

ELCM Interface with FCUBS and OBCL Integration User  
Guide

**Oracle FLEXCUBE Enterprise Limits  
and Collateral Management**

**Release 14.1.0.0.0**

Part Number E92997-01

May 2018

ELCM - FCUBS OBCL Integration User Guide  
May 2018  
Oracle Financial Services Software Limited

Oracle Park

Off Western Express Highway  
Goregaon (East)  
Mumbai, Maharashtra 400 063  
India  
Worldwide Inquiries:  
Phone: +91 22 6718 3000  
Fax: +91 22 6718 3001  
[www.oracle.com/financialservices/](http://www.oracle.com/financialservices/)

Copyright © 2007, 2018, Oracle and/or its affiliates. All rights reserved.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate failsafe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

This software or hardware and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

---

# Contents

<b>1. Preface .....</b>	<b>1-1</b>
1.1 Introduction.....	1-1
1.2 Audience.....	1-1
1.3 Documentation Accessibility.....	1-1
1.4 Organization .....	1-1
1.5 Acronyms and Abbreviations.....	1-2
1.6 Glossary of Icons.....	1-2
1.7 Related Information Sources .....	1-2
<b>2. ELCM Integration with OBCL/FCUBS .....</b>	<b>2-1</b>
2.1 Prerequisites.....	2-1
2.1.1 Prerequisites in Oracle FLEXCUBE ELCM .....	2-1
2.2 Interface of standalone ELCM with FCUBS/OBCL.....	2-1
2.2.1 ELCM with SYNC Mode .....	2-1
2.2.2 ELCM with FCUBS/OBCL-ASYNCR Mode.....	2-2
2.3 Integration Process.....	2-3
2.3.1 Maintaining Override Action .....	2-4
2.3.2 Querying Valid Lines .....	2-5
2.3.3 Maintaining External System .....	2-7
2.3.4 Configuring Accounting System for a Host Code .....	2-8
2.3.5 Maintaining Integration Parameters.....	2-9
2.3.6 ELCM Web Services .....	2-11
2.4 ELCM Co-deployed with FCUBS/OBCL.....	2-11
2.5 ELCM Embedded with FCUBS/OBCL.....	2-12
2.6 LC, TD, BC, CD, and MM Contract to Link in Collateral.....	2-12
<b>3. Annexure .....</b>	<b>3-1</b>
3.1 Technical changes.....	3-1
<b>4. Function ID Glossary .....</b>	<b>4-1</b>

---

# 1. Preface

## 1.1 Introduction

This document is designed to help acquaint you with the integration among Oracle FLEXCUBE products namely; Oracle FLEXCUBE 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	<i>Preface</i> 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	<i>Annexure</i> provides the technical changes of integration.
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.

## 1.5 Acronyms and Abbreviations

Abbreviation	Description
BC	Bills and Collection
CD	Corporate Deposit
EJB	Enterprise Java Beans
ELCM	Oracle FLEXCUBE Enterprise Limits and Collateral 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 statements.
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-ASYNCR Mode
- ELCM co-deployed with FCUBS/OBCL
- ELCM embedded 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, "ELCM Embedded with FCUBS/OBCL"](#)
- [Section 2.6, "LC, TD, BC, CD, and MM Contract to Link in Collateral"](#)

### 2.1 Prerequisites

#### 2.1.1 Prerequisites in Oracle FLEXCUBE ELCM

The following parameters should be set up in Oracle FLEXCUBE 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

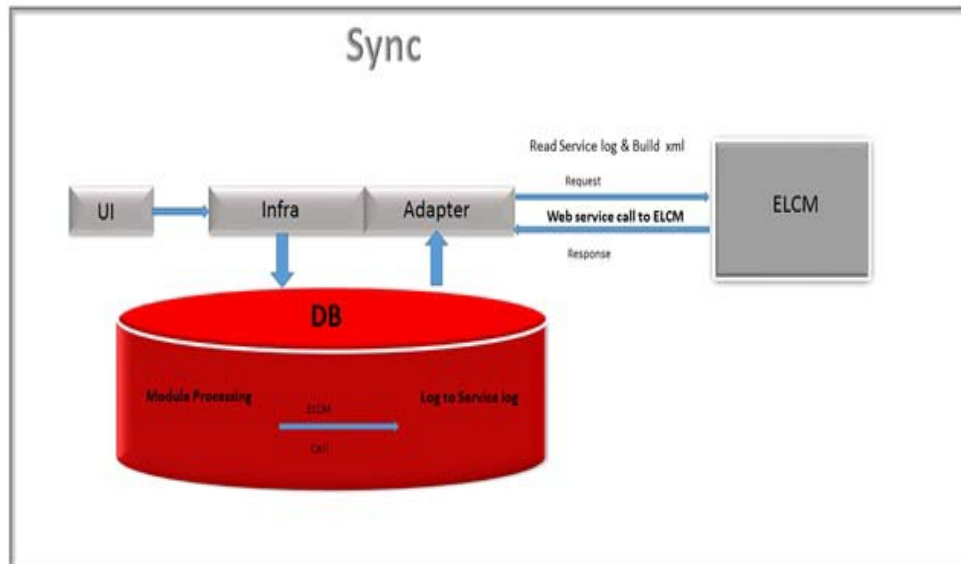
Interface between FCUBS or OBCL to ELCM supports two modes.

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

#### 2.2.1 ELCM with SYNC Mode

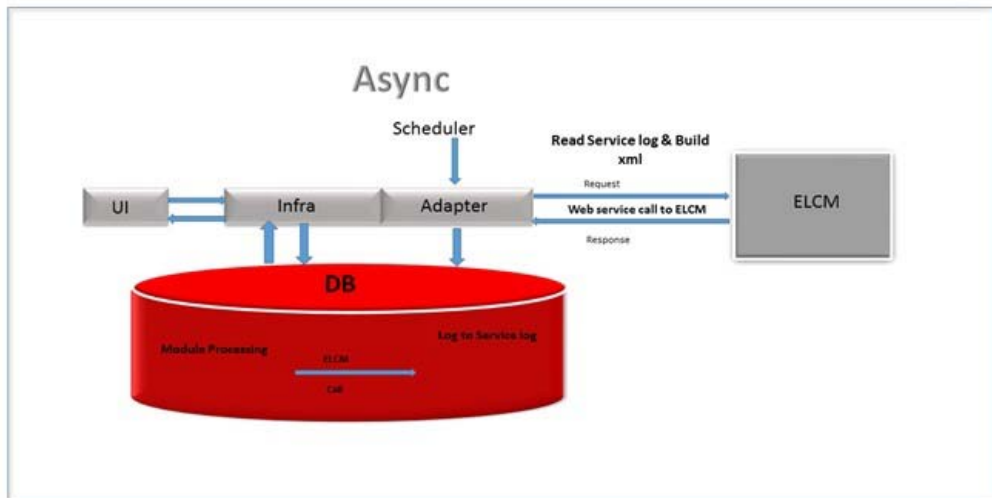
- For this implementation, a new adapter layer is created in FCUBS /OBCL system to interact with ELCM through web services.
- During contract creation, if a limit request is created, FCUBS/OBCL logs the request to the service log tables.

- 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\_override 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.

The screenshot shows the 'Override Action' application window. At the top, there is a search area with the text 'Enter Query'. Below this, there are four input fields: 'Message Id \*', 'Request Sequence Number \*', 'User Reference', and 'Calling System \*'. Below the search area is a table with the following columns: 'Override Sequence Number', 'Request ID', 'Error Code', 'Error Message', and 'Calling System'. The table is currently empty. Below the table, there are two buttons: 'Accept' and 'Reject'. At the bottom of the window, there is a 'Request Details' section with the following fields: 'Maker', 'Checker', 'Date Time', 'Mod No', 'Record Status', and 'Authorization Status'. An 'Exit' button is located in the bottom right corner.

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.

**Product**

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

**Branch**

Specify the code for the branch. You can select the branch code from the option list. The list displays all valid branch codes maintained in the system i.e both current branch code and other branch codes.

**Currency**

Specify the limits currency. The option list displays all valid limits currencies. Choose the appropriate one.

**Tenor**

Specify the limits tenor.

**Availment Date**

Specify the limits availment date.

Valid Lines can be fetched based on filter conditions.

- Customer Number
- Currency

- Product Code
- Tenor
- Branch
- Availment Date

Product code and tenor are the optional search parameters and others are the mandatory search criteria.

### 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
	ACCSYS	Service to handoff accounting entries

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.

Host Param Maintenance

New Enter Query

Host Code \_\_\_\_\_

Host Description \_\_\_\_\_

Accounting System Code \_\_\_\_\_

Maker Date Time: Mod No Record Status

Checker Date Time: Authorization Status

Exit

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.

Integration Parameters Maintenance

New Copy Close Unlock Print Enter Query

Branch Code \* ALL  
Description ANY BRANCH

External System \* OLELCM  
Description OLELCM

Offset Transaction Code  
Description

Offset Amount Tag  
Description

Amount Block Validation Required  
Offset Required  
Offset Netting Required  
Allow Force Post

External User BALLI\_01

1 Of 1

<input type="checkbox"/>	Service Name	Communication Channel	Communication Mode	Communication Layer	WS Service Name	WS Port	WS Endpoint URL	WS User
<input checked="" type="checkbox"/>	ELUtilizationService	CUSTOM	ASYNCHRONOUS	Application	ELUtilizationService		http://ofss2311694.in.oracle.com:9085/FCUBS-ELCMWeb/ELUtilizationService?WSDL	
<input type="checkbox"/>	ExtLovService	REST	ASYNCHRONOUS	Application				

Maker A34852 Date Time: 2017-04-01 12:29:59 Mod No 11 Record Status Open  
Checker M34852 Date Time: 2017-04-01 12:31:12 Authorization Authorized Status

Ok Exit

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/ASYN.
- 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

## **ELCM Utilization**

- 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 ELCM Embedded with FCUBS/OBCL**

The SQLJ components which were used for persistence in POJO is no longer supported in Oracle 12cR2 DB, hence remediation was done to convert SQLJ components into JDBC syntax and is loaded as POJO component.

Changes were also done in ODT utility to generate JDBC files instead of SQLJ files. So using these JDBC components version with embedded ELCM can work as before.

## **2.6 LC, TD, BC, CD, and MM Contract to Link in Collateral**

The TD, LC, BC, and MM contract can be linked to collateral by invoking ELAccountService of ELCM. During collateral creation you can link these term deposits or contracts in Linked Contract-Accounts subsystem.

If any LC account type contract is linked with collateral and present in FCUBS, in case of any update, FCUBS is notified, that this, account has been linked with this collateral. For example, LC is notified and for CD/TD amount is blocked.

The following web services are used for blocking and notifying.

- CD - FCUBSCustomerService
- LC - FCUBSCoreService
- TD- FCUBSLDService

---

## 3. Annexure

### 3.1 Technical changes

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

---

## 4. Function ID Glossary

### G

GEDEXMNT .....2-7  
GEDHSTMN .....2-8  
GEDOVDAC .....2-4

GEDQVLLN ..... 2-5

### I

IFDINPRM ..... 2-9