ELCM Interface with FCUBS/OBCL/External System Integration User Guide

Oracle Banking Enterprise Limits and Collateral Management

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1. Preface

1.1 Introduction

This document is designed to help acquaint you with the integration among Oracle FLEXCUBE products namely; Oracle Banking Enterprise Limits and Collateral Management system (FCELCM), Oracle FLEXCUBE Universal Banking Solutions (FCUBS) and Oracle Banking Corporate Lending (OBCL).

Besides this user manual, while maintaining the interface related details, you can invoke the context sensitive help available for each field. This help describes the purpose of each field within a screen. You can obtain this information by placing the cursor on the relevant field and pressing the <F1> key on the keyboard.

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
End of day operators	Processing during end of day/ beginning of day
Implementation Partners	Provide customization, configuration and implementation services

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 Organization

This manual is organized into the following chapters:

Chapter	Description
Chapter 1	*Preface* gives information on the intended audience. It also lists the various chapters covered in this User Manual.
Chapter 2	ELCM Integration with OBCL/FCUBS explains the various integration scenarios of ELCM integration with OBCL/FCUBS.
Chapter 3	*Annexure* provides the technical changes of integration.
Chapter 4	*Function ID Glossary* has alphabetical listing of Function/Screen ID's used in the module with page references for quick navigation.

1.5 Acronyms and Abbreviations

Abbreviation	Description
BC	Bills and Collection
CD	Corporate Deposit
EJB	Enterprise Java Beans
ECM	Oracle Banking Enterprise Collateral Management system
ELCM	Oracle Banking Enterprise Limits and Collateral Management system
ELM	Oracle Banking Enterprise Limits Management system
FCUBS	Oracle FLEXCUBE Universal Banking
JDBC	Java Database Connectivity
JPA	Java Persistence API
LC	Letter of Credit
MM	Money Market
OBCL	Oracle Banking Corporate Lending
ODT	Open Development Tools
POJO	Plain Old Java Object
SQLJ	A SQLJ program is a Java program containing embedded SQL state-ments.
TD	Term Deposit
XML	eXtensible Markup Language

1.6 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

1.7 Related Information Sources

Along with this user manual, you may also refer to the following related sources:

- Gateway Services documents

2. ELCM Integration with OBCL/FCUBS

The ELCM integration with OBCL/FCUBS enables the following:

- ELCM standalone integration with FCUBS and OBCL
- New services for FCUBS/OBCL integration
  - ELCM with FCUBS/OBCL-SYNC Mode
  - ELCM with FCUBS/OBCL-ASYNC Mode
- ELCM co-deployed with FCUBS/OBCL
- Linking LC contract and corporate deposits in collateral

This chapter contains the following sections:

- Section 2.1, "Prerequisites"
- Section 2.2, "Interface of standalone ELCM with FCUBS/OBCL"
- Section 2.3, "Integration Process"
- Section 2.4, "ELCM Co-deployed with FCUBS/OBCL"
- Section 2.5, "LC, TD, BC, CD, and MM Contract to Link in Collateral"

2.1 Prerequisites

2.1.1 Prerequisites in Oracle Banking ELCM

The following parameters should be set up in Oracle Banking ELCM.

- In ‘CSTB_PARAM’ table, if the ‘ELCM_SETUP_MODE’ is set to ‘E’ then the POJO call is initiated.
- If the option ‘ELCM_SETUP_MODE’ is not set to 'E', then in 'CSTB_PARAM' table 'OBCL-ELCM-EXT-CALL' parameter should be maintained.
- If 'OBCL-ELCM-EXT-CALL' is set to 'Y', then in 'CSTB_PARAM' table 'ELCM-CALL-MODE' parameter is verified.
- If 'ELCM-CALL-MODE' parameter value is set to 'S', then ELCM web service Sync call is made from OBCL.
- If 'ELCM-CALL-MODE' parameter value is set to 'A', then ELCM web service ASync call is made from OBCL.

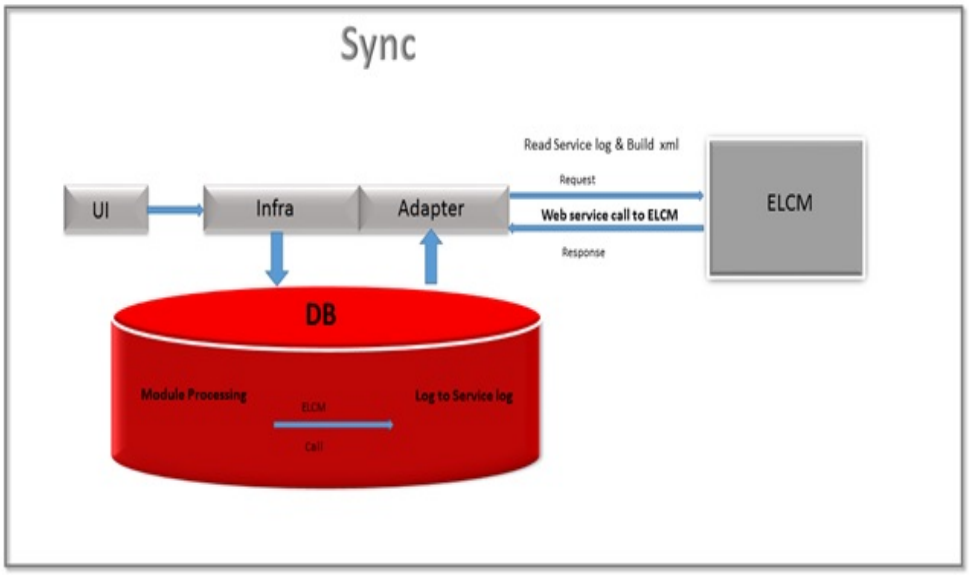
2.2 Interface of standalone ELCM with FCUBS/OBCL

Interface between FCUBS or OBCL to ELCM supports two modes.

- ELCM with FCUBS/OBCL-SYNC mode
- ELCM with FCUBS/OBCL-ASYNC mode

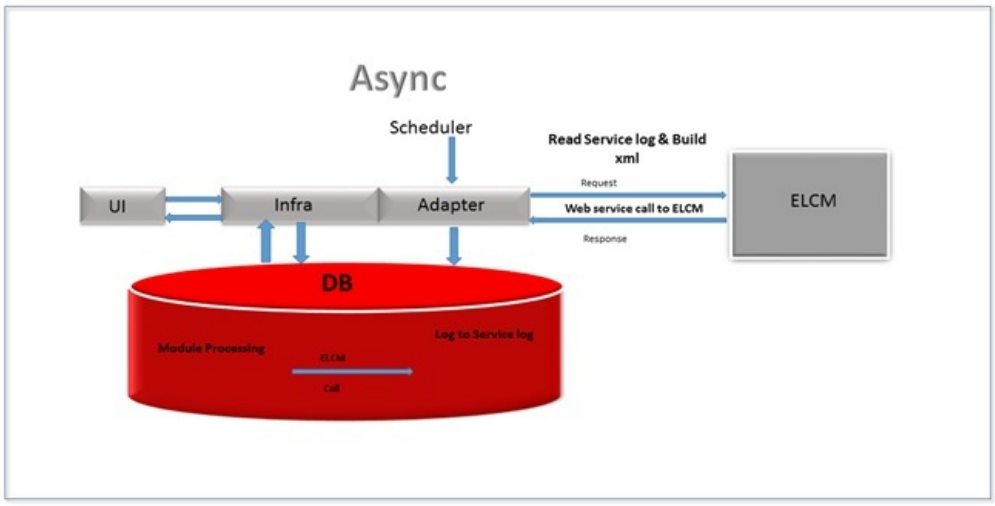
2.2.1 ELCM with SYNC Mode

- For this implementation, a new adapter layer is created in FCUBS /OBCL system to interact with ELCM through web services.
- During contract creation, if a limit request is created, FCUBS/OBCL logs the request to the service log tables.
- Adapter layer prepares the request based on the service log entry and invokes the web service of ELCM for further processing.
- Response received from the external limit system is shown during the transaction itself.



2.2.2 ELCM with FCUBS/OBCL-ASYNC Mode

- For ASYNC installation mode, communication between the FCUBS/OBCL and ELCM does not happen in single transaction window.
- FCUBS/OBCL transaction authorization would not be allowed until response from limit system is received.
- During contract creation, if a limit request is created, FCUBS/OBCL logs the request to the service log tables.
- A job/scheduler processes these records from this table, creates a request xml and the sends the request to ELCM for processing.
- If the processing from the ELCM side has any overrides, then an override error message is converted to an information message, sent to FCUBS side stating the record have overrides which needs to be manually accepted/rejected.
- Override error message details and request xml are logged into the override tables in ELCM and to the cstb_overide tables.
- Override Action screen is introduced for accepting or rejecting the override information. In addition, the processing of the transactions are performed after the overrides are accepted or rejected.



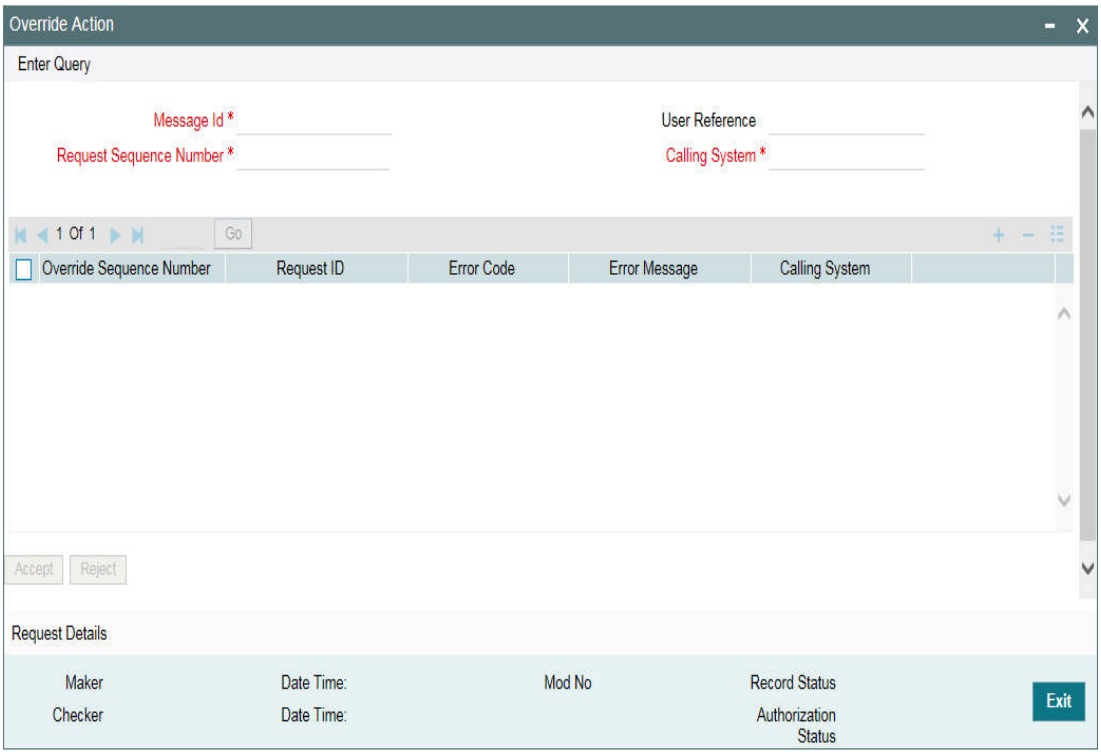
2.3 Integration Process

This section contains the following topics:

- Section 2.3.1, "Maintaining Override Action"
- Section 2.3.2, "Querying Valid Lines"
- Section 2.3.3, "Maintaining External System"
- Section 2.3.4, "Configuring Accounting System for a Host Code"
- Section 2.3.5, "Maintaining Integration Parameters"
- Section 2.3.6, "ELCM Web Services"

2.3.1 Maintaining Override Action

To invoke this screen, type 'GEDOVDAC' in the field at the top right corner of the application toolbar and click the adjoining arrow button.



Specify the following:

Message ID

Indicates an unique message ID. The adjoining option list displays all the valid message IDs. You can select the appropriate one.

User Reference

The user reference number gets defaulted once you select the message ID. The reference number is the identification that you specify for searching the messages. The User reference is the OL contract reference number and you can query the overrides based on the contract reference.

Calling System

Indicates the source system that calls ELCM. For example, OBCL or FCUBS.

Request Sequence Number

This is a DB sequence number generated by the system which is maintained along with message ID to make a composite key.

Override Sequence Number

Indicates the number of overrides for a single transaction. For example, if there are 2 overrides for single transaction it shows as 2 different overrides.

Request ID

Unique id for the Request XML that comes from the external system.

Error Code and Error Message

The overrides in the ELCM while booking the contract is displayed here along with the error message and error code. You have to accept or reject these overrides.

Accept and Reject

If 'Accept' button is clicked, the system allows you to process the transaction.

If 'Reject' button is clicked, the overrides are rejected and you have to delete the transaction and book a new transaction.

Click ‘Request Details’, the ‘Override Request Details’ screen appears. The following details are fetched from the external system.

- Status - The status of the override is displayed.
  - O – The override is open, that is, pending for approval or rejection
  - S – Accepted
  - R - Rejected
- User Reference - Contract reference is displayed.
- Linkage Reference Number - The reference number of Limit attached in the contract is displayed.
- Customer Number - Indicates the customer CIF
- Limit Type - Type of the limit attached. Collateral – C, Liability – L, Facility - F and Collateral Pool - P
- Utilization Currency - Indicates the contract currency
- Utilization Amount - Indicates the contract amount.
- Error Code - ELCM override code displaying during contract creation
- Calling System - Indicates the source system that calls ELCM. For example, OBCL or FCUBS.

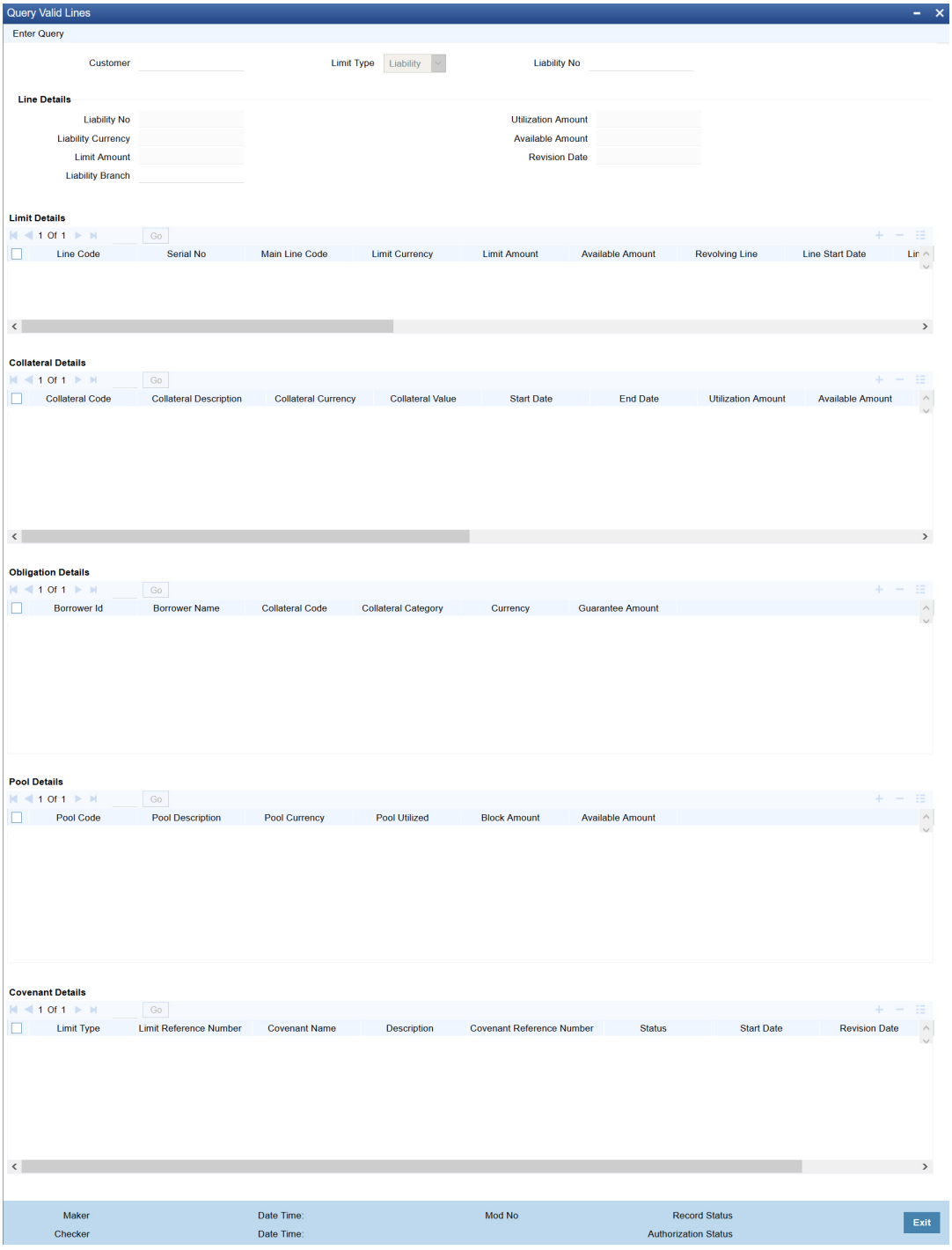
2.3.2 Querying Valid Lines

FCUBS requires limit details for linkages at a module level. In this case, FCUBS interacts with the ELCM systems and request for valid limit details for the customer. Response received from the limit systems are displayed for linkages.

- A new web service ‘ELValidLimitService’ is developed in ELCM which returns all the valid lines from facility, collateral, and collateral pool.
- 360 customer view also invokes the ‘ELValidLimitService’ for displaying the limit details.

ELCM process web service request from the FCUBS and sends response back to FCUBS with valid line details.

To invoke this screen, type ‘GEDQVLLN’ in the field at the top right corner of the application toolbar and click the adjoining arrow button.



Specify the following:

Customer

Specify the customer code. The adjoining option list displays all the valid customer codes. You can select the appropriate one.

Limit Type

Select the Limit Type as Liability, Facility, Collateral, Pool, Obligation, Covenant or All.

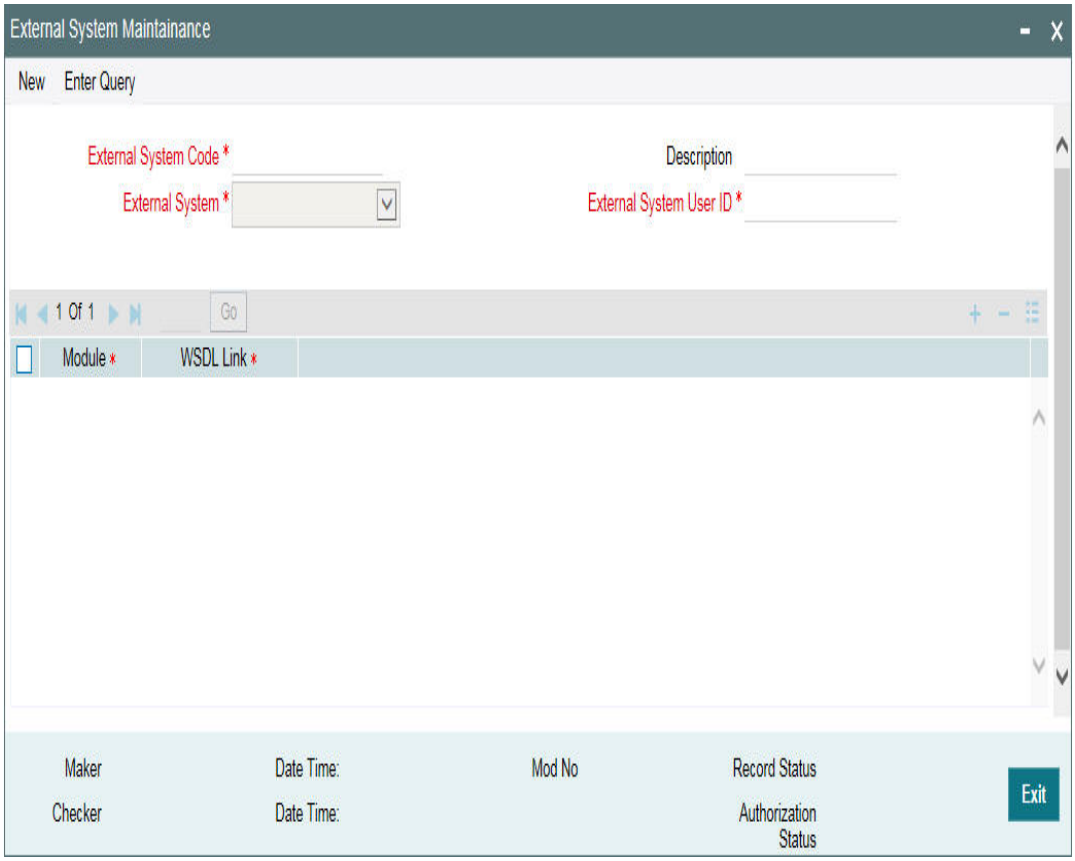
Liability No

Select the Liability Number. You can query the valid lines on the basis of Customer no or/and Liability no.

All the details of the Customer no or/and Liability no can be viewed in the Limit Type sections.

2.3.3 Maintaining External System

To invoke this screen, type 'GEDEXMNT' in the field at the top right corner of the application toolbar and click the adjoining arrow button.



External System Code

A unique code for maintaining external system details, that is for WSDL URL. For example, external system code for OBCL is OBCL, for FCUBS it is ROFC.

Description

This field is optional. It describes about external system code. For example, if you have multiple ROFCs you can differentiate in description.

External System

Indicates external system class. You can either select 'FCUBS' or 'Others' from the drop-down list.

External System User ID

Indicates the user ID used for login.

Module ID

Indicates the module code used for external system. For example, TD, ST, OL, MM, and so on.

WSDL Link

Indicates the link to access the web service.

The following table indicates the maintenance required for ROFC interface.

External System	Module	Description
ROFC	CASA	Service to be invoked in ROFC during facility modification
ROFC	OVD	Service to be invoked in case of deferred override response or dual-auth response
ROFC	OB	Service to be invoked to send guarantee collateral details
ROFC	LC	Service to send LC collateral linkage details
ROFC	TD	Service to block TD
ROFC	CD	Service to block CD

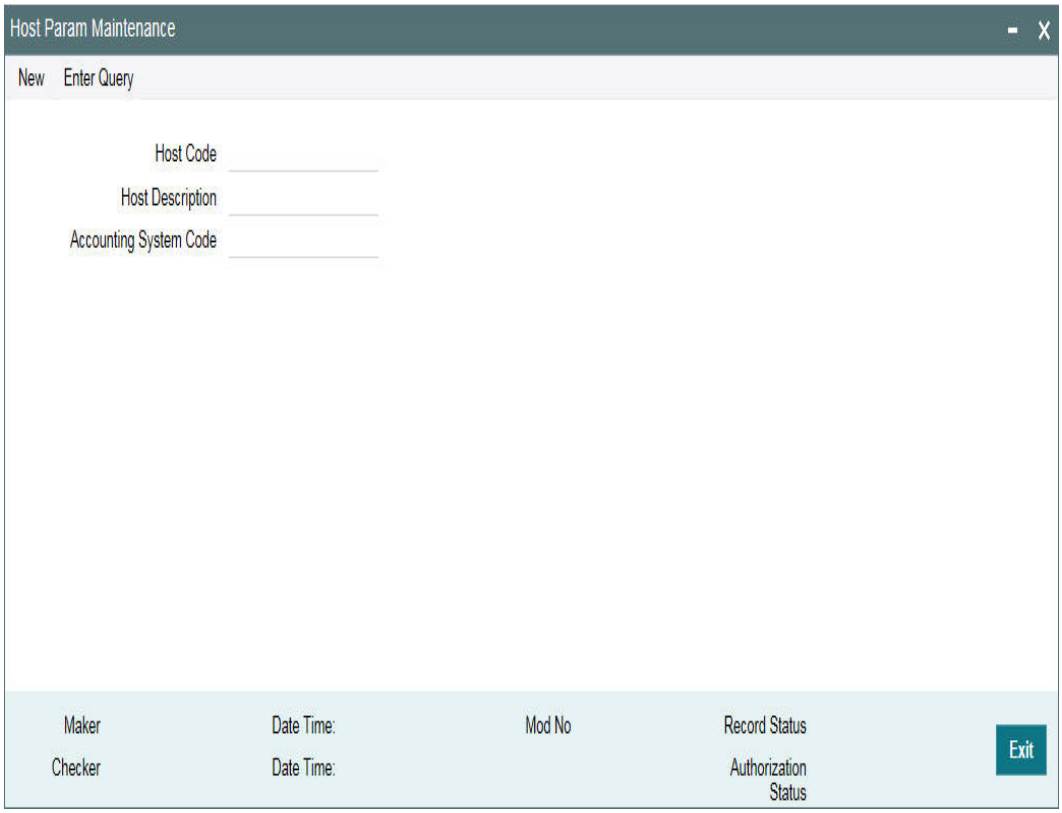
The following table indicates the maintenance required for OBCL interface.

External System	Module	Description
OBCL	OVD	Service to be invoked in case of deferred override response or dual-auth response

2.3.4 Configuring Accounting System for a Host Code

You can configure the accounting system using host code in the 'Host Parameter' screen. This screen captures all the external system details for the given host code.

To invoke this screen, type GEDHSTMN in the field at the top right corner of the application toolbar and click the adjoining arrow button.



Specify the following details

Host Code

Specify the host code.

Host Description

Specify the brief description for the host.

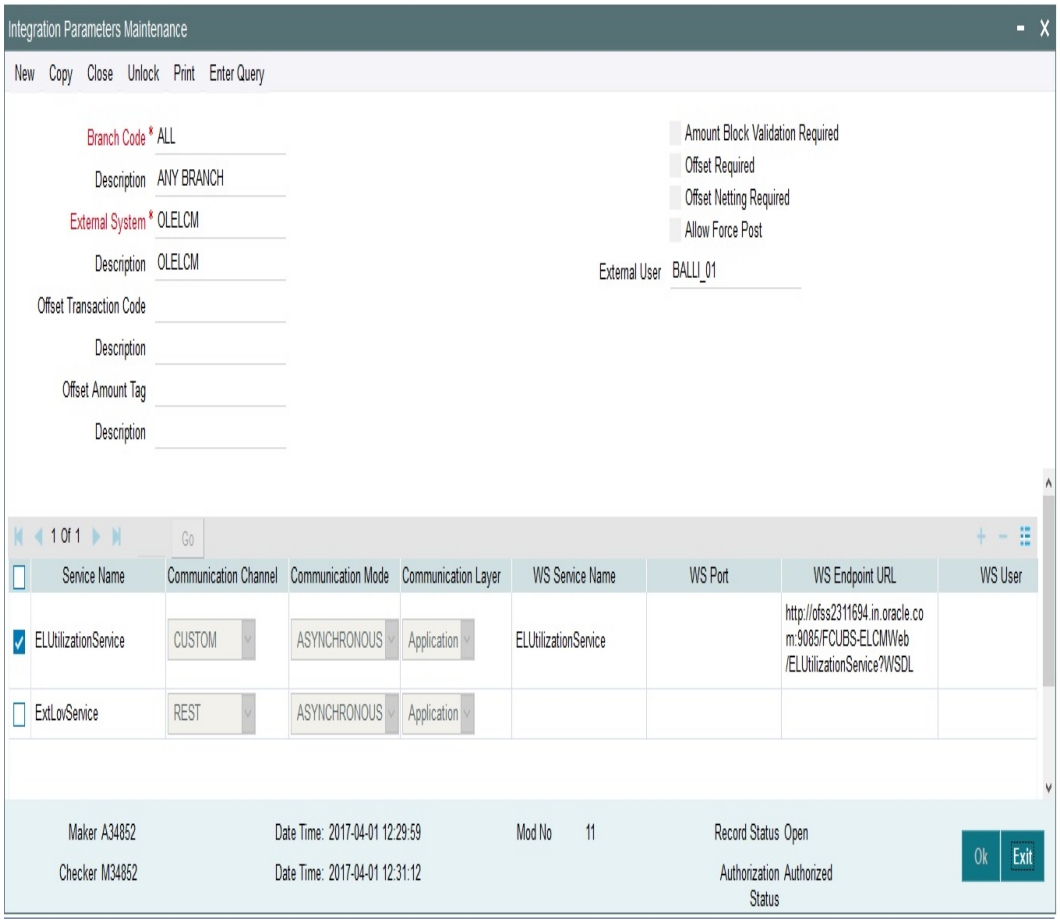
Accounting System Code

Specify the accounting system code.

2.3.5 Maintaining Integration Parameters

You have to maintain integration parameters for ‘External LOV’ and ‘ELCM Utilization’. This maintenance must be done for all branches. This maintenance is done through ‘Integration Parameters Maintenance’ screen.

To invoke this screen, type ‘IFDINPRM’ in the field at the top right corner of the application toolbar and click the adjoining arrow button.



You need to maintain the integration parameters for the following:

- External Lov – ExtLovService
- ELCM Utilization – ELUtilizationService

External Lov

- External System - External system name is specified here. For example, OLELCM
- Service Name – The service name for which the maintenance is done. For example, ELUtilizationService for ELCM and ExtLovService for External LovExtLovService.
- Communication Channel – The communication channel like REST, CUSTOM, WEB SERVICE, and so on are specified here.
- Communication Mode – The communication mode can be SYNC/ASYNC.
- Rest Service IP – You have to maintain the IP address. For example, ELCM IP.
- Rest Service Port – You have to maintain port details. For example, ELCM Port.
- Rest Service Pattern - You have to maintain rest service pattern. For example, LovService
- Rest Service Context – You have to maintain rest service context. For example, FCJNeoWeb
- External User - ELCM user should have access to all branches and autoauth

- External System - External system name is specified here. For example, OLELCM.
- Service Name – The service name for which the maintenance is done. For example, ELUtilizationService for ELCM and ExtLovService for External LovExtLovService.
- Communication Channel – The communication channel like REST, CUSTOM, WEB SERVICE, and so on are specified here.
- Communication Mode – The communication mode can be SYNC/ASYNC.
- WS Service Name – The service name needs to be maintained here. For example, ELUtilizationService.
- WS Endpoint URL – The WSDL of the services are maintained here. For example, ELCM utilization service WSDL link
- WS User – ELCM user should have access to all branches and autoauth.
- External User - ELCM user should have access to all branches and autoauth.

2.3.6 ELCM Web Services

A new web service 'ELValidLimitService' is developed in ELCM which returns all the valid lines from facility, collateral, and collateral pool. In addition, it also invokes 360 customer view.

The new header tag used in ELCM web services are the following:

2.3.6.1 Finalreq

- This header tag is for identifying the override information from the FCUBS system.
- FinalReq is set as "N" if there are overrides in the FCUBS system.
- FinalReq is set as "Y" if there is a no override in the FCUBS system.
- If FinalReq is set as 'N", then ELCM processes the records, validate all the business rules but the transaction is not persisted.
- If the FinalReq Flag is set as 'Y', then only the records are persisted in ELCM side and the success response is sent to the user.

2.3.6.2 Mode

- This header tag is identity installation mode for the ELCM system.
- Mode can be Async(A) ,Sync(S) or default
- If FinalReq is 'N' and mode value is set 'A', then the override error message is converted to an information message and then updated in the response xml and is returned to the calling system.

2.3.6.3 Ext Trip Id

Ext trip is a place holder to send Multi Trip ID specific for ELCM to FCUBS/OBCL once the overrides have been accepted.

2.4 ELCM Co-deployed with FCUBS/OBCL

In a co-deployed system of FCUBS/OBCL and ELCM, the process flow between the systems happens through Application (JPA) layer. Insulation layer is calling the GatewayEJB of ELCM with same request xml.

In the standalone version of ELCM, changes are made to process all ELCM Function IDs in the Application layer itself. To support this, the Function IDs for which persistence was done using POJO in DB was converted to JPA.

ELJBean class has been modified to route to business process flow to application layer instead of database.

2.5 LC, TD, BC, CD, and MM Contract to Link in Collateral

The TD, SB, CA,CD and MM contract can be linked to collateral using External LOV service. ExtLovService is configured for external FCUBS system through IFDINPRM screen.

These term deposits or contracts can be created as a collateral through Accounts and Contracts collateral creation screen (GCDCOLAC). Post linkage a block is created on the TD, SB, CD and CA accounts using the below services.

- TD – FCUBSCustomerService
- CD - FCUBSSTService
- SB/CA- FCUBSCustomerService

3. ELCM Integration with External System

Oracle Banking Enterprise Limits and Collateral Management system (OBELCM) supports Oracle Banking Enterprise Limits Management system (OBELM) and Oracle Banking Enterprise Collateral Management system (OBECM) as a separate installation. In addition, it supports integration with external ELM/ECM systems.

You can use OBELM or OBECM to support seamless integration with external ELM/ECM systems.

This chapter contains the following sections:

- Section 3.1, "OBELM and OBECM co-deployed"
- Section 3.2, "OBELM with External ECM"
- Section 3.3, "OBECM and External ELM"
- Section 3.4, "OBECM and OBELM deployed separately"
- Section 3.5, "Maintenances for OBELM and OBECM"
- Section 3.6, "Assumptions"

3.1 OBELM and OBECM co-deployed

No changes to this functionality as these modules are co-deployed.

3.2 OBELM with External ECM

- OBELM system provides external collateral pool service to populate the pool details and valid limit service to fetch the liability details of the customer.
- External ECM system creates the collateral pool in OBELM system by using the services exposed.
- External ECM system provides collateral block service to update collateral details.
- OBELM system calls the collateral block service for any change in the pools linked to facility.

3.3 OBECM and External ELM

- OBECM system provides the collateral block service and valid limit service. Valid limit service fetches the liability and collateral details for any customer.
- External ELM system uses the services exposed to get the collateral details for facility creation.
- External ELM system calls the collateral block service for any change in the collaterals linked to facility.

3.4 OBECM and OBELM deployed separately

- OBELM system provides external collateral pool service to populate the pool details and valid limit service to fetch the liability details of the customer.
- OBECM system creates the collateral pool in OBELM system by using the services exposed.
- OBECM system provides collateral block service to update collateral details and valid limit service to fetch liability details.
- OBELM system calls the collateral block service for any change in the pools linked to facility.

3.5 Maintenances for OBELM and OBECM

3.5.1 Valid Limit Service

The Valid Limit Service (GEDQVLLN) is modified to fetch the limit details based on limit type.

For more information on valid limit service, refer to Querying Valid Lines section.

4. Annexure

4.1 Technical changes

Remediation for SQLJ in 12cR2 and standalone ELCM without POJO classes are introduced.

5. Function ID Glossary

G

GEDEXMNT 2-7
GEDHSTMN 2-8
GEDOVDAC 2-4
GEDQVLLN 2-5

I

IFDINPRM 2-9