

Switch Interface Gateway
Oracle FLEXCUBE Universal Banking
Release 11.3.0
[May] [2011]
Oracle Part Number E51535-01



Table of Contents

1. ABOUT THIS MANUAL.....	1-1
1.1 INTRODUCTION.....	1-1
1.2 AUDIENCE.....	1-1
1.3 ABBREVIATIONS.....	1-1
1.4 ORGANIZATION.....	1-2
1.4.2 <i>Related Documents</i>	1-2
1.5 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 <i>ATM Transactions</i>	2-1
2.2.2 <i>Point Of Sale Transactions</i>	2-3
2.2.3 <i>IVR Transactions</i>	2-4
2.3 GATEWAY MAINTENANCE FOR SWITCH INTERFACE.....	2-4
2.3.1 <i>Maintaining Upload Source</i>	2-5
2.3.2 <i>Maintaining FLEXSWITCH External System</i>	2-6
2.3.3 <i>Specifying External System Functions</i>	2-7
2.3.4 <i>Specifying Source Preferences</i>	2-8
2.4 SWITCH INTERFACE MAINTENANCE.....	2-9
2.4.1 <i>Defining Currency for Currency Code Conversion</i>	2-9
2.4.2 <i>ATM/Debit Card Mapping for Card Account Number Conversion</i>	2-9
2.4.3 <i>Maintaining Channel Details</i>	2-10
2.4.4 <i>Maintaining Process Code Mapping Details</i>	2-11
2.4.5 <i>Maintaining Network Details</i>	2-12
2.4.6 <i>Maintaining Merchant Details</i>	2-13
2.4.7 <i>Maintaining Terminal Details</i>	2-14
2.4.8 <i>Maintaining Utility Provider Details</i>	2-16
2.4.9 <i>Maintaining Product Types for Product Derivation</i>	2-16
2.4.10 <i>Showing Amount Block Transactions in Account Statements</i>	2-18
2.4.11 <i>Modifying a Product Preferences Screen</i>	2-20
2.4.12 <i>Maintaining Charges for Non-financial Transactions</i>	2-20
2.4.13 <i>ARC Maintenance</i>	2-22
2.5 BATCH PROCESSES.....	2-22
2.5.1 <i>Maintaining Batches for Batch Operations</i>	2-23
2.5.2 <i>Settlement Upload</i>	2-24
2.5.3 <i>Intra Day Batch</i>	2-25
2.5.4 <i>Viewing Transaction Monitor</i>	2-27
2.6 UPLOADING CARDS.....	2-28
2.7 UPLOADING TERMINAL ID.....	2-29
2.8 PROCESSING ATM CASH DEPOSITS.....	2-29
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>	3-4
3.4.3 <i>Accounting Entries for Deposit</i>	3-6

3.4.4	<i>Accounting Entries for Funds Transfer</i>	3-6
3.5	ACCOUNTING ENTRIES - POS PURCHASE	3-7
3.6	BALANCE HANDOFF FILE FORMATS	3-9
3.7	NETWORK SETTLEMENT MESSAGE FORMAT	3-10
3.8	MERCHANT SETTLEMENT FILE FORMAT	3-12
3.9	MAINTAINING SWTB_PARAM TABLE	3-13
4.	SCREEN GLOSSARY	4-1
4.1	FUNCTION ID LIST.....	4-1

1. About this Manual

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 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


Abbreviation	Description
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

1.4 **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.

1.4.1.1 **Conventions Used in this Manual**

- Important information is preceded with the  symbol.
- 'Switch Interface' or 'Interface' in this document refers the Oracle FLEXCUBE Switch Interface that processes the transactions from Switch Software.
- 'Switch' and 'Switch Software' are generic terms used to refer to any OLTP product which sends transactions to Oracle FLEXCUBE Switch Interface using ISO8583 (1987/1993/2003) protocol.























1.4.2 **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)

1.5 Glossary of Icons

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

Icons	Function
	New
	Copy
	Save
	Delete
	Unlock
	Print
	Close
	Re-open
	Reverse
	Template
	Roll-over
	Hold
	Authorize
	Liquidate
	Exit
	Sign-off
	Help
	Add row
	Delete row
	Option List
	Confirm
	Enter Query

Icons	Function
	Execute Query

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

2. Switch Interface Gateway

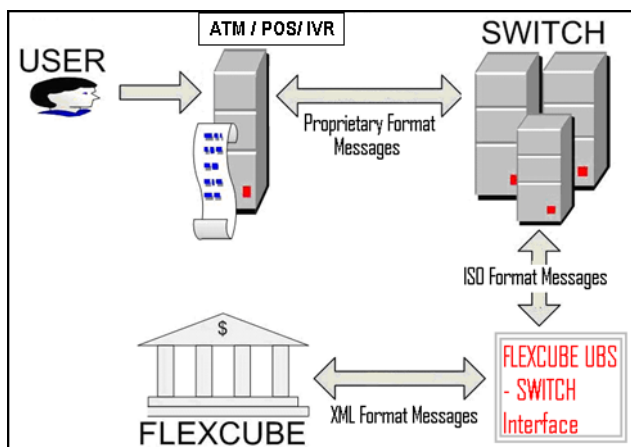
2.1 Introduction

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.

 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.

 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

 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 a window titled "UpLoad Source Definition". It contains the following elements:

- Source Code * (text input field)
- Description (text input field)
- Base Data From FLEXCUBE
- System Authorization Required
- Fields section with labels: Input By Date Time, Authorized By Date Time, Modification Number, Authorized, Open.
- Exit button

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.

The screenshot shows the 'External Systems - Detailed' window. It includes the following elements:

- External System:** Fields for 'External System *' and 'Description'.
- Correlation Pattern:** A 'Request' dropdown menu currently set to 'Message Id'.
- Message Exchange Pattern:** 'Request Message' dropdown set to 'Input Only' and 'Response Message' dropdown set to 'Full Screen'. A checkbox for 'XSD Validation Required' is present.
- Queue:** Text boxes for 'Default Response Queue' and 'Dead Letter Queue'. A checkbox for 'Register Response Queue Message Id' is present.
- External System Queues:** A table with two columns: 'In Queue *' and 'Response Queue'. There is one row with empty text boxes and a help icon in each.
- Footer:** Tabs for 'Fields' and 'FTP Parameters'. A status bar with 'Input By Date Time', 'Authorized By Date Time', 'Modification Number', 'Authorized' checkbox, 'Open' checkbox, and an 'Exit' 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.

Input By	Authorized By	Modification Number	Authorized	Open
Date Time	Date Time		<input type="checkbox"/>	<input type="checkbox"/>

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 checkboxes 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.

The screenshot displays the 'Currency Definition' window with the following fields and options:

- Input Fields:** Currency Code*, Currency Name, Currency Type, ISO Numeric Currency Code, Country, Decimals, Interest Method (30-Euro/360), Spot Days, Foreign Exchange, Netting Days, Settlement Days, Alternate Currency Code, Position General Ledger, Position Equivalent General Ledger, Tolerance Limit, Index Base Currency.
- Checkboxes:** Generate 103+, CLS Currency, Index Flag, Euro Conversion, New COV format Required, Validate Tag-50F.
- Cutoff Time:** Days, Hour, Minute.
- Rounding:** Rule (Truncate), Unit.
- Amount Format Mask:** 99,999,999,999 (selected), 9999,99,99,999.
- Euro Type:** EURO Currency, In Leg Currency, Out Currency, EURO Closed.
- Bottom Bar:** PC, Currency Country Mapping, Fields. Input By, Authorized By, Modification Number, Authorized, Open, Exit.

2.4.2 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 'SWDATMCD' 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 "ATM/Debit Card FCC Account Mapping". Inside the window, there are four input fields with asterisks indicating they are mandatory: "ATM/Debit Card Number *", "Card Account Number", "Branch *", and "Account Number *". At the bottom of the window, there are several labels: "Date Time", "Authorized By", "Modification Number", "Authorized", and "Open". There is also an "Exit" button on the right side of the bottom panel.

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.

2.4.3 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 window titled "Channel Details" with a blue header bar. Below the header, the text "Channel Details" is displayed. There are two input fields: "Channel *" and "Description". At the bottom of the window, there are several labels: "Maker", "Checker", "Date Time:", "Mod No", "Record Status", and "Authorization Status". An "Exit" button is located in the bottom right corner.

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.

2.4.4 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' window. It contains the following elements:

- Details Section:**
 - Process Code Type *
 - Flexcube Literal *
 - External Transaction Code
 - Description
- Channel Details Section:**
 - A table with a 'Channel' column.
 - A scrollable list of channel options.
- Status Bar:**
 - Maker
 - Checker
 - Date Time:
 - Mod No
 - Record Status
 - Authorization Status
 - 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.

2.4.5 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 a software window titled "Network Details". At the top, there are four input fields: "Network Id *", "Description", "Account Number *", and "Account Branch". Below these are two expandable sections: "Acquirer Details" and "Issuer Details". Each section has a header with a "+" icon and a list icon. The "Acquirer Details" section has columns for "Acquirer BIN *" and "Acquirer Description". The "Issuer Details" section has columns for "Issuer BIN *" and "Issuer Description". At the bottom, there are fields for "Date Time", "Authorized By", "Date Time", "Modification Number", and checkboxes for "Authorized" and "Open". An "Exit" button is located in the bottom right corner.

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.

2.4.6 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 window titled "Merchant Details" with the following fields and controls:

- Merchant Id *
- Account Branch *
- Account Number *
- Input By Date Time
- Authorized By Date Time
- Modification Number
- Authorized
- Open
- Exit

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.

2.4.7 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 window titled "Terminal Details" with 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
- Date Time:
- Mod No
- Record Status
- 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 the following:

- 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 from 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

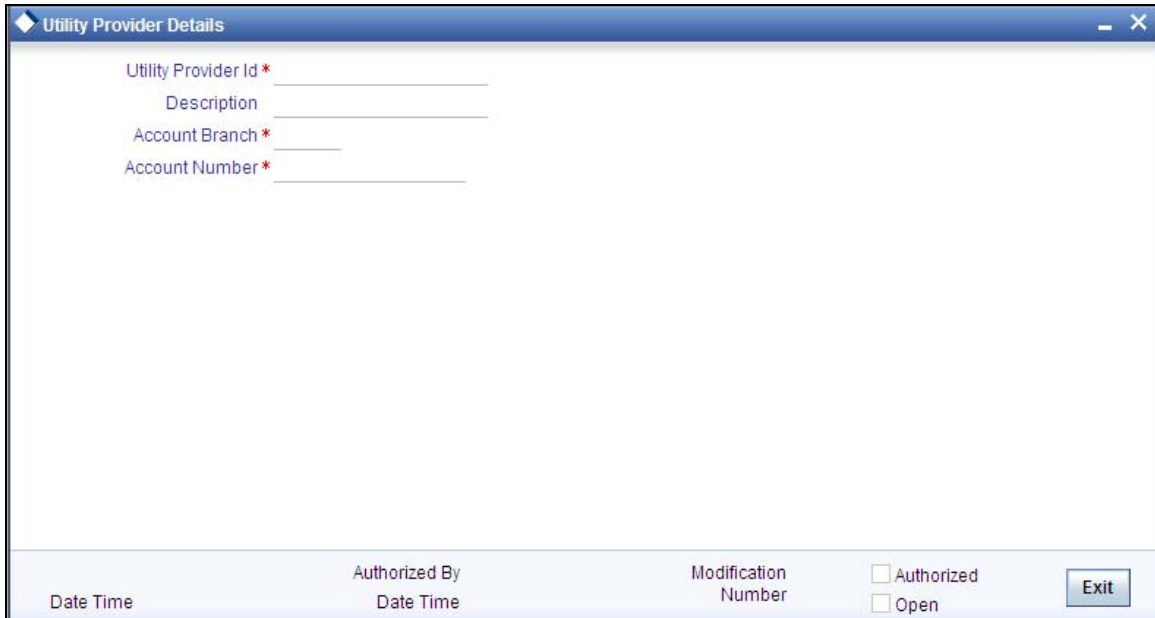
Specify the address of the terminal here.

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.

2.4.8 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 'SWDUPDET' 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 "Utility Provider Details" with the following fields and controls:

- Utility Provider Id *
- Description
- Account Branch *
- Account Number *
- Date Time
- Authorized By
- Modification Number
- Authorized
- Open
- Exit

Utility Provider Id

Specify the Utility Provider Id 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.

Description

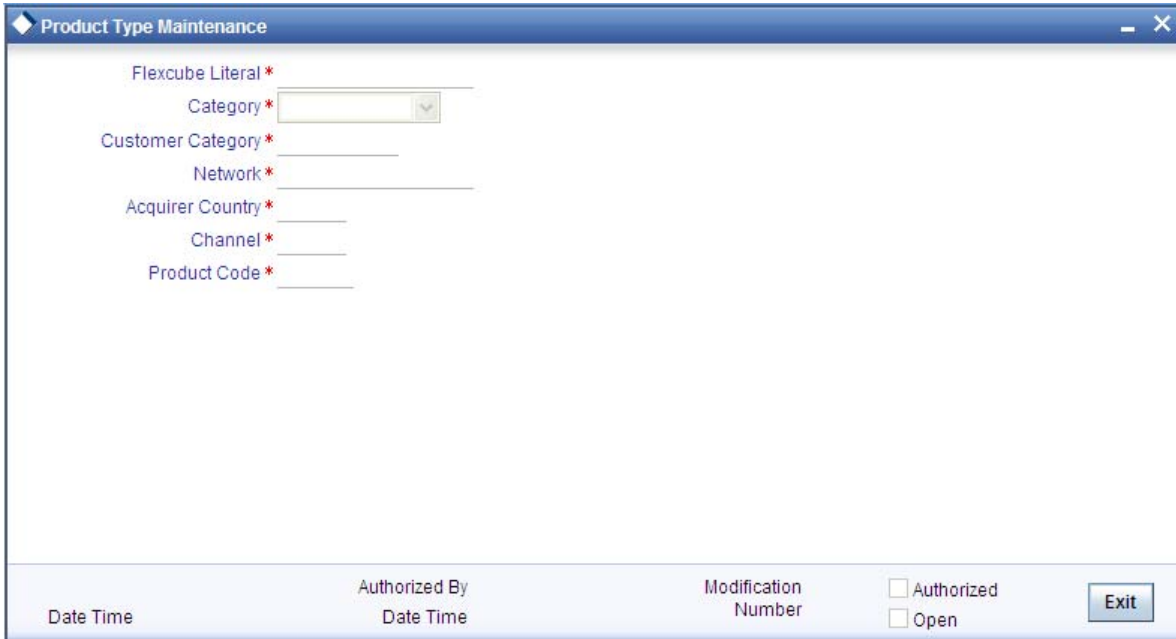
Optionally you can give a brief description of the utility provider here.

2.4.9 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.



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.

 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

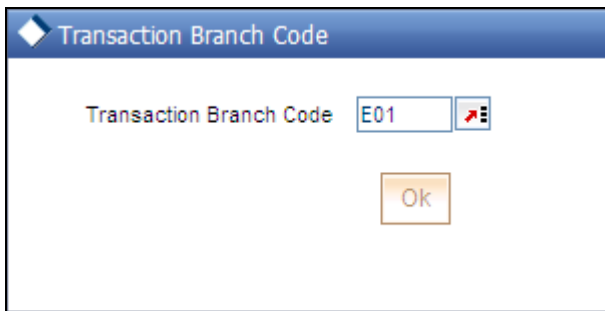
Select the country of the acquirer from the list of options available alongside.

2.4.10 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.

Select 'New' from the Actions menu in the Application toolbar. The system will display 'Transaction Branch' screen. Here you can select the transaction branch.



Here you are allowed to book other branch transactions from the logged in branch. Also, you can query other branch transactions from the logged in branch. The system defaults the logged-in branch by default as the transaction branch.

Transaction Branch

Select the appropriate branch from the list of branches available in the option list. This screen will be available only for those users who has 'Multi Branch Operational' check box enabled at 'User Maintenance' Screen.

While clicking 'Ok' button, the system validates the access rights of the selected branch and function for the user. If you don't have appropriate rights on the selected branch and function, the system would raise an error message. If you select a valid branch, the system updates the same as transaction branch and the transaction would be posted for this branch.



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

After selecting the Transaction Branch, you can enter the remaining details in the 'Amount Block Input' screen.

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.

2.4.11 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.

The screenshot displays the 'Retail Teller Product Maintenance' window. It features a grid of input fields for product information. On the left side, fields include Product Code, Product Description, Report Module (set to RT), Product Type, Description, Slogan, Product Group, Product Group Description, Start Date, End Date, and Remarks. On the right side, fields include Exchange Rate Variance (in %), Override Limit (set to 3), Stop Limit (set to 100), Rate Code, and Rate Type Preferred. At the bottom, there are tabs for 'Preferences', 'MIS', and 'UDF'. Below the tabs, there are fields for Maker, Checker, Date Time, Mod No, Record Status, and Authorization Status, along with a 'Cancel' button.

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

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

2.4.12 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.

Retail Teller Product Details

Product Code * _____ - Exchange Rate Variance(in %) _____
Product Description * _____ Override Limit _____
Report Module RT Stop Limit _____
Retail Teller Rate Code * _____
Product Type * _____ Rate Type Preferred * _____
Description _____
Slogan _____
Product Group * _____
Product Group Description _____
Start Date _____
End Date _____
Remarks _____

Preferences MIS UDF Branch/Currency Restriction

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

Exit

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.

ARC Maintenance

Branch * _____
Branch Name _____
Account Class/Product Account Class
 Product Type
Account Class/Product * _____
Description _____
Transaction Type * _____
Description _____
Float Days Basis Calendar
 Working
Currency * _____

- Offset Details
Branch _____
Account _____

- Transaction Details
Branch _____
Account _____

- Transaction Code
Offset Transaction Code * _____
Main Transaction Code * _____

Liquidation Product for Demand Draft
 Netting Charges

Main Leg for the transaction Transaction Leg
Management information System
Debit Account Transaction Account
Charge From Account Transaction Account
End Point _____
Description _____
Bank Float Days _____
Customer Float Days _____
 Generate Transaction Advice
 Generate MT101

- Exchange Rate Revaluation
Profit Revaluation GL _____
Loss Revaluation GL _____

CHARGE1 CHARGE2 CHARGE3 CHARGE4 CHARGE5

Basis _____ Rate _____
Charge Account _____ Minimum Charge _____
Transaction Code _____ Maximum Charge _____
Charge Type _____ Rate Type _____
Currency _____ Amount _____
Rate Code _____ Description _____
 Netting MIS Head _____
Slab Type None Interest Basis _____
 Their Charge Delete

Fields Regulation

Input By DOC1 Date Time Modification Number Authorized
Authorized By Date Time Open

Cancel

2.4.13 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 screenshot displays the 'ARC Maintenance' window with the following sections:

- Left Panel:** Fields for Branch, Account Class/Product, Transaction Type, Currency, Account Class/Product (radio buttons for Account Class, Product Type, Working), Float Days Basis (radio buttons for Calendar, Working), Description, Branch Name, Description, and Customer Group.
- Offset Details:** Branch and Account fields.
- Transaction Details:** Branch and Account fields.
- Transaction Code:** Offset Transaction Code and Main Transaction Code fields.
- Checkboxes:** Liquidation Product for Demand Draft and Netting Charges.
- Main Leg for the transaction:** Transaction Leg dropdown, Generate Transaction Advice checkbox, End Point, Bank Float Days, Description, Customer Float Days, Debit Account, Charge From Account, Transaction Account, Management Information System, and Generate MT101 checkbox.
- Exchange Rate Revaluation:** Profit Revaluation GL and Loss Revaluation GL fields.
- Charge Section:** A tabbed interface for Charge 1 through Charge 5. Each tab contains fields for Basis, Charge Account, Transaction Code, Charge Type, Currency, Rate Code, Slab Type (None, Their Charge), Rate, Minimum Charge, Maximum Charge, Rate Type, Amount, Description, MIS Head, and Interest Basis. A 'Deletes' button is present at the bottom of this section.
- Bottom Panel:** 'Fields' and 'Regulation' tabs, 'Input By' and 'Authorized By' (Date Time), 'Modification Number', 'Authorized' and 'Open' checkboxes, and an 'Exit' 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.

For more details on ARC Maintenance, refer the relevant Oracle FLEXCUBE user manual.

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
- SWDRETBT – Retry and Suspense Processing Batch.

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

Function Inputs

Batch End Of Day Functions

Branch *

Function Id *

Description

End Of Cycle Group

Transaction Input

End Of Transaction Input

End Of Financial Input

End of Day

Beginning Of Day

Report Orientation

Not Applicable

Portrait

Landscape

Function Inputs

Parameter *	Data Type *	Value	Date Format
<input type="text"/>	VARCHAR2	<input type="text"/>	<input type="text"/>

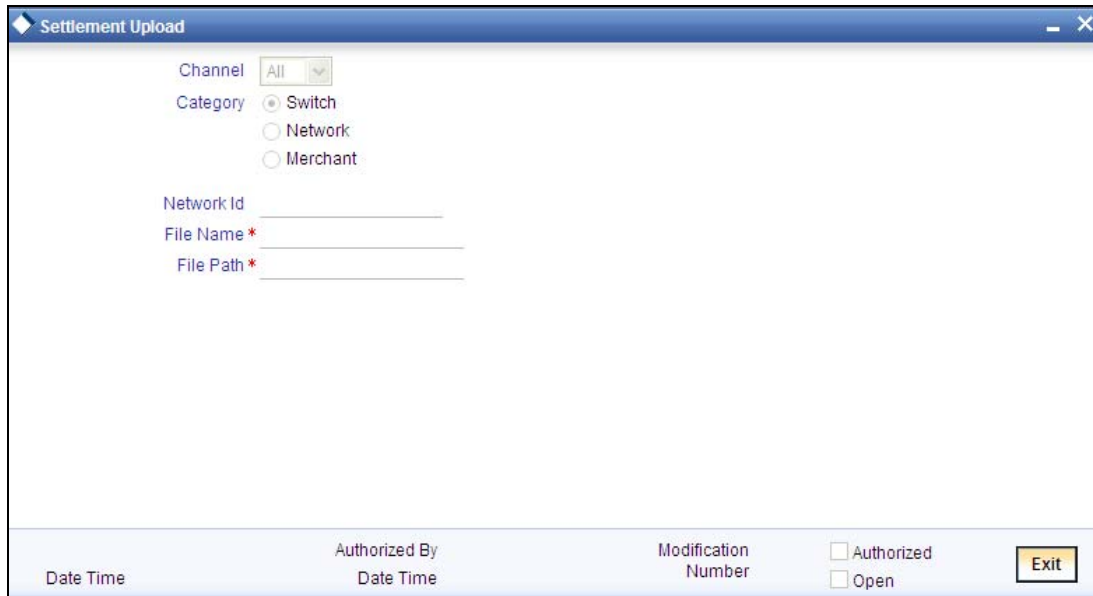
Input By: Authorized By: Modification Number:

Authorized Open

Exit

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.



The screenshot shows a window titled "Settlement Upload". It contains the following fields and controls:

- Channel:** A dropdown menu currently set to "All".
- Category:** Three radio buttons: "Switch" (selected), "Network", and "Merchant".
- Network Id:** A text input field.
- File Name *:** A text input field with a red asterisk indicating it is required.
- File Path *:** A text input field with a red asterisk indicating it is required.

At the bottom of the window, there is a status bar with the following information:

- Date Time:** (empty)
- Authorized By:** (empty)
- Date Time:** (empty)
- Modification Number:** (empty)
- Authorized:**
- Open:**
- Exit:** A button with the text "Exit".

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.

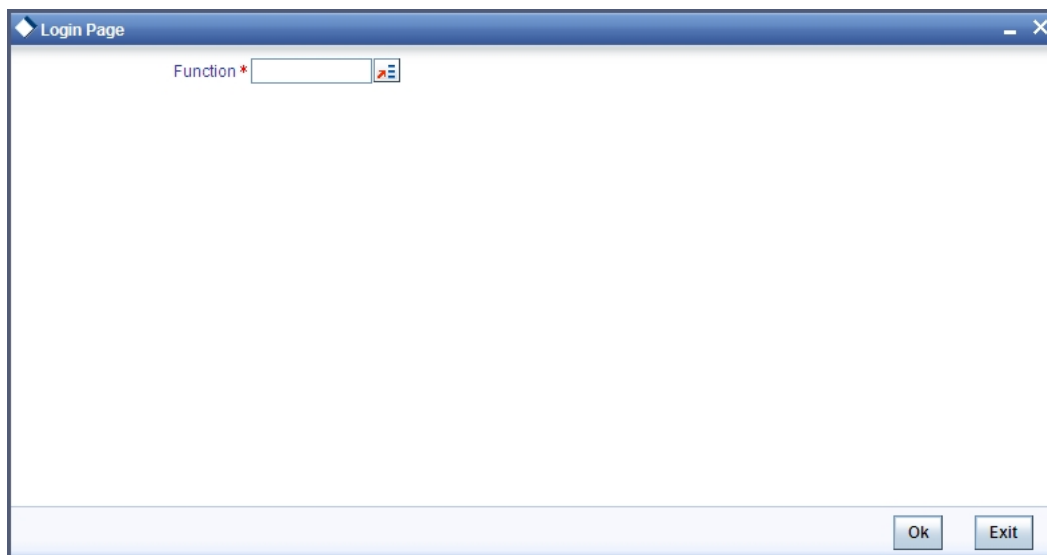
2.5.3 Intra Day Batch

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.
- SWDRETBT – This is the batch for retry and suspense processing.

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

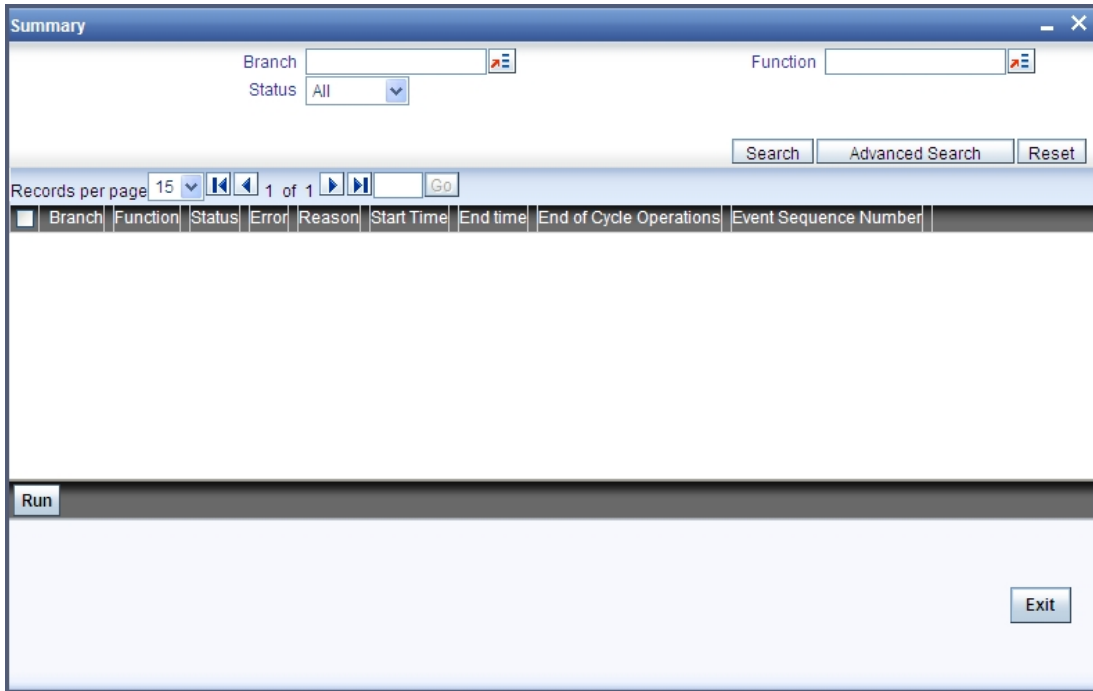
You can invoke the 'Intra Day Batch Start' screen by typing 'BADIDBAT' in the field at the top right corner of the Application tool bar and clicking the adjoining arrow button.



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 window titled "Debit Card FCC Account Upload". It has three input fields: "File Name *" (with a red asterisk and a yellow speech bubble icon), "File Path *" (with a red asterisk and a yellow speech bubble icon), and "Intraday Sequence Number". At the bottom of the window, there are four labels: "Input By Date Time", "Authorized By Date Time", "Modification Number", and "Authorized" (with a checkbox). Below "Authorized" is another checkbox labeled "Open". An "Exit" button is located on the far right of the bottom bar.

You can specify the following details.

File Name

Specify the name of the file that should be uploaded.

File Path

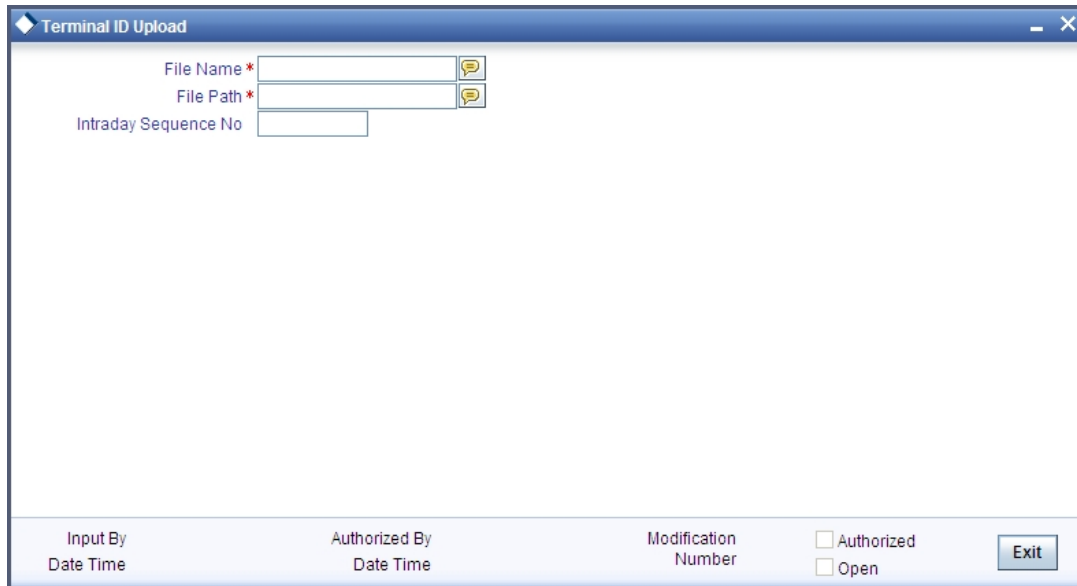
Specify the path from where the file should be picked up for uploading.

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". It contains three input fields: "File Name*" and "File Path*" (both with asterisks and help icons) and "Intraday Sequence No". At the bottom, there are labels for "Input By Date Time", "Authorized By Date Time", and "Modification Number". There are also two checkboxes labeled "Authorized" and "Open", and an "Exit" button.

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 a window titled "ATM Cash Deposit Details". The window is divided into several sections. The "Details" section includes fields for Transaction Account, Transaction Currency, Transaction Amount, Local Currency Amount, Transaction Date, Transaction Reference, and Amount. The "Charges" section is organized into four columns, each with fields for Charge Currency, Amount, and Charge Description. At the bottom of the window, there are fields for Date Time, Authorized By, Modification Number, and checkboxes for Authorized and Open, along with an Exit button.

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

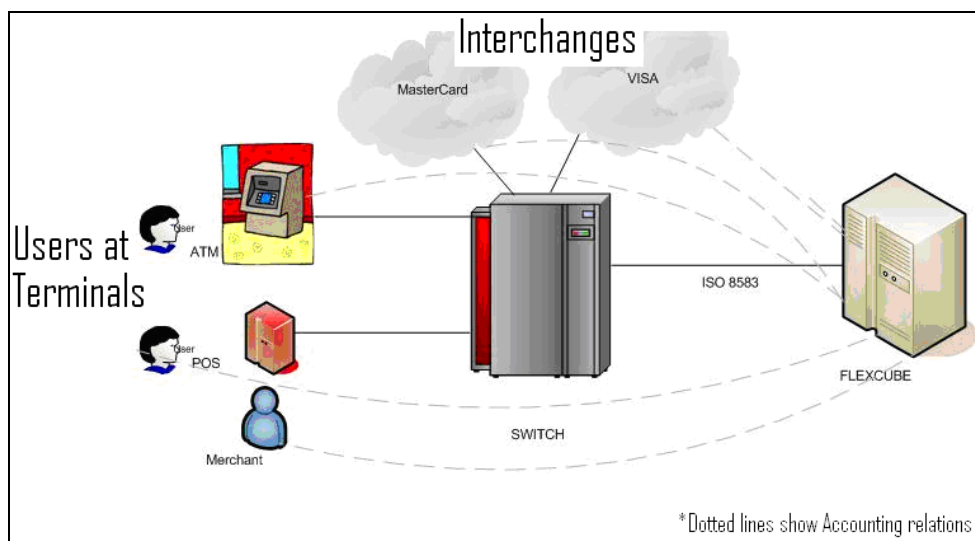
The description for the charge is displayed here.

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/C BILL-AMT (converted to a/c ccy)

CR CASH GL TXN-AMT

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)

CR P&L GL TXN_FEE

DR CUSTOMER A/C TXN_PROCESS_FEE (converted to a/c ccy)

CR P&L GL TXN_PROCESS_FEE

DR CUSTOMER A/C FC_CHARGES (converted to a/c ccy)

CR P&L GL FC_CHARGES

Remote – ON US

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

CR NETWORK SUSPENSE GL SETL_AMT

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)

CR NETWORK SUSPENSE GL TXN_FEE

DR CUSTOMER A/C TXN_PROCESS_FEE (converted to a/c ccy)

CR NETWORK SUSPENSE GL TXN_PROCESS_FEE

DR CUSTOMER A/C FC_CHARGES (converted to a/c ccy)

CR P&L GL FC_CHARGES

During Network Settlement

DR NETWORK SUSPENSE GL SETL_AMT

CR NETWORK NOSTRO A/C SETL_AMT (converted to a/c ccy)

DR NETWORK SUSPENSE GL TXN_FEE

CR NETWORK NOSTRO A/C TXN_FEE (converted to a/c ccy)

DR NETWORK SUSPENSE GL TXN_PROCESS_FEE

CR NETWORK NOSTRO A/C TXN_PROCESS_FEE (converted to a/c ccy)

OFF- US

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

CR CASH GL TXN-AMT

DR NETWORK SUSPENSE GL TXN_FEE (converted to setl ccy)

CR P&L GL TXN_FEE

DR NETWORK SUSPENSE GL TXN_PROCESS_FEE (converted to a/c ccy)
CR P&L GL TXN_PROCESS_FEE

During Network Settlement

DR NETWORK NOSTRO A/C SETL_AMT (converted to a/c ccy)
CR NETWORK SUSPENSE GL SETL_AMT

DR NETWORK NOSTRO A/C TXN_FEE
CR NETWORK SUSPENSE GL TXN_FEE (converted to a/c ccy)

DR NETWORK NOSTRO A/C TXN_PROCESS_FEE (converted to a/c ccy)
CR NETWORK SUSPENSE GL TXN_PROCESS_FEE

3.4.2 Accounting Entries for Balance Enquiry

ON US

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)
CR P&L GL TXN_FEE

DR CUSTOMER A/C TXN_PROCESS_FEE (converted to a/c ccy)
CR P&L GL TXN_PROCESS_FEE

DR CUSTOMER A/C FC_CHARGES (converted to a/c ccy)
CR P&L GL FC_CHARGES

R-ONUS

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)
CR NETWORK SUSPENSE GL TXN_FEE

DR CUSTOMER A/C TXN_PROCESS_FEE (converted to a/c ccy)
CR NETWORK SUSPENSE GL TXN_PROCESS_FEE

DR CUSTOMER A/C FC_CHARGES (converted to a/c ccy)
CR P&L GL FC_CHARGES

During Network Settlement

DR NETWORK SUSPENSE GL TXN_FEE
CR NETWORK NOSTRO A/C TXN_FEE (converted to a/c ccy)

DR NETWORK SUSPENSE GL TXN_PROCESS_FEE
CR NETWORK NOSTRO A/C TXN_PROCESS_FEE (converted to a/c ccy)

OFF-US

DR NETWORK SUSPENSE GL TXN_FEE (converted to setl ccy)
CR P&L GL TXN_FEE

DR NETWORK SUSPENSE GL TXN_PROCESS_FEE (converted to a/c ccy)
CR P&L GL TXN_PROCESS_FEE

During Network Settlement

DR NETWORK NOSTRO A/C TXN_FEE
CR NETWORK SUSPENSE GL TXN_FEE (converted to a/c ccy)

DR NETWORK NOSTRO A/C TXN_PROCESS_FEE (converted to a/c ccy)
CR NETWORK SUSPENSE GL TXN_PROCESS_FEE

3.4.3 Accounting Entries for Deposit

ON US

DR	CASH GL	TXN-AMT
CR	CUSTOMER A/C	BILL-AMT (converted to a/c ccy)
DR	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
CR	P&L GL	TXN_FEE
DR	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
CR	P&L GL	TXN_PROCESS_FEE
DR	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
CR	P&L GL	FC_CHARGES

3.4.4 Accounting Entries for Funds Transfer

ON US

DR	FROM A/C	BILL-AMT (converted to a/c ccy)
CR	TO A/C	TXN-AMT (converted to a/c ccy)
DR	FROM A/C	TXN_FEE (converted to a/c ccy)
CR	P&L GL	TXN_FEE
DR	FROM A/C	TXN_PROCESS_FEE (converted to a/c ccy)
CR	P&L GL	TXN_PROCESS_FEE
DR	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
CR	P&L GL	FC_CHARGES

3.5 Accounting Entries - POS Purchase

ON US

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

CR MERCHANT SUSPENSE GL TXN-AMT

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)

CR P&L GL TXN_FEE

DR CUSTOMER A/C TXN_PROCESS_FEE (in a/c ccy)

CR P&L GL TXN_PROCESS_FEE

DR CUSTOMER A/C FC_CHARGES (converted to a/c ccy)

CR P&L GL FC_CHARGES

During Merchant Settlement

DR MERCHANT SUSPENSE GL TXN_AMT- COMMISSION (a/c ccy)

CR MERCHANT A/C TXN_AMT- COMMISSION (a/c ccy)

DR MERCHANT SUSPENSE GL COMMISSION

CR P&L GL COMMISSION

Remote – ON US

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

CR NETWORK SUSPENSE GL SETL-AMT

DR CUSTOMER A/C TXN_FEE (converted to a/c ccy)

CR NETWORK SUSPENSE GL TXN_FEE

DR	CUSTOMER A/C	TXN_PROCESS_FEE (a/c ccy)
CR	NETWORK SUSPENSE GL	TXN_PROCESS_FEE

DR	CUSTOMER A/C	FC_CHARGES (a/c ccy)
CR	P&L GL	FC_CHARGES

During Network Settlement

DR	NETWORK SUSPENSE GL	SETL_AMT
CR	NETWORK NOSTRO A/C	SETL_AMT (converted to a/c ccy)

DR	NETWORK SUSPENSE GL	TXN_FEE
CR	NETWORK NOSTRO A/C	TXN_FEE (converted to a/c ccy)

DR	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
CR	NETWORK NOSTRO A/C	TXN_PROCESS_FEE (a/c ccy)

OFF-US

DR	NETWORK SUSPENSE GL	SETL-AMT (converted to a/c ccy)
CR	MERCHANT SUSPENSE	GL TXN-AMT (converted to a/c ccy)

DR	NETWORK SUSPENSE GL	TXN_FEE (converted to setl ccy)
CR	P&L GL	TXN_FEE

DR	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (a/c ccy)
CR	P&L GL	TXN_PROCESS_FEE

During Network Settlement

DR	NETWORK NOSTRO A/C	SETL_AMT
CR	NETWORK SUSPENSE GL	SETL_AMT

DR NETWORK SUSPENSE GL TXN_FEE
 CR NETWORK NOSTRO A/C TXN_FEE (converted to a/c ccy)

DR NETWORK NOSTRO A/C TXN_PROCESS_FEE (a/c ccy)
 CR NETWORK SUSPENSE GL TXN_PROCESS_FEE

During Merchant Settlement

DR MERCHANT SUSPENSE GL TXN_AMT – COMMISSION
 CR MERCHANT A/C TXN_AMT – COMMISSION

DR MERCHANT SUSPENSE GL COMMISSION
 CR P&L GL COMMISSION

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

Field sequence #	Field Name	Size (Characters)	Description
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

Field sequence number	Field name	Size	Mandatory (M) / Optional (O)	Remarks
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
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	

Field sequence number	Field name	Size	Mandatory (M) / Optional (O)	Remarks
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	Ans28	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

Field sequence #	Field name	Length	Mandatory / Optional	Description
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

FOLLOW_ON	Y
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. Screen Glossary

4.1 Function ID List

The following table lists the function id and the function description of the screens covered as part of this User Manual.

Function ID	Function Description
BADEODFN	Batch EOD Function Inputs
BASIDMTR	Intra Day Batch Monitor
CADAMBLK	Amount Block Input
CODSORCE	Upload Source Maintenance
CODUPLDM	Upload Source Preferences Maintenance
CYDCDEFN	Currency Definition
DEDTRPRM	Retail Teller Product Maintenance
GWDEXFUN	External System Functions - Detailed
GWDEXSYS	External System Maintenance
IFDATMMN	ARC Maintenance
SWDATMCD	ATM/Debit Card FCC Account Mapping
SWDCDUPL	Debit Card FCC Account Upload
SWDCHNID	Channel Details
SWDCSHDP	ATM Cash Deposit Details
SWDFCLTL	Process Code Mapping
SWDPRMAP	Product Type Maintenance
SWDTIDUP	Terminal ID Upload
SWDTRMID	Terminal Details
SWDTXQRY	Switch Transaction Monitor
SWDUPDET	Utility Provider Details
SWDUPPLST	Settlement Upload



Switch Interface Gateway
[May] [2011]
Version 11.3

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
[www.oracle.com/ financial_services/](http://www.oracle.com/financial_services/)

Copyright © [2011] Oracle Financial Services Software Limited. All rights reserved.

No part of this work may be reproduced, stored in a retrieval system, adopted or transmitted in any form or by any means, electronic, mechanical, photographic, graphic, optic recording or otherwise, translated in any language or computer language, without the prior written permission of Oracle Financial Services Software Limited.

Due care has been taken to make this document and accompanying software package as accurate as possible. However, Oracle Financial Services Software Limited makes no representation or warranties with respect to the contents hereof and shall not be responsible for any loss or damage caused to the user by the direct or indirect use of this document and the accompanying Software System. Furthermore, Oracle Financial Services Software Limited reserves the right to alter, modify or otherwise change in any manner the content hereof, without obligation of Oracle Financial Services Software Limited to notify any person of such revision or changes.

All company and product names are trademarks of the respective companies with which they are associated.