Product Release Notes
Oracle FLEXCUBE Investor Servicing
Release 14.4.0.0.0
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FINANCIAL SERVICES

Product Release Notes
July 2020
Version 14.4.0.0.0

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/

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1.   Release Notes

1.1   <u>Background</u>

Oracle Financial Services Software Limited has a transfer agency solution which enables asset management companies and transfer agency service providers to offer comprehensive investor servicing capabilities for unitized products. Further Oracle FLEXCUBE Investor Servicing also enables mutual fund companies to create a distributed network of branches for effective servicing and efficient handling of unit holder transactions. Oracle FLEXCUBE Investor Servicing 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   <u>Purpose</u>

The purpose of this Release Note is to highlight the enhancements in Oracle FLEXCUBE Investor Servicing 14.4.0.0.0.

1.3   <u>Abbreviations</u>

Abbreviation	Description
FCIS	Oracle FLEXCUBE Investor Servicing
UH	Unitholder
SMS	Security Management System
SWIFT	Society for Worldwide Interbank Financial Telecommunications
TA	Transfer Agency
DL	Distributed Ledger
GTA	Global Transfer Agency
TWITCH	Transfer Switch
LOB	Line of Business
AMC	Asset Management Company

For module code and description details, please refer Annexure C.

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1.4 <u>Release Highlights</u>

The scope of the current release Oracle FLEXCUBE Investor Servicing 14.4.0.0.0 includes support for

- Global Transfer Agency
  - ➤ UH and Transaction Restriction based on User Module Mapping
  - ➤ Segment Maintenance
  - ➤ CIF Enhancement for Global TA
  - ➤ Unitholder Maintenance Change
  - ➤ Exchange Rate, Entity and Interface Restriction to Specific Module
  - ➤ TWITCH Transaction Support
  - ➤ Time zone for the Fund, Module Default to capture Time zone.
- SWIFT Account Opening messages
- Agent level unit rounding
- Fund entity and Agent hierarchy uploads
- Machine Learning
- Blockchain adapter interface for Fund Price

1.5 <u>Release Enhancements</u>

1.5.1 <u>Global Transfer Agency</u>

Global transfer agency (GTA) feature enables transfer agents to set up multiple asset management companies within the GTA schema. It also allows investors to invest in funds belonging to one or more jurisdiction, based on their preference. GTA feature enables investor to have a single investment id for investments across jurisdictions and allows fund managers to have a global view of business.

Segment Maintenance:
- Logical jurisdictional grouping of fund, transactions and unitholders are introduced in the system.
- Using this facility unitholder/fund/agency branch can be mapped to specific jurisdictions.

Unitholder Segregation
- System enhanced to restrict unitholders to a local jurisdiction or allowing them to transact globally.
- Local investor: Investor who can transact only in the jurisdiction where the unitholder account is created.
- Global Investor: Investor who can transact in funds belonging to any jurisdiction.

Agency Branch Classification
- System enhanced to allow user to create local branches & designate a specific branch as global branch via appropriate mapping.
- Local Agency Branch: Front office, which caters to the local investor.
- Global Agency Branch: Front office, which caters to global Investor.

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Customer Enhancement

- To enable service/reporting in Global Transfer Agency, facility provided to capture service location and external reference number in customer maintenance.

Exchange Rate, Entity and Interface Restriction

- Exchange rate, entity and interfaces can be mapped to specific jurisdiction (AGY module) in the GTA schema.

Unitholder and Transaction Restriction

- Users can access the investor and transactions based on user module mapping present in the system. Parameterization made available in system to access all branch investors or specific ones based on user module mapping from global branch.

TWITCH Transaction.

- System enhanced to support moving units from one Fund of one unitholder holding to another Fund of another Unitholder in a single transaction.

Time zone changes

- System enhanced to support capture of time zone at share class level.
- Facility provided to capture order received time zone during transaction input or defaulted with module time zone if time zone is not inputted.

1.5.2 SWIFT Account Opening messages

System enhanced to support following account opening swift messages:

- AccountOpeningInstructionV07
- AccountDetailsConfirmationV07
- AccountModificationInstructionV07
- GetAccountDetailsV05
- RequestForAccountManagementStatusReportV05
- AccountManagementStatusReportV06

1.5.3 Agent Level unit rounding

System enhanced to support Rounding Precision for units at Intermediary agent level. If maintained this will override fund level preferences.

1.5.4 Fund Entity and Agent Hierarchy Maintenance uploads

New interfaces have been introduced to support Fund Entity Upload and Agent Hierarchy upload for enhanced STP.

1.5.5 Machine Learning

- Investor Account Churn:

  Oracle FLEXCUBE Machine Learning Framework helps transfer agencies and asset management companies identify potential investors who are likely to move out and direct specific focus towards this group to minimize the churn.

- Investor Account Segmentation:

    Oracle FLEXCUBE Machine Learning Framework uses a data driven approach to segment investor accounts. It offers the capability to learn in an un-supervised manner and categorize profiles into segments which bear close affinity to each other, in terms of their investment patterns. This critical insight into the customer base and can be used to determine and custom business responses for each such segment.

1.5.6 Blockchain adapter interface for Fund Price

Blockchain adapter has been enabled to support fund price exchange with distributor systems over blockchain. This will enable to improve process efficiency, reduce risk and enhance straight through processing.

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2. Components of the Software

2.1 Documents accompanying the software

The various documents accompanying the software are as follows:

- Release Note
- Installer Kit
- User Manuals and Installation manuals can be accessed from http://docs.oracle.com/cd/F32763_01/index.htm

2.2 Software Components

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

Application Server

- Java Sources
- UI Components (JS, XML)
- Reporting Components (Data models (xdmz), Reports (xdoz))
- Process Framework components (BPEL)

Database Server

- Stored Procedures (Packages, Functions, Procedures, Triggers, Views)

Gateway

- Java application layer
  - ➢ Java sources
  - ➢ Configuration files used for deployment
- Messaging layer
  - ➢ Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
- Services
  - ➢ The WSDL files for the service supported
  - ➢ The XSDs of the messages involved
  - ➢ The service documents – describing the services

REST Services

- Java application layer
  - ➢ Java sources
  - ➢ Configuration files used for deployment
- Adapters
- IS-UBS
- FCIS DL Adapter for Mutual Fund Transactions, Fund Price

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- FCIS MDB Adapter
  - UI Components (JS, XML)
  - Java sources
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
- FCIS Callout Adapter
  - Java sources
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
- FCIS Insulation Adapter
  - Java sources
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)

Installation utilities

- UI and Script based installation for Application Server, Database Server and Gateway
- Installation documents for
  - FCIS Application Deployment
  - Gateway

Online Help Files

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3. Annexure – A: Environment Details

3.1 Tech Stack – Oracle

Component	Deployment option	Machine	Operating System	Software	Version Number
Oracle FLEXCUBE Investor Servicing	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)	JDK 1.8 Update 241
				Open Symphony Quartz	2.3.2
		Database Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle RDBMS Enterprise Edition	19.6.0.0.0
		Document Management System	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle WebLogic Server	12.2.1.4.0
				Oracle WebCenter Content Imaging	12.2.1.4.0
				Java HotSpot(TM) JDK (with WebLogic Application Server)	JDK 1.8 Update 241
		Reporting Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle Analytics Server	5.5.0
		Oracle FLEXCUBE Information Server – Analytics		Java HotSpot(TM) JDK (with WebLogic Application Server)	JDK 1.8 Update 241
		Client Machines	#Supported Browsers	Internet Explorer	Microsoft Internet Explorer Release (11.*)
				Mozilla Firefox	Mozilla Firefox - Version 66.*
				Google Chrome	Google Chrome - Version 73.*
				Safari	Apple Safari - Version 12.*,11*
				Microsoft Edge	MS Edge: 44.*

				JDK	JDK 8 Update 241
		Single Sign On Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle WebLogic Server	12.2.1.4.0
				RCU Utility (Windows)	12.2.1.4.0
				Oracle Internet Directory	12.2.1.4.0
				Oracle SOA	12.2.1.4.0
				Oracle Identity and Access Management	12.2.1.4.0
				OID Connector	12.2.1.4.0
Oracle FLEXCUBE Investor Servicing BPEL/BPMN Processes and Process Framework	UI-Host and Centralized	Application Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle WebLogic Server	12.2.1.4.0
				Oracle SOA Suite, Oracle BPM Suite	12.2.1.4.0
Oracle FLEXCUBE Investor Servicing 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 Investor Servicing Machine Learning	Manual Deployment	Machine Learning Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle Machine Learning for R	1.5.1

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

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3.2 <u>Tech Stack – IBM</u>

Component	Deployment option	Machine	Operating System	Software	Version Number
Oracle FLEXCUBE Investor Servicing	UI-Host and Centralized	Application Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	9.0.5.1
				IBM WebSphere MQ Server	9.1.0.0
				Open Symphony Quartz	2.3.2
		Database Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	Oracle RDBMS Enterprise Edition	19.6.0.0.0
		Client Machines	#Supported Browsers	Internet Explorer	Microsoft Internet Explorer Release (11.*)
				Mozilla Firefox	Mozilla Firefox - Version 66.*
				Google Chrome	Google Chrome - Version 73.*
				Microsoft Edge	Microsoft Edge (44.*)
				Safari	Apple Safari - Version 12.*,11*
Oracle FLEXCUBE Investor Servicing Integration Gateway	Web services (incoming)	Integration Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	9.0.5.1
	HTTP Servlet (incoming)				
	EJB (incoming)				
	MDB (incoming)	Integration Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	9.0.5.1
				IBM WebSphere MQ Server	9.1.0.0
	Notifications (outgoing)	Integration Server	Oracle Enterprise Linux Server 7.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	9.0.5.1
				IBM WebSphere MQ Server	9.1.0.0

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

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4. Annexure – B: Third Party Software Details

- For information on the third party software details, refer Oracle FLEXCUBE Investor Servicing 14.4.0.0.0 License Guide.

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5.   Annexure – C: Module Code and Description

Abbreviation/ Acronym	Meaning
FCIS	Oracle FLEXCUBE Investor Servicing
SMS	Security Management System
LEP	Life and Endowment Product
UT	Unit Trust
PA	Pension Administrator

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