

Product Release Note  
Oracle FLEXCUBE Universal Banking  
Release 14.4.0.0.0  
May 2020





Product Release Note  
May 2020  
Version 14.4.0.0.0

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# 1. Release Notes

## 1.1 **Background**

Oracle Financial Services Software Limited has developed Oracle FLEXCUBE Universal Banking, which enable banks to create a distributed network of branches for effective marketing and efficient handling of customer transactions.

Oracle FLEXCUBE Universal Banking is a real-time online solution, enabled for multi-currency, multilingual, multi-entity, multi-instance operations. Its mission-critical and robust architecture and use of leading-edge industry standard products ensure almost limitless scalability.

## 1.2 **Purpose**

The purpose of this Release Note is to propagate the enhancements in Oracle FLEXCUBE Universal Banking 14.4.0.0.0.

## 1.3 **Release Highlights**

The rationale for the product release of Oracle FLEXCUBE Universal Banking version 14.4.0.0.0 is to support regulatory requirement and enhance features that are essential in competitive market.

Following are the features included in the release along with forward porting of applicable fixes related to the incidences reported in previous versions and technical qualification to comply with approved Tech Stack.

- Refreshed User Experience using Micro Frontends Architecture
  - Enriched & Enhanced Retail customer 360 degree view
  - Servicing Transactions
    - Customer Cash Transactions
    - Demand Draft & Bankers Check Transactions
    - Miscellaneous Transactions
    - Transfers, Remittances & Outstation Cheque Deposits
    - Customer Service Requests
    - Branch Operations and Inquiries
    - Teller & Supervisor Dashboards
    - Integration with OBVAM to credit virtual accounts
  - Retail Process Management
    - Savings Account Opening Process
    - Current Account Opening Process
    - Loan Account Opening Process
    - Configurable Business Processes
    - Multi-Product Account Opening Capability
    - Dashboard for different personas like Relationship Manager, Sales, Loan Officer, Credit Officer
- Interest and Charges in micro services architecture
- Accounting Posting Services in REST using Java
- Integration with Oracle Digital Assistant (ODA) to support Chatbot
- Machine Learning for Retail modules
  - Natural Language Processing(NLP) Framework
  - Product Recommendation
  - Cheque Book Request email processing using NLP

- Qualification with Oracle 19C DB
- Other Functional Enhancements
  - CAMT052 Account Statement Generation
  - CAMT053 Account Report Generation
  - EAC- Multiple Accounts Validation
  - Support \*.\* for All Currencies and ALL for Albanian LEK
  - Term Deposit Endorsement
  - Alternate GL code for Chart of account
  - Pre-advised Debit and Credit
  - CIF Signature/Image capture Enhancement
  - Simulation of loan disbursement
  - Delinquency module
  - Currency service Changes
  - Generic Interface Changes
- ITALY Cluster Enhancements (available only in ITALY Cluster layer)
  - Linked Entities
  - Mortgage Penalty
  - Total Payment Suspension
  - Usury Interest Rates
  - Step up TD rates
  - Simulation of Suspension plan

## 1.4 **Release Enhancements**

### 1.4.1 **Refreshed User Experience using Micro Frontends Architecture for Enriched & Enhanced Retail customer 360 degree**

- Customer 360 degree view has been augmented as below;
  - Summarized view with various widgets spanning across various business relationships of the customer with the bank
  - Multi-level drill down capabilities
  - House hold view of the customer

### 1.4.2 **Refreshed User Experience using Micro Frontends Architecture for Servicing Transactions**

- Customer Cash transactions involving Cash Deposits & Withdrawals, Cheque Deposits & Withdrawals, Account Closure, FX Sale and Purchase and Term deposit opening, redemption & top-up.
- Initiation of Remittances involving Issuance & liquidation of Demand drafts & Bankers Cheques and deposit of Outward Clearing Cheques wired with Oracle Banking Payments for processing.
- Miscellaneous transactions involving Misc GL transfer, Misc GL debit/Credit with corresponding credit/debit to customer for any adjustment or rectification entries.
- Transfers involving Account transfer, Domestic & International wired with Oracle Banking Payments for processing.
- Support to initiate customer service request for Address change, Contact details change, Passbook - issue, update, status change, Chequebook request, Stop cheque Account balance inquiry & Account statement.
- Branch Operations involving Transfers between Tills, Till and Vault, from/to Currency Chest etc.
- Support to configure dashboard widgets based on role - Mini CIF information, Till cash position, Transaction status, Alerts & Notifications and link to access frequently used transactions
- Support to credit virtual accounts wired with Oracle Banking Virtual Account Management

### **1.4.3 Refreshed User Experience using Micro Frontends Architecture for Retail Process Management**

Oracle FLEXCUBE Universal Banking Retail Process Management (RPM) is the middle office banking solution with a comprehensive coverage of Retail Banking origination processes. It enables Banks to deliver improved user experience for various Bank personas handling defined functions in the lifecycle of the various product origination.

Retail Process Management module is factory shipped with referenced workflows for the mentioned product origination with capabilities to configure the workflows based on the Bank's internal policy and requirements.

- Create the Product Catalogue and Cart Operation feature to support Single and Multi-product origination.
- Create origination capabilities for:
  - Savings Accounts,
  - Current Accounts and
  - Loan Products
- Account opening for Term Deposits
- Capability to configure Qualitative and Quantitative Score card for credit scoring and assessment of the Loan and Overdraft Applications.
- Build capability to configure Business Process to define workflow for different category of Applications based on the Process Code and Lifecycle combination.
- Dashboards for Relationship Manager and Loan Officer Personas with various widgets that allows tracking their application status, Performance across products, Loan Applications in Offer Stage.

### **1.4.4 Interest and Charges in micro services architecture**

- Interest and Charges module batch processing is re designed with micro services architecture using Java
- Interest and Charges module user interface will continue to be as before for the end user

### **1.4.5 Accounting Posting services in REST using Java**

- A new REST service built with Java is added to post entries into FLEXCUBE UBS. This is used within FLEXCUBE UBS in many use cases and can also be used for posting entries from external product processors.

### **1.4.6 Integration with Oracle Digital Assistant (ODA) to support chatbot**

- FLEXCUBE has been integrated with Oracle Digital Assistance for chatbot support. Within the application, user can vocally communicate or type in "How to" queries (e.g. "How to create an account?") and in response Chatbot provides appropriate screen name and launches them.



### 1.4.7 **Machine Learning Retail**

- NLP framework allows complete autonomy to design and develop use cases to intelligently read documents using Named Entity Recognition (NER) models. NER models can be designed and trained as per business requirements and consists of NLP Toolkit (which includes Use Case definition, Annotator, Model Training, Model Management) and Operations screens.
- Product Recommendation - Customer interactions and product usage over time and value is evaluated to recommend retail banking products
- Cheque Book request Email Processing - NLP based ML model extracts relevant data from cheque book request email for downstream business processing

### 1.4.8 **Other Functional Enhancements**

- CAMT052 - Account Report Generation
  - CAMT052 is an XML-based Account Reporting message based on ISO 20022 format
  - It provides account holder with intraday information on all transactions and entries booked.
- CAMT053 Account Report Generation
  - Existing CAMT.053 statement format updated to be in sync with the latest ISO 20022 format
- EAC- Multiple Accounts Validation
  - External Account Check is extended to allow multiple accounts in the request.
- Support \*.\* for All Currencies and ALL for Albanian LEK
  - ‘\*.\*’ is the new representation for all currencies in place of ‘ALL’ and ‘ALL’ can be used for representing Albanian (LEK) currency.
- Term Deposit Endorsement
  - Allows the primary beneficiary of a Term Deposit to be modified by the way of endorsement.
- Alternate GL code for Chart of account
  - Feature for capturing of the legacy GL code to be captured along with the GL details for node GLs
- Pre-advised Debit and Credit
  - An option to allow a customer extra credit amount when it is confirmed that certain amount is to be received in the account in the immediate future. Similar functionality is be provided for debits too
- CIF Signature/Image capture Enhancement
  - This feature allows for definition of relationship between CIFs. Further, it allows for defining relation specific transaction, limits and Signature requirements.
- Simulation of loan disbursement
  - Functionality to simulate Manual disbursement is introduced
- Delinquency module
  - Module called Delinquency (DQ) introduced. This feature allows for tracking delinquent amounts to closure and allows for collecting penalty for account being delinquent.

- Currency service Changes
  - Exchange Rates uploaded at head office level allows branches to use the rates without propagating them to branch level. Branches optionally can have their own exchange rates.
  - New feature allows for a separate spread maintenance for currency pairs. Thus rates received from external sources can be directly uploaded.
  - Feature to allow a spread maintenance for FCY-FCY Pairs with Through currency
- Generic Interface Changes
  - GIRFILOG Report has been enhanced for display successful/failed records.
  - Feature to select any file from upload folder is brought in. This feature allows for uploading any file from upload folder or all files from upload folder.
  - New feature allows picking up of different character-set from a list of factory shipped character set at the time of interface definition. If no character set is picked, UTF-8 is used.
  - New feature introduced allows for skipping certain fields at the time of outgoing file generation.
  - Time Based Validation allows scheduling of interface generation between start and end times.
  - Multi-Byte Character Set Support

#### **1.4.9 ITALY Cluster Enhancements (available only in Cluster layer)**

- Linked Entities
  - Feature allows defining Validation rules on Customer to Customer Relationships
- Mortgage Penalties
  - This feature enables computing and collecting penalty amount on partial or full prepayment of loan based on residual outstanding principal amount. Further, this feature allows for collecting fixed instalment fees and stamp duty.
- Total Payment Suspension
  - This feature allows suspension of few instalments of principal or both principal and interest of a loan. Further it is possible to collect the interest amount of suspended period either immediately after the period or distribute it over the remaining loan schedule.
- Usury Interest Rates
  - The average interest rates applied for Loan account by the financial institutions must not exceed a published Usury Interest Rate (UIR). Average Interest rate applied for a Loan account must be lesser than specified UIR during life cycle operations.
- Step up TD Rates
  - There should be a possibility to define different rates for different time periods of a deposit. On creation of the term deposit, the maintained rates should be defaulted to the account.
- Simulation of Suspension plan
  - Functionality to simulate the suspension of Payment, Manual disbursement

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## 2. Deprecated Functionality

### **2.1 Following modules have been deprecated and moved to Oracle Banking Treasury Management (OBTR)**

- Foreign Exchange
- Money Market
- Securities
- Repo and reverse repo
- Over The Counter Currency Options
- Over The Counter Interest Rate Options
- Over The Counter Interest rate and Cross currency Swaps
- Forward Rate Agreement (FRA)
- Exchange Traded Derivatives for Commodities Futures and Options
- Exchange Traded Derivatives for Interest Rate Futures and Options
- Exchange Traded Derivatives for Currency Futures and Options
- Exchange Traded Derivatives for Bonds and Equity Futures and Options
- Exchange Traded Derivatives for Index Futures and Options
- Islamic Money Market
- Islamic Derivatives
- Brokerage Subsystem

### **2.2 Following modules have been deprecated and moved to Oracle Banking Trade Finance (OBTF)**

- Letter of Credit (including Guarantees & Stand-by Letter of credit)
- Bills and Collections
- Islamic Letter of Credit (including Islamic Guarantees & Islamic Stand-by Letter of credit)
- Islamic Bills and Collections
- Receivable Liquidation
- Commission Subsystem

### **2.3 Following modules have been deprecated and alternate support is available in Oracle Banking Corporate Lending (OBCL)**

- Loan Syndication

### **2.4 Following modules have been deprecated and alternate support is available in Oracle Banking Liquidity Management (OBLM)**

- Integrated Liquidity Management

**2.5 Following modules have been deprecated and alternate support is available in Oracle Banking Payments (OBPM)**

- Clearing
- Demand Draft
- Bankers Check

**2.6 Following originations have been deprecated and alternate support is available in Oracle Banking Corporate Lending Process Management (OBCLPM)**

- Corporate Loan Origination

**2.7 Following originations have been deprecated and alternate support is available in Oracle Banking Trade Finance Process Management (OBTfPM)**

- Trade Originations

**2.8 Following originations are deprecated from BPEL/BPMN technology and are available in Oracle Banking Micro services Architecture (OBMA) within FLEXCUBE UBS**

- Current Account Origination
- Saving Account Origination
- Term Deposit Origination
- Retail Loan Origination

**2.9 Following branch transactions are deprecated from Web-Branch and are available in Oracle Banking Micro services Architecture (OBMA) within FLEXCUBE UBS**

- Customer Cash Transactions
- Demand Draft & Bankers Check Transactions
- Miscellaneous Transactions
- Transfers, Remittances & Outstation Cheque Deposits

**2.10 Following modules/features are deprecated without any alternate support**

- Corporate Customer Origination
- Telegraphic Transfer
- Netting Across Modules
- Netting group for corporate
- AML
- Options contract linkage to dual currency deposit

## 2.11 Following branch transactions are deprecated without any alternate support

| Function Id | Description                                      |
|-------------|--|
| 1000        | Miscellaneous Transfer                           |
| 7795        | Telegraphic Transfer Transactions                |
| 8316        | Telegraphic Transfer Issue against Walk in       |
| 8317        | Telegraphic Transfer Issue against GL            |
| 8318        | Telegraphic Transfer Issue against Account       |
| 8319        | Telegraphic Transfer Liquidation against Walk in |
| 8320        | Telegraphic Transfer Liquidation against GL      |
| 8321        | Telegraphic Transfer Liquidation against Account |
| REAN        | Reassign Transactions                            |
| 8322        | Inward Telegraphic Transfer Registration         |
| 8323        | Multi Telegraphic Transfer Issue Walk in         |
| 8324        | Multi Telegraphic Transfer Issue Against Account |
| 8332        | BC Multi Issuance against Account                |
| 8333        | BC Multi Issuance against Cheque                 |
| 8334        | BC Multi Issuance against GL                     |
| 6520        | Cheque Deposit to GL - (Other Bank Cheque)       |

## 2.12 Following screens are deprecated without any alternate support

| FUNCTION_ID | MAIN_MENU            | SUB_MENU_1                 | SUB_MENU_2             |
|-------------|----------------------|----------------------------|------------------------|
| STDBILLS    | Auto Billing Clients | Operations                 | Billing Input          |
| CSSAUBLK    | Auto Billing Clients | Operations                 | Bulk Authorization     |
| CSDAUBIL    | Auto Billing Clients | Operations                 | Single Authorization   |
| STSBILLS    | Auto Billing Clients | View                       | Billing Input          |
| STSMOPOF    | Auto Billing Clients | View                       | Model Portfolio Input  |
| CEBAMLPR    | Batch Operations     | AML Batch                  |                        |
| INTERGEN    | Batch Operations     | Automatic Billing          | Interpay               |
| BACKUP      | Batch Operations     | Backup                     |                        |
| ICLACEOD    | Batch Operations     | Line Accounts              | Batch                  |
| IFMNTSEX    | Batch Operations     | Mantas Extract             | Data Extract           |
| IFMNTFWR    | Batch Operations     | Mantas Extract             | File Write             |
| INTERPAY    | Batch Operations     | Messages                   | Interpay               |
| ISDBICUM    | Common Entity        | Settlements<br>Maintenance | Excluded Networks      |
| ISDNETNG    | Common Entity        | Settlements<br>Maintenance | Netting Across Modules |
| ISSBICUM    | Common Entity        | Settlements View           | Excluded Networks      |
| ISSNETNG    | Common Entity        | Settlements View           | Net Across Modules     |

| FUNCTION_ID | MAIN_MENU                   | SUB_MENU_1         | SUB_MENU_2             |
|-------------|-----------------------------|--------------------|------------------------|
| ISSUTBEN    | Common Entity               | Settlements View   | Ultimate Beneficiaries |
| CSDAMLCG    | Compliance Checks           | Maintenance        | AML Customer Groups    |
| CSDAMLLM    | Compliance Checks           | Maintenance        | AML Limit Codes        |
| CSDAMLPC    | Compliance Checks           | Maintenance        | AML Product Categories |
| CSDAMLQR    | Compliance Checks           | View               | AML History            |
| CSSAMLCG    | Compliance Checks           | View               | Customer Groups        |
| CSSAMLLM    | Compliance Checks           | View               | Limit Codes            |
| CSSAMLPC    | Compliance Checks           | View               | Product Categories     |
| STDEXCAT    | Confirmation Operations     | Maintenance        | External Capture       |
| CASSDRPL    | Customer Accounts           | SDR Trading Plan   | Summary                |
| STDNETGR    | Customers                   | Maintenance        | Netting Groups         |
| STDEXPDT    | Customers                   | Maintenance        | Trade License Details  |
| STSNTMNT    | Customers                   | View               | Netting Agreement      |
| STSNETGR    | Customers                   | View               | Netting Groups         |
| STSEXPDT    | Customers                   | View               | Trade License Details  |
| STDCSNET    | EOC Operations              | Operations         | Group Netting Batch    |
| IFDTXPMT    | Interface                   | Outclng TX         | Detailed               |
| IFDGROPD    | Interface                   | RO Operations      | Update                 |
| IFDSORE     | Interface                   | Score Operations   | Score Interface        |
| IFDEX171    | Interface                   | Select IFDEX171    | Detailed               |
| ISDECCYR    | Messages                    | Maintenance        | Bilateral Agreements   |
| ISSCCYRS    | Messages                    | View               | Bilateral Agreement    |
| ISSECCYR    | Messages                    | View               | Bilateral Agreements   |
| DATESET     | Miscellaneous               | Dates              |                        |
| CSUPLOAD    | Miscellaneous               | LC/BC Upload       |                        |
| CSDBLAUD    | Miscellaneous Authorization | Operations         | Bulk Authorization     |
| CLDRTHDF    | ODI Batch                   | Loan Rate Handoff  | Batch                  |
| CYDACPOS    | Queries                     | Accounting and MIS | Accrual Position       |
| CYDFWPOS    | Queries                     | Accounting and MIS | Forward Position       |
| CYDSPPOS    | Queries                     | Accounting and MIS | Spot Position          |
| STDNETQY    | Queries                     | Netting            | Netting Batch          |
| IFDXTRCT    | Reveleus                    | Interface Trigger  | Trigger                |
| IFDDXMNT    | Reveleus                    | Maintenance        | Data Extraction        |
| IFSDXMNT    | Reveleus                    | View               | Data Extract           |
| IFSDXLOG    | Reveleus                    | View               | Data Extract           |
| STDSCCHK    | Schema Checker              | Maintenance        | Schema Checker         |

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## 3. Components of the Software

### 3.1 Documents Accompanying the Software

The various documents accompanying the software are as follows:

- Product Release Note and Installer Kit

User and Installation manuals – [https://docs.oracle.com/cd/ F20443\\_01/index.htm](https://docs.oracle.com/cd/F20443_01/index.htm)

- Online Help Files

### 3.2 Software Components

Software Components of Oracle FLEXCUBE 14.4.0.0.0 that form part of this release are as follows:

- Host
  - UI Components ( JS,XML)
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - Tables, Types, Sequences, INC
  - Reporting Components(Data models(xdmz), Reports(xdoz),Subtemplate(xsbz))
  - Process Framework components (BPEL,BPMN,BAM,BRE)
  - OBIEE Module RPDs
- Branch
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - UI Components (JS,XML)
  - Java sources
- Java application layer
  - Java sources
  - Configuration files used for deployment
- Integration Gateway
- Switch Gateway (ATM/POS/IVR)
- REST Services
  - Java application layer
    - Java sources
    - Configuration files used for deployment
- Oracle FLEXCUBE Information Server
  - Stored Procedures (Packages, Functions, Procedures, Views)

Repositories and pre-defined Reports

- Conversion Utilities

- Installation utilities
- ADF files used by Generic Interface (GI) – incoming and outgoing
- Tools
  - ODT
  - OFT
- Service Components
- UI Components (OJET)
- Reports Templates (rtf)
- Configuration files used for deployment



## 4. Tech Stack

| Component                         | Deployment option       | Machine                                      | Operating System                                | Software  | Version Number |
|-----------------------------------|-------------------------|--|---|---|----------------|
| Oracle FLEXCUBE Universal Banking | UI-Host and Centralized | Application Server                           | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle Fusion Middleware Infrastructure                 | 12.2.1.4.0     |
|                                   |                         |  |   | Java HotSpot(TM) JDK (with WebLogic Application Server) | 1.8 Update 241 |
|                                   |                         |  |   | Open Symphony Quartz                                    | 2.3.2          |
|                                   |                         | Document Management System                   | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle WebLogic   | 12.2.1.4.0     |
|                                   |                         |  |   | JDK   | 1.8 Update 241 |
|                                   |                         |  |   | Oracle Database (for RCU)                               | 19.6.0.0.0     |
|                                   |                         |  |   | Repository Creation Utility                             | 12.2.1.4.0     |
|                                   |                         |  |   | Oracle WebCenter Content Imaging                        | 12.2.1.4.0     |
|                                   |                         | Database Server                              | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle RDBMS Enterprise Edition                         | 19.6.0.0.0     |
|                                   |                         | Reporting Server                             | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle WebLogic   | 12.2.1.4.0     |
|                                   |                         |  |   | JDK   | 1.8 Update 241 |
|                                   |                         |  |   | Oracle Analytical Server (Oracle BI Publisher)          | 5.5.0          |
|                                   |                         | FLEXCUBE Information Server - Data warehouse | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle Golden Gate                                      | 19.1.0.0.4     |
|                                   |                         |  |   | Oracle Database (for RCU)                               | 12.1.0.2.0     |
|                                   |                         |  |   | Repository Creation Utility                             | 12.2.1.4.0     |
|                                   |                         |  |   | Oracle Data integrator                                  | 12.2.1.4.0     |
|                                   |                         |  |   | Oracle Data integrator Java EE Agent                    | 12.2.1.4.0     |
|                                   |                         |  |   | Oracle WebLogic Server Infrastructure                   | 12.2.1.4.0     |
|                                   |                         | Client                                       | Windows 10                                      | Internet Explorer                                       | 11+            |
|                                   |                         |  |   | Mozilla Firefox   | 66+            |
|                                   |                         |  |   | Google Chrome   | 73+            |
|                                   |                         |  |   | Microsoft Edge  | 44+            |

|   |                          |  |   |                                       |                               |
|---|--------------------------|--|---|---------------------------------------|-------------------------------|
|   |                          |  | Mac OS X  | Mozilla Firefox                       | Mozilla Firefox for Mac (62+) |
|   |                          |  |   | Safari                                | 12+                           |
|   |                          |  |   | Google Chrome                         | 73+                           |
|   |                          | Single Sign On Server  | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | JDK                                   | 1.8 Update 241                |
|   |                          |  |   | Oracle WebLogic                       | 12.2.1.4.0                    |
|   |                          |  |   | Repository Creation Utility           | 12.2.1.4.0                    |
|   |                          |  |   | Oracle Identity Management            | 12.2.1.4.0                    |
|   |                          |  |   | Oracle Identity And Access Management | 12.2.1.4.0                    |
|   |                          |  |   | Oracle Webtier Utilities              | 12.2.1.4.0                    |
|   |                          |  |   | Oracle Webgate                        | 12.2.1.4.0                    |
|   | UI Decentralized branch  | Branch Application Server – Decentralized Database Branch for Decentralized mode | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | JDK                                   | 1.8 Update 241                |
|   |                          |  |   | Oracle WebLogic Server                | 12.2.1.4.0                    |
|   |                          |  |   | Oracle RDBMS Standard Edition (SE2)   | 19.6.0.0.0                    |
| Oracle FLEXCUBE Universal Banking BPEL/BPMN Processes and Process Framework | UI-Host and Centralized  | Application Server   | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | JDK                                   | 1.8 Update 241                |
|   |                          |  |   | Oracle WebLogic Server                | 12.2.1.4.0                    |
|   |                          |  |   | Oracle Database (for RCU)             | 19.6.0.0.0                    |
|   |                          |  |   | Repository Creation Utility           | 12.2.1.4.0                    |
|   |                          |  |   | Oracle SOA Suite, Oracle BPM Suite    | 12.2.1.4.0                    |
| Oracle FLEXCUBE Universal Banking Integration Gateway                       | Web services (incoming)  | Integration Server   | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | Oracle WebLogic Server                | 12.2.1.4.0                    |
|   | HTTP Servlet (incoming)  |  |   |                                       |                               |
|   | EJB (incoming)           |  |   |                                       |                               |
|   | MDB (incoming)           |  |   |                                       |                               |
|   | Notifications (outgoing) |  |   |                                       |                               |

|  |                            |                         |   |  |                |
|--|----------------------------|-------------------------|---|--|----------------|
| Oracle FLEXCUBE Universal Banking Switch Integration Gateway | Switch Integration Gateway | Integration Server      | Oracle Enterprise Linux Server 7.6 (x86 64 Bit) | JDK                                    | 1.8 Update 241 |
| Oracle FLEXCUBE Universal Banking REST                       | Web services               | Integration Server      | Oracle Enterprise Linux Server 7.6(x86 64 Bit)  | JDK                                    | 1.8 Update 241 |
|  |                            |                         |   | Oracle WebLogic Server                 | 12.2.1.4.0     |
|  |                            |                         |   | Oracle Toplink                         | 12.2.1.4.0     |
| Oracle FLEXCUBE Machine Learning                             | Centralized                | Machine Learning Server | Oracle Enterprise Linux server 7.1 (x86 64 bit) | OML4R (Previously Oracle R Enterprise) | 1.5.1          |
| Oracle FLEXCUBE Oracle Digital Assistant Integration         | Centralized                | Application Server      | Oracle Enterprise Linux server 7.1 (x86 64 bit) | oda-native-client-sdk-js               | 20.3.1         |

Note: # Browser support is no longer based on Operating Systems but strictly tied to the browser themselves, no matter on which Operating Systems they are installed. Current release is certified on client workstations with Windows 10 and Mac OS X.

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## 5. Third Party Software Details

- For information on the third party software details, refer Oracle FLEXCUBE Universal Banking 14.4.0.0.0 License Guide