSPENSE GL SETL_AMT

DRNETWORK SUSPENSE GL TXN_FEE

CRNETWORK NOSTRO A/CTXN_FEE (converted to a/c ccy)

DRNETWORK NOSTRO A/CTXN_PROCESS_FEE (a/c ccy)

CRNETWORK SUSPENSE GL TXN_PROCESS_FEE

During Merchant Settlement

DRMERCHANT SUSPENSE GLTXN_AMT – COMMISSION

CRMERCHANT A/C TXN_AMT – COMMISSION

DRMERCHANT SUSPENSE GL COMMISSION

CRP&LGLCOMMISSION

3.6 Balance Handoff File Formats

Oracle FLEXCUBE generates ASCII files ('|' separated) with the balances of all the accounts that are linked with Cards. The following table gives the general Balance Handoff File Format of Oracle FLEXCUBE. You may have a different format installed as per your requirements.

Header

Field Sequence #	Field Name
1	No. of Accounts
2	Check Digits
3	Time Stamp

Body

Field Sequence #	Field Name	Size (Characters)	Description
1	Branch code	3	Oracle FLEXCUBE branch code
2	Customer Account number	28	Account number
3	Account Currency	3	Account currency code - alpha
6	Available balance. This represents the amount available for withdrawal/spending. Switch should stand-in based on this field.	22	Available balance from Oracle FLEXCUBE. Limit to be included should be definable.

Footer

Field sequence #	Field Name
1	No. of Accounts
2	Check Digits
3	Time Stamp

3.7 Network Settlement Message Format

The following table gives the format of the file accepted by Oracle FLEXCUBE for network settlements. Fields are separated by '|' pipe symbol and the amounts are with decimal included. The following table gives the general format in Oracle FLEXCUBE.

You may have a different format installed as per your requirements.

Field Sequence Number	Field Name	Size	Mandatory (M) / Optional (O)	Remarks
1	Message type	n4	O	If it is optional, original or reversal is identified based on Transaction code
2	Card number	n19	M	
3	Branch code	n3	O	
4	Bank account number	ans 28	M	
5	Transaction Code	ans 10	M	05 - Sale, 06 - Refund, 07- Cash Wdl, 25 - Sale reversal, 26 - Refund reversal, 27 - Cash wdl reversal. Refer Transaction service derivation logic in earlier sections.
6	processing code	ans 6	O	This is used for information purpose
7	Transaction Amount	n 22	M	Refer Amount derivation logic
8	Transaction ccy	n 3	M	Refer Amount derivation logic
9	Settlement Amount	n 22	O	Refer Amount derivation logic
10	Settlement Currency	n 3	O	Refer Amount derivation logic
11	Billing Amount	n 22	O	Refer Amount derivation logic
12	Billing currency	n3	O	Refer Amount derivation logic
13	Transaction Date (Format YYYYMMDD)	s 8	M	Used for Transaction matching
14	Transaction Time	s 6	M	
15	STAN	an 12	M	Used for Transaction matching
16	Original STAN	An12	O	Used in reversals
17	Acquirer ID	asn 6	M	Used for Transaction matching

Field Sequence Number	Field Name	Size	Mandatory (M) / Optional (O)	Remarks
18	Terminal ID	ans 16	M	Used for Transaction matching
19	Card Acceptor ID	ans 20	O	
20	Merchant Id	ans 20	O	
21	Merchant Name	ans 40	M	Information purpose
22	Merchant City	ans 40	M	Information purpose
23	Merchant Country	asn 10	O	
24	Merchant Category code	n 4	M	
25	Retrieval reference number of transaction	an 12	M	
26	Authorization Code	ans 6	M	Used for Transaction matching
27	Authorization Reference	ans 20	O	Some other reference for matching
28	Response code	n4	O	if sent, only 00 is considered for processing
29	Domestic flag	S 1	O	D – Domestic I – International R – regional (Europe)
30	Settlement Account	Ans2 8	O	
31	Pre-Auth and Charge back Data	Ans 45	O	Applicable only in case of Reconciliation

3.8 Merchant Settlement File Format

The following table gives the format of the file accepted by Oracle FLEXCUBE for Merchant Settlements. Fields are separated by '|' pipe symbols. The following table gives the general format in Oracle FLEXCUBE.

You may have a different format installed as per your requirements.

Field Sequence #	Field Name	Length	Mandatory / Optional	Description
1	Merchant ID	an 15	M	To be used to derive merchant a/c
2	Transaction code	2	M	To be used to derive the product
3	Processing code	6	O	ISO type processing code
6	Event date	8	O	Batch processing date
7	Amount	22	M	Total amount settled to merchant
	Currency	3	M	
8	Tax Amount	22	O	reserved for future use
9	DrCr Flag	1	O	incase switch sends, use it
10	Commission Amount	22	O	To be detected
11	Commission Flag	1	O	commission flag incase sent
12	Commission currency code	3	O	commission currency code
13	Merchant current a/c	28	O	incase merchant ID is not having any maintenance at Oracle FLEXCUBE
14	Branch code	3	O	Merchant branch code
15	Bank code	10	O	Merchant bank code
16	User Info	30	O	Reserved for CSE

3.9 Maintaining SWTB_PARAM Table

The SWTB_PARAM is the single record table for SWIG initial parameters. The maintenances in this table are done during implementation of the Switch Interface Gateway system. This is for your information only.

FOLLOW_ON	Y
AMOUNT_BLOCK	Y
SETL_BEFORE_FILE	Y
LOG_TABLE_KEY	MSG_- TYPE~RRN

CHG_ON_BALENQ	N
CHG_ON_ADSTMT	N
CHG_ON_MISTMT	N
CHG_ON_CHQBK	N
NO_TXN_MISTMT	10
ISO_VERSION	0
NO_CHK_LEAVES	25
ACC_STMT_PERIOD	1
UTIL_PROV_ACC_SEND	Y
BLOCK_EXP_DAYS	30
MAX_RETRY_COUNT	5
FCC_ACC_FROM_SWITCH	N
ONLY_PAN_FROM_SWITCH	N

- If FOLLOW_ON= 'Y' then
 - for 200 MSG_TYPE Amount Block is done
 - for 220 MSG_TYPE Parent message will be checked
- If FOLLOW_ON= 'N' then for 200 and 220 MSG_TYPE it will check if AMOUNT_BLOCK= 'Y' then all 200 and 220 MSG will perform amount block.
- If SETL_BEFORE_FILE= 'Y' then all remote on-us and off-us transaction will perform Retail Teller transaction and accounting entries.
- If SETL_BEFORE_FILE= 'N' then all remote on-us and off-us transaction will do the Amount block and Retail Teller transaction will completed at the time of settlement file.
- LOG_TABLE_KEY is for making the primary key for ATM transaction.
- If CHG_ON_BALENQ = 'Y' then for balance enquiry transaction, if charge is defined then it will be deducted from the customer account.
- If CHG_ON_ADSTMT= 'Y' then for adhoc statement transaction, if charge is defined then it will be deducted from customer account.
- If CHG_ON_MISTMT = 'Y' then for mini statement transaction, if charge is defined then it will be deducted from customer account.
- If CHG_ON_CHQBK='Y' then for cheque book request transaction, if charge is defined then it will be deducted from customer account.
- NO_TXN_MISTMT defines the number of latest transactions that should appear in a mini statement. (E.g. If NO_TXN_MISTMT=10 then in the mini statement the latest 10 transactions will be displayed).
- ISO_VERSION has only three type of value 0, 1 and 2.This gives the ISO 8583 message version.
 - 1987 = 0
 - 1993 = 1
 - 2003 = 2
- NO_CHK_LEAVES defines the number of pages that should be in one cheque book.

- ACC_STMT_PERIOD defines the duration of account statement period.(e.g. If ACC_STMT_PERIOD=1 then duration is 1 month).
- If UTIL_PROV_ACC_SEND='Y' means for utility payment we have to send the account number in 102 field. If UTIL_PROV_ACC_SEND='N' then Oracle FLEXCUBE will send the provider id not an account number.
- BLOCK_EXP_DAYS defines the number of days for amount block. (E.g. If BLOCK_EXP_DAYS =30 then after 30 days the amount block on the account expires). Block expiry days will also be used to calculate the purge date for switch transaction.
- MAX_RETRY_COUNT defines the number of times for Retail Teller transactions to try for a single transaction if it fails.
- If FCC_ACC_FROM_SWITCH='Y' then transaction account is same as Oracle FLEXCUBE account. If FCC_ACC_FROM_SWITCH='N' then transaction account is card account not Oracle FLEXCUBE account.
- If ONLY_PAN_FROM_SWITCH='Y' then transaction account is not mandatory in ISO request (i.e. No need to give card account or Oracle FLEXCUBE account in request).
- If ONLY_PAN_FROM_SWITCH='N' then in request transaction account is mandatory.

4. Function ID Glossary

B

BADEODFE 2-28
BADIDBAT 2-30
BASIDMTR 2-30

C

CADAMBLK 2-20
CODSORCE 2-5
CODUPLDM 2-7
CYDCDEFN 2-9

D

DEDRTPRM 2-23

G

GWDEXFUN 2-7
GWDEXSYS 2-5

I

IFDATMMN 2-23

S

SWDCDMNT 2-11
SWDCDTLM 2-9, 2-9
SWDCDUPL 2-31
SWDCHNID 2-13
SWDCSHDP 2-34
SWDFCLTL 2-14
SWDFIDUP 2-27, 2-27
SWDFWRID 2-25, 2-25
SWDNWDET 2-16
SWDPRMAP 2-19
SWDTIDUP 2-33
SWDTRMID 2-17
SWDTXQRY 2-31
SWDUPDET 2-18
SWDUPLST 2-29
SWDUTLPR 2-18, 2-18
SWSFRID 2-26
SWSFWRID 2-26