# **Oracle Flexcube**

**Accelerator Pack 12.4 – Product Catalogue** 



# **Table of Contents**

Û۷	erview	& Objective	3
Pro	oduct c	atalogue – Switch	4
1	ATN	1 Channel Set up	4
	1.1	Introduction	4
	1.2	Product List	4
	1.3	Business Overview	4
	1.4	Accounting Entries	5
	1.5	Messages	8
	1.6	Reports	8
2	IVR	Channel Set up	9
	2.1	Introduction	9
	2.2	Business Overview	9
	2.3	Product List	9
	2.4	Accounting Entries	9
	2.5	Messages	.11
	2.6	Reports	.11
3	POS	Channel Set up	12
	3.1	Introduction	.12
	3.2	Business Overview	.12
	3.3	Product List	.12
	3.4	Accounting Entries	.12
	3.5	Messages	.14
	3.6	Reports	.14
4	Ann	exure Reference	14

## **Overview & Objective**

FLEXCUBE – Accelerator Pack provides pre-configured standard business products and ready to use transaction sets that a bank would want to parameterize using the FLEXCUBE application. The objective of the pack is to provide the bank a head start in the FLEXCUBE implementation so as to fast track the rollout. The module that is covered as part of this document is SWITCH application using ATM, POS and IVR channel along with the features provided by each one them.

The purpose of this document is to provide an insight into the various business products and the transaction products configured.

## **Product catalogue - Switch**

## 1 ATM Channel Set up

#### 1.1 Introduction

FLEXCUBE supports following Operations for ATM operation

- Cash Withdrawal
- Cash Deposit
- Balance Enquiry
- Mini Statement
- Funds Transfer

## 1.2 Product List

- ACWD Cash Withdrawal
- ACDP Cash Deposit
- BLQR Balance Enquiry
- MISR Mini Statement
- FTFR Funds Transfer

#### 1.3 Business Overview

- Facilities like 'Cash Withdrawal' from ATM, 'Cash Deposit' from ATM, 'Balance Enquiry', 'Mini Statement', 'Funds Transfer' can be availed by the customer. Features of this facilities are:-
  - Cash Withdrawal: This Feature allows Bank to provide its Customer to withdraw cash from his/her Account, up to a certain limit, through ATM machines.
  - Cash Deposit: This Feature allows Bank to provide its Customer to Deposit cash from his/her Account, up to a certain limit, through ATM machines.
  - Balance Enquiry: This Feature allows Bank to provide its Customer to enquire about the balance of his/her Account, through ATM machines.
  - Mini Statement:- This Feature allows Bank to provide its Customer to view last 10 Transactions(configurable) of his/her Account, through ATM machines.
  - Funds Transfer: This Feature allows Bank to provide its Customer to transfer funds from his/her Account, to a third party ,through ATM machines.
  - The Above Products can be configured for 'On Us', 'Remote On Us', 'Off us' types of Transaction.
  - Charges levied on any of the above transactions can be maintained in ARC Maintenance
  - All the above facilities can be designed to Incur Charge. This is done by defining charge for each of the above facilities, in ARC Maintenance
  - To Avail these facilities for ATM, Bank must provide it customer with a Card (Debit/Credit).
  - For Facilities like 'Cash Withdrawal' and "Cash Deposit' user can specify the Maximum Transaction Limit in the Product level.

## 1.4 Accounting Entries

## • Cash Withdrawal:-

- Depending upon requirement, this facilities can be availed in two ways namely:-
  - Cash Blocking
  - Immediate Posting
- If the Product is configured for 'Immediate Posting', then the 'Cash GL is Credited Immediately' along customer to withdraw cash
- If the Product is configured for 'Cash Blocking', then the Transaction Amount is Blocked along with the charged (if Incurred) for a specific number of Days specified under Product level.

#### > 1.5.1 On Us:-

Debit	CUSTOMER A/C	BILL-AMT (converted to a/c ccy)
Credit	CASH GL	TXN-AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

#### 1.5.2 Remote Us:-

Debit	CUSTOMER A/C	BILL-AMT(converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	SETL_AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.5.3 Off Us:-

Debit	NETWORK SUSPENSE GL	BILL-AMT(converted to a/c ccy)
Credit	CASH GL	SETL_AMT
Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

### • Cash Deposit:-

- Depending upon requirement, this facilities can be availed in two ways namely:
  - o Cash Blocking
  - Immediate Posting
- If the Product is configured for 'Immediate Posting', then the 'Cash GL is Credited Immediately" along customer to withdraw cash
- If the Product is configured for 'Cash Blocking', then the Transaction Amount is Blocked along with the charged(if Incurred) for a specific number of Days specified under Product level.

#### > 1.6.1 On Us:-

Debit	CUSTOMER A/C	BILL-AMT (converted to a/c ccy)
-------	--------------	---------------------------------

Credit	CASH GL	TXN-AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.6.2 Remote Us:-

Debit	CUSTOMER A/C	BILL-AMT(converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	SETL_AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.6.3 Off Us:-

Debit	NETWORK SUSPENSE GL	BILL-AMT(converted to a/c ccy)
Credit	CASH GL	SETL_AMT
Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

# Balance Enquiry:-

- Balance Enquiry enables customer to get the Account balance from the given account
- Following balances are returned
  - Ledger balance
  - Available balance
  - o Unclear balance

## > 1.7.1 On Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.7.2 Remote Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN PROCESS FEE

Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC CHARGES

## > 1.7.3 Off Us:-

Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN PROCESS FEE

# • Mini Statement Enquiry:-

- This facility is configurable which allows the customer of a bank to see the number of Transaction in Descending Order.(LIFO – Last In First Out)

### > 1.8.1 On Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.8.2 Remote Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

#### > 1.8.3 Off Us:-

Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

# Funds Transfer:-

- This facility allows user to Transfer funds between his/her Account to any Third party

## > 1.9.1 On Us:-

Debit	FROM A/C	BILL-AMT (converted to a/c ccy)
Credit	TO A/C	TXN-AMT
Debit	FROM A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	FROM A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC CHARGES

## > 1.9.2 Remote Us:-

Debit	CUSTOMER A/C	BILL-AMT(converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	SETL_AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.9.3 Off Us:-

Debit	NETWORK SUSPENSE GL	BILL-AMT(converted to a/c ccy)
Credit	CASH GL	SETL_AMT
Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

## 1.5 Messages

• None Supported Explicitly

## 1.6 Reports

• None Supported Explicitly

## 2 IVR Channel Set up

#### 2.1 Introduction

FLEXCUBE supports following Operations for IVR operation

- Balance Enquiry
- Ad-Hoc Statement
- Mini Statement

#### 2.2 Business Overview

- Facilities like 'Balance Enquiry', 'Ad-Hoc Statement' and 'Mini Statement' can be availed by the customer. Features of this facilities are:-
  - Balance Enquiry: This Feature allows Bank to provide its Customer to enquire about the balance of his/her Account, through IVR compatible devices.
  - Ad-Hoc Statement. :- This Feature allows Bank to provide its Customer to enquire about the balance of his/her Account, through IVR compatible devices
  - Mini Statement :- This Feature allows Bank to provide its Customer to view last 10 Transactions(configurable) of his/her Account, through IVR compatible devices.
  - All the above facilities can be designed to Incur Charge . This is done
    by defining charge for each of the above facilities, in ARC
    Maintenance
  - To Avail these facilities for IVR , Bank must provide it customer with a Card(Debit/Credit).

#### 2.3 Product List

- IBLQ Balance Enquiry
- IADC Ad-Hoc Statement
- IMST Mini Statement

### 2.4 Accounting Entries

## Balance Enquiry:-

- Balance Enquiry enables customer to get the Account balance from the given account
- Following balances are returned when availed this facility :-
  - Ledger balance
  - Available balance
  - o Unclear balance

## > 1.5.1 On Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.7.2 Remote Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

#### > 1.7.3 Off Us:-

Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN PROCESS FEE

## Ad-Hoc Statement:-

- Ad-Hoc Statement facility allows the customer to see the Details of the transactions performed on his/her Account(Account Statement) within a stipulated period of time.
- In order to avail this facility , the Customer needs to inform Bank through IVR compatible devices.
- Facility can be extended to enable Account Statement generation for a user defined period (like 1\2\3\6 month)

## > 1.5.1 On Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.7.2 Remote Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.7.3 Off Us:-

Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN PROCESS FEE

## • Mini Statement Enquiry:-

- This facility is configurable which allows the customer of a bank to see the number of Transaction in Descending Order.(LIFO Last In First Out).
- Generally, by availing this Facility, the Customer can see last 5 Latest transactions. However, if the customer wants to see for Transaction Details for a longer period of time such as 1 month or so, he/she can avail "Ad-Hoc Statement generation" Facility

### > 1.8.1 On Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.8.2 Remote Us:-

Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.8.3 Off Us:-

Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

## 2.5 Messages

• None Supported Explicitly

#### 2.6 Reports

NA

## 3 POS Channel Set up

#### 3.1 Introduction

FLEXCUBE supports following Operations for POS operation

- Normal Purchase
- Cash Back

#### 3.2 Business Overview

- Facilities like 'Normal Purchase and 'Cash Back' can be availed by the customer, if the Merchant where purchases are made has a POS terminal. Features of this facilities are:-
  - Normal Purchase: This Feature allows Bank to provide its Customer to purchase any products (such as stationery, Clothes, Accessories, deals etc.) using his/her Debit or Credit card, without paying any hard cash
  - Cash Back. :- This Feature allows Bank to provide its Customer to receive cash to his/her account while encountering following events such as :-
  - If the Customer returns the purchased product to the Merchant
  - If the Customer is charged extra than the stipulated charge.
  - If the Customer does not receive the purchased product in due time under agreed Condition.
  - All the above facilities can be designed to Incur Charge . This is done
    by defining charge for each of the above facilities, in ARC
    Maintenance
  - To Avail these facilities for POS, Bank must provide it customer with a Card(Debit/Credit).

#### 3.3 Product List

- NPAS Normal Purchase
- CABK Cash Back

#### 3.4 Accounting Entries

### • Normal Purchase:-

- Normal Purchase enables customer to purchase a product from a Merchant by Debiting the Customer's account linked with the Debit or the Credit Card.
- Depending upon requirement, this facilities can be availed in two ways namely:-
  - Cash Blocking
  - Immediate Posting.

#### > 1.5.1 On Us:-

Debit	CUSTOMER A/C	BILL-AMT (converted to a/c ccy)
Credit	MERCHANT SUSPENSE GL	TXN-AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.5.2 Remote Us:-

Debit	CUSTOMER A/C	BILL-AMT(converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	SETL_AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

### > 1.5.3 Off Us:-

Debit	NETWORK SUSPENSE GL	BILL-AMT(converted to a/c ccy)
Credit	MERCHANT SUSPENSE GL	SETL_AMT
Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

## • Cash Back:-

- This Feature allows Bank to provide its Customer to receive cash to his/her account while encountering following events such as :-
  - If the Customer returns the purchased product to the Merchant
  - If the Customer is charged extra than the stipulated charge.
  - If the Customer does not receive the purchased product in due time under agreed Condition.
- It should not try to locate originals

## > 1.6.1 On Us:-

Debit	CUSTOMER A/C	BILL-AMT (converted to a/c ccy)
Credit	CASH GL	TXN-AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

## > 1.6.2 Remote Us:-

Debit	CUSTOMER A/C	BILL-AMT(converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	SETL_AMT
Debit	CUSTOMER A/C	TXN_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_FEE
Debit	CUSTOMER A/C	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE
Debit	CUSTOMER A/C	FC_CHARGES (converted to a/c ccy)
Credit	P&L GL	FC_CHARGES

# > 1.6.3 Off Us:-

Debit	NETWORK SUSPENSE GL	BILL-AMT(converted to a/c ccy)
Credit	CASH GL	SETL_AMT
Debit	NETWORK SUSPENSE GL	TXN_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_FEE
Debit	NETWORK SUSPENSE GL	TXN_PROCESS_FEE (converted to a/c ccy)
Credit	P&L GL	TXN_PROCESS_FEE

## 3.5 Messages

NA

## 3.6 Reports

• NA

# **4** Annexure Reference

NA

## **ORACLE**

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/

Copyright © [2007], [2014], 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 de-compilation 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.