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Oracle FLEXCUBE
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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
<https://www.oracle.com/industries/financial-services/index.html>

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1. Release Notes

1.1 Background

This document highlights the features those are developed, qualified, and released with Oracle FLEXCUBE 11.12.0.0.0 release. The base version for this release is Oracle FLEXCUBE 11.11.0.0.0 release.

The document provides specific details on the environmental software used for the Integration Testing. The details covered in this document are – background of the current project, key release highlights & external deliverables (software components and accompanying documents).

1.2 Purpose

The purpose of this Release Note is to propagate the enhancements in Oracle FLEXCUBE 11.12.0.0.0 Release.

1.3 Abbreviations

Abbreviation	Description
AI	Artificial Intelligence
API	Application Programming Interface
BG	Bank Guarantee
CASA	Current Account Savings Account
CC	Cash Credit
CDD	Customer Due Diligence
CL	Consumer Lending
CRR	Credit Risk Rating
DOM	Document Object Model
EMI	Equated Monthly Instalment
EOD	End of the Day
FCRA	Foreign Contribution (Regulation) Act
FMW	Oracle Fusion Middleware
FP	Fast Path
FX	Foreign Exchange
FY	Financial Year
GEFU	General Electronic File Uploads
GenAI	Generative Artificial Intelligence
GL	General Ledger
IC	Inward Clearing
IFN	Indian Financial Network (INFINET) Format
IFSC	Indian Financial System Code
IRM	Integrated Risk Management

ISO	International Organization for Standardization
JDK	Java Development Kit
KYC	Know Your Customer
LC	Letter of Credit
LEI	Legal Entity Identifier
ML	Machine Learning
NEFT	National Electronic Funds Transfer
NPA	Non-Performing Assets
NPCI	National Payments Corporation of India
OBTR	Oracle Banking Treasury Management
OCI	Open Container Initiative
OD	Overdraft
OHS	Oracle HTTP Server
OJET	Oracle JavaScript Extension Toolkit
ORM	Operational Risk Management
OS	Operating System
PAN	Permanent Account Number
RBI	Reserve Bank of India
RD	Recurring Deposit
SFMS	Structured Financial Messaging System
SMS	Short Message Service
TD	Term Deposit
TDS	Tax Deducted at Source
TOD	Temporary Overdraft
UDRN	Unclaimed Deposit Reference Number
UI	User Interface
WLS	WebLogic Server
XML	Extensible Markup Language

1.4 **Release Highlights**

Following are the key items included in the scope of this release.

1.4.1 **Oracle FLEXCUBE Core Banking Enhancements**

- **Technical Changes**
 - Enhancing User Experience with a Redwood-Themed Look and Feel for a Modern, Cutting-Edge Interface.
 - Enhanced Login Experience with Redwood-themed Look and Feel and Virtual Keyboard Security
 - OJET 17.1.0 Upgrade for Modernized Virtual DOM Architecture and Stable Theme for Enhanced Performance

- FMW upgrade - JDK-17 Compliant Tech Stack
- Adoption of New Hibernate ORM 6.x Architecture
- HTTP2 and TLS1.3 Support for Enhanced Secure Access
- Podman Integration for Secure Containerized Deployment
- Additional REST/ SOAP APIs
- **Functional Changes**
 - New Task Workflow Process
 - Loan Instalment Refund Processing
 - 24/7 - Same-Day Credit & Timely TD Sweep-In to Prevent CASA TOD
 - Account Title Length Increase
 - Remote / Deferred Authorization for Teller Transactions
- **Regulatory changes**
 - Enhanced NPA Classification & Credit Sufficiency Validation for CC/OD Accounts
 - Enhanced Validation for Account Upgrade & CRR Reverse Movement
 - KYC Validations for Cash Transactions & Account Opening
 - Enhanced KYC Compliance for TD/RD Pay-ins.
 - Validations Automated EOD Processing & Threshold-Based Compliance for Deposits, Loans & CDD
 - Enhancements in FCRA Transaction Processing & Defaulting Rules
 - Inoperative PAN Identification & Higher TDS Implementation for Cash Withdrawals
 - Automated Reclassification of Dormant Accounts Post Reactivation
 - Enhanced Borrower Control & Transparency in Interest Rate Resets
 - Changes to Penal Charges Processing in Loans
 - NEFT Migration from IFN to ISO 20022
 - Enhancement in Dormancy Processing & Unclaimed Deposits
 - Enhancements in (Continuous) Clearing Process
- **Gen AI/ ML Use Cases**
 - AI-powered Generation of CASA Product Summary
 - ML-Powered Anomaly Detection for Fraud Prevention

1.4.2 Oracle FLEXCUBE Universal Banking Enhancements

- Auto Population of Maturity Date on Loan Amendment
- Interest Subvention
- Rate Propagation Batch
- Fair Lending Practice
- Auto Closure of Partially Utilized LC.
- Replacement of Unsupported Characters in SFMS Message
- LEI Code in IRM and ORM

- OBTR FX Linkage in Bills Online Screen
- Support for CAMT.052, CAMT.053 and CAMT.060
- Refund of Commission in BG
- IRM/ORM in JSON format

1.5 Release Enhancements

1.5.1 Oracle FLEXCUBE Core Banking Enhancements

TECHNICAL CHANGES

1.5.1.1 Enhancing User Experience with a Redwood-Themed Look and Feel for a Modern, Cutting-Edge Interface

- Oracle's Redwood Theme is the next generation of user experience, designed to provide a state-of-the-art, consumer-grade interface across devices while catering to complex enterprise scenarios.
- In line with Oracle's broader product suite, Oracle FLEXCUBE Core Banking has now adopted the Redwood-themed Look and Feel, ensuring a modern, sleek, and visually enhanced user interface.
- With this upgrade, users will experience:
 - A refreshed look and feel that enhances usability and accessibility.
 - A consistent UI experience across Oracle products, ensuring a unified ecosystem.
 - Optimized navigation and responsiveness across different devices for improved efficiency.
- The adoption of the Redwood-themed Look and Feel marks a significant step toward delivering an intuitive and engaging user experience, empowering users with a seamless and visually appealing banking interface.

1.5.1.2 Enhanced Login Experience with Redwood-themed Look and Feel and Virtual Keyboard Security

- The FLEXCUBE login page has been redesigned to align with Oracle's Redwood-themed Look and Feel, offering a modernized and visually enhanced user experience.
- This update brings a sleek and intuitive interface, ensuring consistency with Oracle's next-generation user experience standards.
- Additionally, a new virtual keyboard feature has been introduced to enhance security by protecting user passwords from potential theft, mitigating the risk of keylogging attacks, and improving overall application security.

1.5.1.3 OJET 17.1.0 Upgrade for Modernized Virtual DOM Architecture and Stable Theme for Enhanced Performance

- Oracle FLEXCUBE now leverages a new Virtual DOM architecture, where the application's virtual DOM is maintained in memory and synchronized with the live DOM using Oracle JET (OJET) libraries.

- This enhancement significantly improves performance, responsiveness, and availability compared to previous versions, ensuring a smoother and more efficient user experience.
- Additionally, a new "Stable Theme" has been introduced, aligning with other Oracle products to provide a consistent visual experience across applications.
- This theme minimizes the impact of future UI updates on custom themes, ensuring better adaptability and reducing rework during upgrades.
- The system's modernization also extends to the underlying JavaScript code, which has been refactored to leverage the capabilities of modern browsers.
- This results in an architecture that is easier to configure, maintain, and upgrade, providing a more scalable and future-ready foundation for Oracle FLEXCUBE.
- Oracle JET (JavaScript Extension Toolkit), a comprehensive suite of advanced data visualizations, UI components, and utilities for modern web applications, has been upgraded from version 11.1.5 to 17.1.0.
- This upgrade ensures compatibility with the latest UI component libraries, enhancing the application's user interface and experience.

1.5.1.4 FMW Upgrade- JDK-17 Compliant Tech Stack

- The current release is now qualified on the FMW 14.1.2 tech stack and is JDK 17 compliant. For detailed component information, refer to Section 2.2.

1.5.1.5 Adoption of New Hibernate ORM 6.x Architecture

- The FC CORE application infrastructure has been upgraded to align with Hibernate ORM 6.x, which has undergone a major architectural shift to conform to the Jakarta Persistence API.
- This update deprecates legacy APIs while enhancing type safety.
- As part of this transition, the application now supports JDK 17 and replaces deprecated legacy APIs with Jakarta Persistence APIs while continuing to support Hibernate mapping files.

1.5.1.6 HTTP2 and TLS1.3 Support for Enhanced Secure Access

- The application configuration now supports HTTP/2 and TLS 1.3 protocols, enhancing secure communication between clients and servers as well as server-to-server interactions.
- HTTP/2 improves network performance with a binary framing mechanism, making it more efficient and secure compared to HTTP/1.x
- TLS 1.3, the latest version of the Transport Layer Security protocol, offers faster performance and stronger encryption than TLS 1.2, further strengthening security.

1.5.1.7 Podman Integration for Secure Containerized Deployment

- Oracle FLEXCUBE now supports Podman, an OCI-compliant, rootless container management tool, for secure and efficient deployment on Linux-based virtual machines.
- **Key Benefits**
 - Rootless Execution: Enhances security by allowing non-admin users to manage containers.

- Daemonless Architecture: Improves stability by eliminating background daemons.
- Podman Desktop Alternative: Provides a UI-based Docker alternative.
- **Containerized Deployment**
 - WebLogic Server (WLS): Runs middleware with Helm charts and rootless execution.
 - Oracle HTTP Server (OHS): Acts as a reverse proxy and load balancer.
 - Oracle Database: Uses prebuilt images with persistent data volumes.
- With Podman, Oracle FLEXCUBE deployments become more secure, scalable, and aligned with modern containerized banking infrastructures.

1.5.1.8 Additional REST/ SOAP APIs

- This release includes the implementation of 13 REST/SOAP APIs, enhancing system functionality and ensuring seamless integration for improved performance and efficiency.
 - AccountMemoMntService
 - CustomerMemoMntService
 - LoanAcctAttributesMandateMntService
 - ProductTransferService
 - LoanRepricingService
 - LoanCollateralLinkageModDelService
 - ClearingRejectedInstrService
 - TemporaryFundLimitsInquiryService
 - TemporaryFundLimitsMntService
 - LoanRescissionService
 - LoanInsurancePlanLinkageService
 - LoanAccountChargeService
 - LoanAppropriatedInstallPayService

FUNCTIONAL CHANGES

1.5.1.9 New Task Workflow Process

- **During Workflow Definition**
 - Allows users to define, configure, and modify task workflows as per banking process requirements.
 - Supports step-by-step customizable task messages for better user guidance.
 - Ensures task flows execute in a predefined sequence for accuracy and compliance.
- **During Task Execution**
 - A guided workflow widget providing real-time assistance.
 - On-screen instructions for each step, reducing errors and improving usability.
 - Allows users to skip tasks if already completed and manually access any fast path.
- **UI & Screen Enhancements**

- Introduction of a new dedicated Task Flow Maintenance screen (FP: BA006) with essential functions:
 - Add, modify, delete, cancel, amend, authorize, inquire, and copy workflows.
- Allows sequence movement, updating, or deletion of added tasks.

1.5.1.10 Loan Instalment Refund Processing

- **Introduction of New Screen – Loan Backdated Refund of Instalment (FP:7009)**
 - A new screen, Loan Backdated Refund of Instalment (FP:7009), has been introduced to facilitate the refund of the last instalment payment in a loan.
- **Support for Multiple Refund Modes**
 - The refund process on the parent screen Loan Backdated Refund of Instalment (FP:7009) will support the following modes:
 - CASA (1430) – Refund processed to the customer's Current or Savings Account.
 - GL (1098) – Refund processed via General Ledger (GL)
- Loan instalment payments made on a previous date can be refunded using this screen.
- The system displays the 'Credit Amount' field as the last instalment payment amount. If multiple instalment payments were made on the same date, the system will display the total sum of all payments made on that day.
- On completion of the refund transaction, system to re-raises the arrears due as on the instalment payment date.

1.5.1.11 24/7 - Same-Day Credit & Timely TD Sweep-In to Prevent CASA TOD

- **Same-Day Credit Posting for Internal Transfers to Prevent CASA TOD**
 - Previously, when a CASA account was credited via internal transfer and then debited via an external payment (e.g., NEFT), the credit was posted the next day, while the debit was posted on the same day, causing the account to go into Temporary Overdraft (TOD).
 - To address this problem, internal transfers will now be posted with the same value date as external payments to ensure that credits and debits are posted on the same day and the account does not go into TOD.
- **Timely Processing of TD Sweep-in to Prevent CASA TOD**
 - If a debit to a CASA account occurs after the TD Sweep-in shell has run (e.g., due to a loan drawdown shell process), and this triggers a sweep-in from a Term Deposit (TD) with a lien, the lien previously remained unprocessed, causing the CASA account to enter TOD.
 - Now, TD redemption and credit to CASA will be processed on the same day as the debit, ensuring the account remains funded and does not enter TOD.

1.5.1.12 Account Title Length Increase

- **Increased Account Title Length**
 - The account title field can now accommodate up to 120 alphanumeric characters, allowing for longer and more detailed account names.
- **Applicability of Revised Account Title Length**

- The updated account title length will be applicable for the following account types:
 - CASA (Current & Savings Accounts)
 - Term Deposits (TD)
 - Safe Deposit Lockers
 - Savings Scheme Accounts

1.5.1.13 Remote / Deferred Authorization for Teller Transactions

- Tellers can now submit transactions for Remote Authorization on the following screens:
 - Customer Initiated Rollovers (FP: LN061)
 - Account Write Off (FP: AC004)
 - Loan Ad hoc Interest Application (FP: LN071)
 - Float Extension (FP: ST061)
 - Global Float Extension (FP: ST072)
 - Product Provision Codes Maintenance (FP: ACM11)
- Transactions initiated by the teller will be routed to the Remote Authorization system for approval.
- Once approved in Remote Authorization, the transaction status will be updated accordingly.

REGULATORY CHANGES

1.5.1.14 Enhanced NPA Classification & Credit Sufficiency Validation for CC/OD Accounts

- **NPA Classification for Out of Order Cash Credit/Overdraft Accounts**
 - As per RBI guidelines, Cash Credit (CC) and Overdraft (OD) accounts that are out of order will now be classified as Non-Performing Assets (NPA).
 - An account will be considered out of order if:
 - The account remains above the sanctioned limit for 90 days.
 - There has been no credit for 90 days.
 - The credit is insufficient to service the interest debited in the same period, as per current norms.
- **New Classification Criteria – ‘Credit Sufficiency’ in ACM05**
 - A new classification criterion, “Credit Sufficiency,” has been introduced in ACM05 to assess account status.
 - The period of transaction for checking credit sufficiency will be configurable, allowing customization of the number of days for which the system will validate credit sufficiency.

1.5.1.15 Enhanced Validation for Account Upgrade & CRR Reverse Movement

- **Validation for Account Upgrade from Suspended to Normal Accrual Status**

- As per RBI guidelines, when an account is upgraded from Suspended to Normal Accrual status, the system will validate arrears across all accounts of the customer.
- If arrears due is zero, the customer's CRR (Credit Risk Rating) will be upgraded from Suspended to Normal.
- **New Field in ACM01 – CRR Reverse Movement**
 - A new field, "CRR Reverse Movement," has been introduced in ACM01, allowing users to select the value "Realization of all Arrears."
 - When this value is selected, every time an account movement from Suspended to Normal is triggered, the system will check for dues across all accounts of the customer before processing the upgrade.

1.5.1.16 KYC Validations for Cash transactions and Account opening

- **Enhanced Validations for Cash Deposits**
 - Across all screens handling cash deposits, if a customer's cumulative deposit reaches or exceeds INR 20 lakhs in a financial year, the system will mandate PAN or Aadhaar for the transaction to proceed.
- **Enhanced Validations for Cash Withdrawals**
 - Across all screens handling cash withdrawals, if a customer's cumulative withdrawal reaches or exceeds INR 20 lakhs in a financial year, PAN or Aadhaar will be mandatory before processing.
- **Validation for Account Opening**
 - Opening of Current Accounts and CC/OD (Cash Credit/Overdraft) accounts will be restricted if the customer does not have either PAN or Aadhaar maintained in the system.

1.5.1.17 Enhanced KYC Compliance for TD/RD Pay-ins.

- **Transaction Amount Validation for TD/RD Pay-in**
 - Across all screens, APIs, GEFU, and batch processes handling Term Deposit (TD) and Recurring Deposit (RD) pay-ins, if the transaction amount exceeds INR 50,000, the system will mandate PAN or Aadhaar before processing.
- **Cumulative Pay-in Validation for TD/RD**
 - Across all screens, APIs, GEFU, and batch processes handling TD/RD pay-ins, if a customer's cumulative pay-in exceeds INR 5,00,000, PAN or Aadhaar will be mandatory before further transactions can be processed.

1.5.1.18 Automated EOD Processing & Threshold-Based Compliance for Deposits, Loans & CDD

- EOD Batch Processing for Deposit Account Aggregation & Threshold Checks
- A new End-of-Day (EOD) batch shell will calculate daily aggregate balances across deposit accounts and/or credits across customer deposit accounts for the financial year (FY).
- The batch will validate these balances against predefined threshold limits based on customer type, configurable via a new maintenance screen.
- Customers exceeding the limits will be blocked, and SMS alerts will be sent detailing the breach.

- **Threshold Validation for Loan Sanctioning**
 - Annual thresholds for sanctioned loan amounts, including term loans and agricultural loans, will be validated at the time of loan opening and approval.
 - These thresholds will be managed based on customer type via the new maintenance screen.
- **Enforcement of Customer Due Diligence (CDD) Period**
 - A 12-month CDD compliance check will be enforced:
 - Deposit accounts will be blocked post the CDD period.
 - Borrowal accounts will be restricted to no debits.
 - An EOD batch shell will monitor compliance, and customers will be notified via alerts upon blocking.
 - Thresholds will be managed via the new Customer Type Threshold Limits Maintenance screen.
- **New Maintenance Screen: Customer Type Threshold Limits**
 - A new maintenance screen, “Customer Type Threshold Limits Maintenance,” has been introduced to configure and manage all threshold limits for deposit accounts, loan sanctions, and CDD compliance.

1.5.1.19 Enhancements in FCRA Transaction Processing & Defaulting Rules

- **New Payment Transaction Codes for Outgoing FCRA Transactions**
 - New payment transaction codes have been introduced to facilitate the initiation of outgoing Foreign Contribution (Regulation) Act (FCRA) transactions.
- **Defaulting Beneficiary Account Type and IFSC for FCRA Transactions**
 - When an outgoing FCRA transaction is initiated, the system will automatically:
 - Set the Beneficiary Account Type to ‘41 – FCRA’.
 - Default the Beneficiary Branch IFSC Code to ‘SBIN0000691’ (SBI Bank’s Main Branch IFSC).
- **Behaviour Updates for Sender to Receiver Information Fields**
 - The behaviour of Line 1 and Line 2 in the Sender to Receiver Information fields has been updated.

1.5.1.20 Inoperative PAN Identification & Higher TDS Implementation for Cash Withdrawals

- **Identification of Inoperative PAN**
 - A new provision has been introduced to identify a customer’s PAN as inoperative in the system.
- **Higher TDS Rate for Cash Withdrawals with Inoperative PAN**
 - If a customer’s PAN is identified as inoperative, the system will automatically apply a higher TDS rate on cash withdrawals as per regulatory guidelines.

1.5.1.21 Automated Reclassification of Dormant Accounts Post Reactivation

- **Auto-Reclassification of Dormant Accounts After Manual Reactivation**

- If a dormant account is manually reactivated, but the customer does not perform any transactions after reactivation, the system will now automatically reclassify the account as dormant after the standard dormancy period.

1.5.1.22 Enhanced Borrower Control & Transparency in Interest Rate Resets

- **Borrower Notifications for Interest Rate Changes**
 - Borrowers will now receive notifications when changes in benchmark interest rates result in:
 - Increased loan tenor
 - Higher EMI
 - Both tenor and EMI changes
- **Option to Choose Rate Reset Preferences**
 - Borrowers will be provided with an option to select their preference during rate resets:
 - Increase the loan tenor.
 - Increase the EMI
 - Increase both tenor and EMI proportionally.
- **Tracking & Display of Rate Reset Rollovers**
 - The system will now track and display the number of rate resets allowed through rollovers, ensuring transparency in loan adjustments.
- **Restriction on Interest Rate Changes Causing Negative Amortization**
 - Interest rate adjustments will now be restricted if they lead to negative amortization, where the interest component exceeds the EMI amount, preventing further financial strain on borrowers.

1.5.1.23 Changes to Penal Charges Processing in Loans

- **Discontinuation of Penal Charges Accrual**
 - The system will no longer accrue penal charges going forward.
- **Suppression of GL Entries**
 - GL (General Ledger) entries related to penal charges will now be suppressed to prevent accrual-based postings.
- **Narration Update**
 - The narration for penal charge transactions will be updated to “Penal Charges” for clarity in transaction history.
- **Reversal and Reposting of Penal Charges**
 - Existing penalty charges will be reversed and reposted in compliance with the revised process.

1.5.1.24 NEFT migration from IFN to ISO 20022

- NEFT payments migration from IFN298 to ISO 20022 as per RBI guidelines.
- The system now supports ISO 20022 message formats for NEFT transactions:

IFN298 Message	ISO 20022 Equivalent
IFN298N02 – NEFT Credit List	pac.008 – FIToFICustomerCreditTransfer

IFN298N03 – Rejected Transactions	pacs.002 – FIToFIPaymentStatusReport
IFN298N04 – End-of-Day/Batch	camt.054 – BankToCustomerDebitCreditNotification
IFN298N06 – Outward Debit	pacs.008 – FIToFICustomerCreditTransfer
IFN298N07 – Return Transactions	pacs.004 – PaymentReturn
IFN972 – Net Position	camt.052 – BankToCustomerAccountReport
Block A – Message Header	head.001 – BusinessApplicationHeader

1.5.1.25 Enhancement in Dormancy Processing & Unclaimed Deposits

- **Non-Financial Transactions Considered for Dormancy Processing**
 - Non-financial transactions will now be treated as customer-induced transactions for the purpose of dormancy processing, ensuring accounts remain active if the customer interacts with the bank.
- **Quarterly Alerts for Dormant & Unclaimed Accounts**
 - The system will send quarterly alerts to customers with dormant and unclaimed accounts, reminding them to take necessary action.
- **Reactivation Alert for Dormant Accounts**
 - When a dormant account is reactivated, an alert notification will be sent to the customer as confirmation.
- **Generation of Unclaimed Deposit Reference Number (UDRN)**
 - A unique Unclaimed Deposit Reference Number (UDRN) will be generated for tracking and managing unclaimed deposits, improving transparency and retrieval efficiency.

1.5.1.26 Enhancements in (Continuous) Clearing Process

- **Multiple Runs for Outward Clearing**
 - The system now supports running outward clearing multiple times a day, enhancing processing flexibility and efficiency.
- **Clear Funds Based on NPCI Response Codes**
 - Funds will now be cleared immediately if the response from NPCI is:
 - 00 – Confirmed Positive
 - 99 – Deemed Approved
- **Multiple Runs for Inward Clearing**
 - Inward clearing can now be processed multiple times a day, improving transaction settlement timelines.

GEN AI/ ML USE CASES

1.5.1.27 AI-powered Generation of CASA Product Summary

- **GenAI-Powered CASA Product Summary in CHM01**
 - The CASA Product Master Screen (FP: CHM01) now integrates with a GenAI engine to generate product-specific summaries, providing a simplified and concise overview for easy understanding.
- **Introduction of "Summary" Button**
 - A new "Summary" button has been added to the CHM01 screen.

- When clicked, the AI-generated product summary will be displayed in a popup screen, offering users a quick reference without navigating through multiple data points.

1.5.1.28 ML-Powered Anomaly Detection for Fraud Prevention

- **Implementation of Isolation Forest ML Algorithm**
 - The Isolation Forest machine learning algorithm has been integrated to analyse transaction patterns in customer accounts.
 - This will enable real-time detection of anomalies or unusual behaviour that may indicate potential fraud.
- **Configurable Detection Frequency**
 - The frequency of anomaly detection will be configurable, allowing financial institutions to adjust monitoring intervals based on risk appetite and regulatory requirements.
- **Storage of Anomalous Accounts**
 - Accounts identified with anomalies will be stored in a designated database table for further analysis and fraud investigation.
- **Enhanced Fraud Detection & Reporting**
 - This feature strengthens fraud detection capabilities, providing actionable insights for proactive risk management and regulatory reporting.

1.5.2 Oracle FLEXCUBE Universal Banking Enhancements

1.5.2.1 Auto Population of Maturity Date on Loan Amendment

- Amendment of maturity date necessitates manual intervention to modify the schedule definition accordingly, the requirement is to populate the same automatically.

1.5.2.2 Interest Subvention

- A percentage of the liquidated interest component must be credited back to Customer settlement account as and when the interest is completely settled for a schedule.

1.5.2.3 Rate Propagation Batch

- In the current system, the new/modified rates are propagated to all other branches during the authorization of the CFDFLTRI screen, which is a time-consuming operation. As a result, the rate propagation portion is transferred to a batch operation.
- Rate propagation batch is an intraday batch which will process the rate propagation to other branches.

1.5.2.4 Fair Lending Practice

- The RBI's mandate for restricting computation of penal interest and introduce a new charge component for the same to compute with basis as schedule overdue for the component based on fair lending rate.
- The process of penalizing customer for defaulting schedule payment should be treated as 'penal charges' and shall not be levied in the form of 'penal interest' that is added to the rate of interest charged on the advances. Further, there shall be no capitalization of penal charges i.e., no further interest computed on such charges. Nonetheless, the conventional practice of compounding interest still holds good.

1.5.2.5 Auto Closure of Partially Utilized LC.

- Provision to Close the partially utilized LC after certain days from the expiry date.
- Currently Partially utilized Import LC automatically gets closed on the Expiry date and the Customer's Limit, Outstanding Liability & the Cash collaterals gets reinstated for the outstanding amount.
- Also, If the Bill contract of the linked Import LC is outstanding and if it is in the Initial stage, the LC doesn't not be get closed but the Customer limits, Outstanding Liability & the Cash collaterals gets reinstated for the outstanding amount.
- The above partial closure operations are currently done on the Expiry date of the LC.
- Also, currently, the Partial Closure facility is available only for the Import LC. The same will be extended to the Export LC as well.

1.5.2.6 Replacement of Unsupported Characters in SFMS Message

- SFMS message should contain a predefined set of characters and gets rejected in the SFMS server if the message holds any character which are not supported.
- Below characters (X type) are currently allowed in any SFMS message:
a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9
/ - ? : () . , ' +
- The approach will involve replacing these unsupported special characters with space for SFMS messages. This replacement ensures that the message conforms to the required character set, preventing any failures during processing on the SFMS server. By implementing this solution, the system will be able to handle messages containing unsupported characters without causing errors or disruptions.

1.5.2.7 LEI Code in IRM and ORM

- Reserve Bank has announced introducing fields/options containing LEI numbers for resident entities as well as non-resident counterparts in both Inward Remittance Messages (IRMs) and Outward Remittance Messages (ORMs) to be reported in EDPMS/IDPMS
- So, provision has been given to capture the LEI code in Bills Contract Online screen, IRM screen and ORM screen and populate them in the IRM/ORM messages.

1.5.2.8 OBTR FX Linkage in Bills Online Screen

- System supports linkage of forward FX contracts created in OBTR product processor in BC Online screen during Collection, Purchase/Discount/Negotiation or Liquidation of Export bill.
- FCUBS system will be enhanced to Link/De-Link/Utilize FX contract and send a Link/De-Link/Utilization request to OBTR system.

1.5.2.9 Support for CAMT.052, CAMT.053 and CAMT.060

- System supports Camt.052 which is an XML-based Account Reporting message based on ISO 20022 format from Bank to Customer for cash management.

- Camt.053 is an XML-based Customer Statement Message based on ISO 20022 format from Bank to Customer for cash management. It provides account holder with the necessary information about all booked entries.
- Camt.060 is an Account Reporting Request message. The account owner sends this message, either directly or through a forwarding agent, to one of its account servicing institutions. It is used to ask the account servicing institution to send a report on the owner's account in CAMT.052 or CAMT.053 ISO format.

1.5.2.10 Refund of Commission in BG

- Provision of refund of BG commission is provided for the below scenarios.
 - BG closure before expiry date BG or cancellation of issued BG
 - Recovery of excess commission during BG issuance or amendment.
 - BG amendment in terms of decrease of BG value or BG tenor.
- Post refund of commission credit advice needs to be generated for the commission refunded.
- GST recovered during initial recovery of the BG issuance commission will not be refunded.

1.5.2.11 IRM/ORM in JSON format

- DGFT has come up with a new JSON format for Inward Remittance Message and Outward Remittance Message. System has been enhanced to support the new format.

1.5.3 Deprecated Features

Fast Path	Screen	Deprecated Feature
CIM08	Customer Type	Below fields removed. 1. External Validation Required 2. External Validation Description 3. External Validation URL
CIM09	Customer Master	Census code tab removed.
CHM01	CASA Product Master	Below fields removed: 1. Withdrawals Allowed 2. ERA Account 3. DWMS
CIM12	Customer Contact / Complaint Log Maintenance	Upload button/field in Documents tab removed.
CIM62	Customer Primary Information Maintenance	1. A label "PAN Required" is provided to the checkbox and by default the PAN field is disabled. 2. Status of Form 60 field renamed to Form 60/61
TDM01	TD Product Master	Service Charge Code field removed. Islamic value in dropdown field Class in General tab removed.
BAM63	Product Collateral Linkage	Below fields removed: 1. Security Validity Date 2. Security Type.

7026 7022	Loan Balance Enquiry (7026) Loan Instalment Payment Enquiry (7022)	Below fields removed from 7022 and 7026 screens: 1. Future Interest 2. Principal Arrears Postponed 3. Other Arrears Postponed 4. Interest Arrears Postponed 5. Penalty Arrears Postponed
ACM05	Asset Classification Plan Maintenance	Diverting Arrears checkbox in Arrears tab removed.
LN522	Loan Account Schedule Inquire	Below fields removed from Stage Details tab: 1. End Stage Today 2. End of Period 3. Stage Change label
7024	LOAN EFS Inquiry	Below fields removed: 1. Future Interest Computed 2. Future Interest Charged 3. Interest waived 4. Principal Arrears Postponed 5. Other Arrears Postponed 6. Interest Arrears Postponed 7. Penalty Arrears Postponed
1405 1067 1083	Loan EFS modes	Below fields removed from 1405, 1067 and 1083 screens: 1. Future Interest Computed 2. Future Interest Charged 3. Interest waived
LN22	Loan Deduction	No of Instalments field removed

2. Components of the Software

2.1 Documents Accompanying the Software

The various documents accompanying the software are as follows:

- User Manual
- FC Core Guides
 - Oracle FLEXCUBE Core Banking Licensing Guide
 - Oracle FLEXCUBE Core Banking Security Guide
- FCUBS Guides:
 - Oracle FLEXCUBE Universal Banking License Guide
 - Oracle FLEXCUBE Universal Banking Security Guide

2.2 Software Components

The hardware/ software environment/ configuration used during the system testing of Oracle FLEXCUBE 11.12.0.0.0 release is as follows:

Host:

- **Application server**
 - Oracle Web logic Application Server (Release 14.1.2.0.0)
 - Oracle Linux 9.4
 - JAVA JDK 17.0.14
 - Oracle WebLogic Server 14.1.2
 - Kafka 2.12-3.7.0
- **Oracle HTTP Server**
 - Oracle Linux 9.4
 - JAVA JDK 17.0.14
 - Oracle HTTP Server 14.1.2
- **Host Database**
 - Oracle Database 19c Enterprise Edition Release 19.25.0.0.0
 - Oracle Linux 9.4
- **Integration Server**
 - Apache Ant 1.10.14
 - Windows 2019 Standard Server
 - Java JDK 17.0.14
 - Oracle Web logic 14.1.2.0.0

Branch:

- **Client Machines:**
 - Operating System
 - Windows 11
- **Browsers**
 - Google Chrome – 133.0.6943.60 (Official Build) (64-bit)
 - Microsoft Edge - 133.0.3065.51 (Official build) (64-bit)
 - Mozilla Fire Fox - 134.0.2 (64-bit)

3. Tech Stack

Component	Machine	Operating System	Software	Version Number
Oracle FLEXCUBE Core Banking	Application Server	Oracle Linux Server Release 9.4 (x86 64 Bit)	Oracle WebLogic	14.1.2.0.0
			JDK	JDK 17.0.14
	UI Server	Oracle Linux Server Release 9.4 (x86 64 Bit)	Oracle HTTP Server	14.1.2.0.0
			Oracle JET	17.1.0
			JDK	JDK 17.0.14
	Database Server	Oracle Linux Server Release 9.4 (x86 64 Bit)	Oracle RDBMS Enterprise Edition	19.25.0.0.0
	Message Broker	Oracle Linux Server Release 9.4 (x86 64 Bit)	Apache Kafka	2.12-3.7.0
Browser Support	Client Machines	Windows 11	Mozilla Firefox	134.0.2 (64-bit)
			Google Chrome	133.0.6943.60 (Official Build) (64-bit)
			Microsoft Edge	133.0.3065.51 (Official build) (64-bit)

4. Third Party Software Details

Please refer the Licensing Guide for further reference.

- Oracle FLEXCUBE Core Banking Licensing Guide_11.12.0.0.0.pdf
- Oracle FLEXCUBE Universal Banking Licensing Guide_11.12.0.0.0.pdf

5. Release Contents

This release has two media packs, and both are required.

- Oracle_FLEXCUBE_Universal_Banking_11.12.0.0.0
- Oracle_FLEXCUBE_Core_Banking_11.12.0.0.0

Operating System mentioned in the environment details reflects the OS used as part of testing.