Oracle FLEXCUBE Investor Servicing® Interface Getting started

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Contents

1 Preface

This document gives a top level overview of FLEXCUBE IS Integration Gateways and helps

user to get started using various Integration frameworks.

1.1 Audience

This Interface Getting started is intended for FLEXCUBE Application Developers/Users who require:

- Overview knowledge of Integration framework
- To configure new Generic Interface – incoming/outgoing
- To Develop EXECL based upload adapter

1.2 Related documents

For more information on Interfaces, see these resources:

- *FCIS-FD01-01-01-Development Overview Guide*
- *FCIS-FD04-02-01-Generic Interface Configuration Guide*
- *FCIS-FD04-03-01-Upload Adapter Development Guide*

1.3 Conventions

The following text conventions are used in this document:

Convention Meaning

boldface	Boldface type indicates graphical user interface elements (for example, menus and menu items, buttons, tabs, dialog controls), including options that you select.
italic	italic type indicates book titles, emphasis, or placeholder variables for Which you supply particular values.
monospace	Monospace type indicates language and syntax elements, directory and file names, URLs, text that appears on the screen, or text that you enter.

2 Introduction

2.1 How to use this Guide

- Chapter 2, "Introduction"
   This is an introduction section

3 Interface Getting started

Integration of different applications and solutions is a key area in today's systems. A variety of specialized applications deployed on disparate platforms and using different infrastructure need to be able to communicate and integrate seamlessly with each other in order to exchange data.

One of the design goals of FLEXCUBE has been that it should integrate easily with external systems for which FLEXCUBE provides an Integration Gateway. This Integration Gateway uses a "service" and "notifications" based approach to integration under the principles of Service Oriented Architecture. The architecture provides for interfaces supporting open standards that can be used to easily integrate with other applications. The Gateway provides for various deployment patterns, all of which can co-exist, to enable these various integrations.

The below diagram provides a high level view of some sample integrations that could be in place in a typical bank.
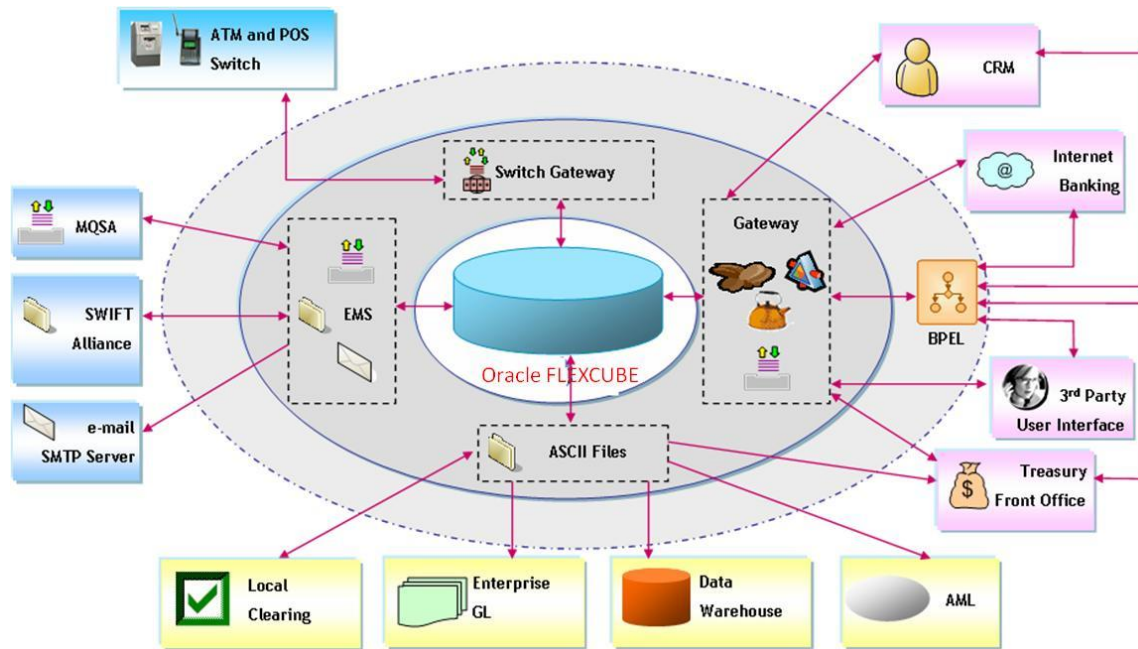
3.1 Gateway Overview

The Integration Gateway provides for the following gateways.

3.1.1 FLEXCUBE IS Generic Gateway (XML and Web Services)

Generic "Gateway" is built on a service based architecture leveraging industry standards like XML and web services. This "Gateway" can be utilized to integrate FLEXCUBE IS with any system in an online real-time manner using different mechanisms.

3.1.2 FLEXCUBE IS Electronic Messaging System Gateway (EMS)

"EMS Gateway" provides specific integration with SWIFT Alliance (basic as well as MQ based) and integration to e-mail for advices generated by FLEXCUBE IS.

3.1.3 FLEXCUBE IS ASCII Generic Interface Gateway

"ASCII Gateway" provides generic integration to systems where the integration needs to be based on flat files (ASCII files)

3.1.4 FLEXCUBE Upload Adapter

FLEXCUBE Upload Adapter framework provides mechanism to create the spread sheet based data uploads. This mechanism helps to get spreadsheet data into FLEXCUBE Database.

4 FLEXCUBE IS Generic Gateway

The Generic Gateway can be deployed in various deployment patterns to support various mechanisms of integration. Gateway is "XML message" based in nature. The message for

executing an "Operation" in any "Service" of FLEXCUBE IS is the same irrespective of the deployment pattern used to invoke the service.

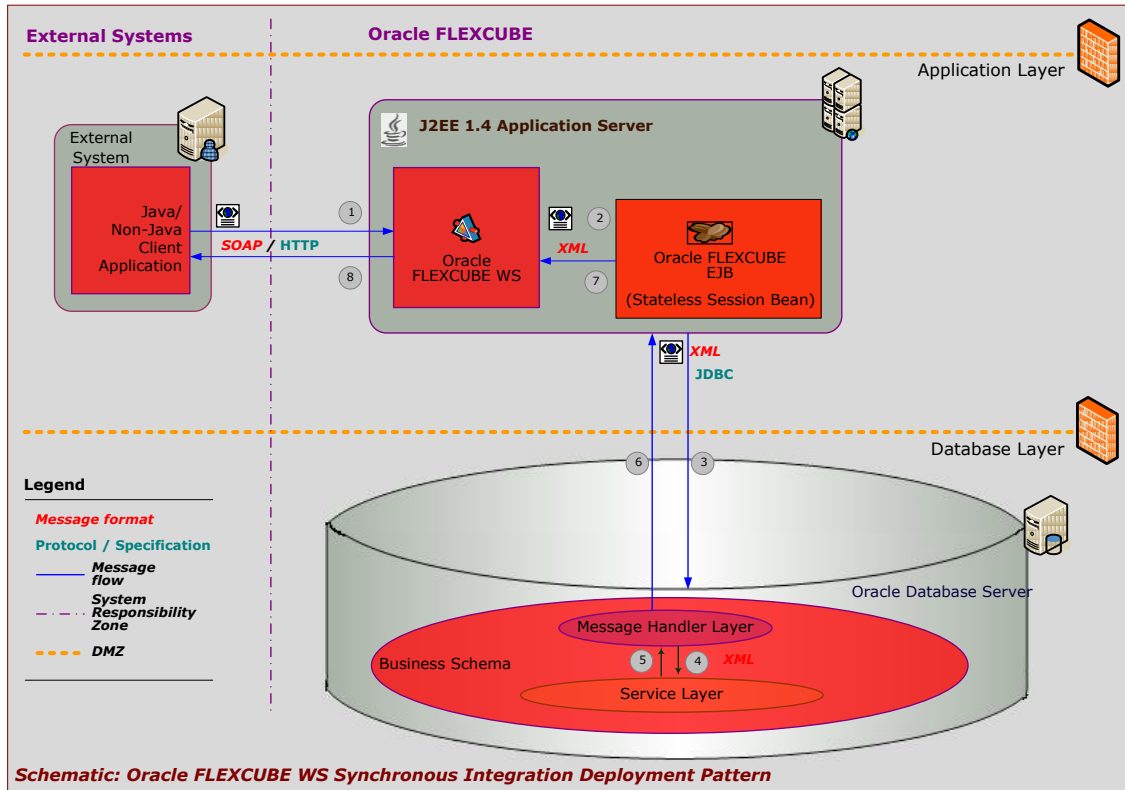The approach to integration is based on -
- "Services" for inbound integration – These services can be to Create, Modify or Query data into/from FLEXCUBE IS
- "Notifications" of business events for outbound integrations – These notifications notify the systems which subscribe to them of the business events that occur within FLEXCUBE IS.

A top level view of the various deployments patterns of Gateway is as shown in the below diagram.
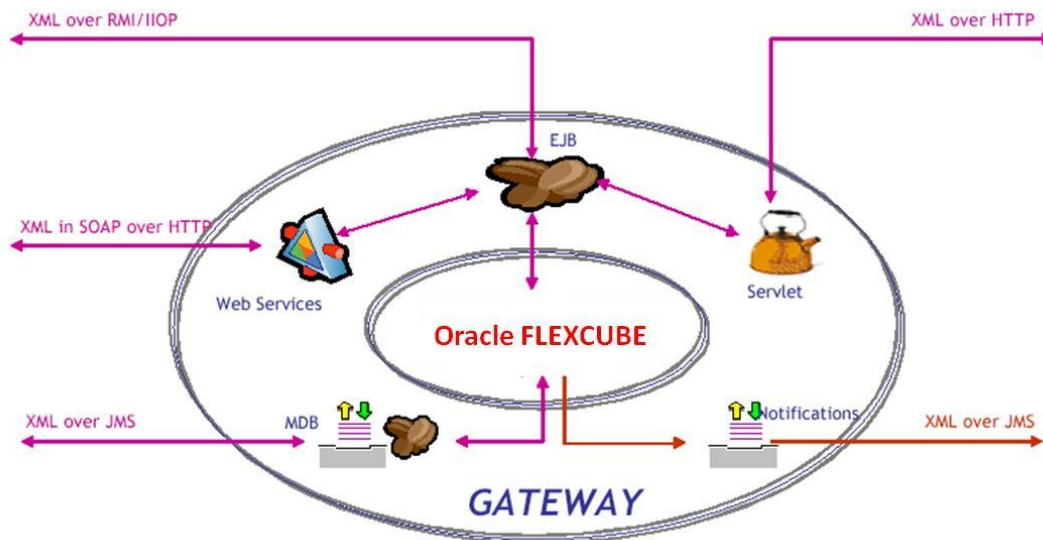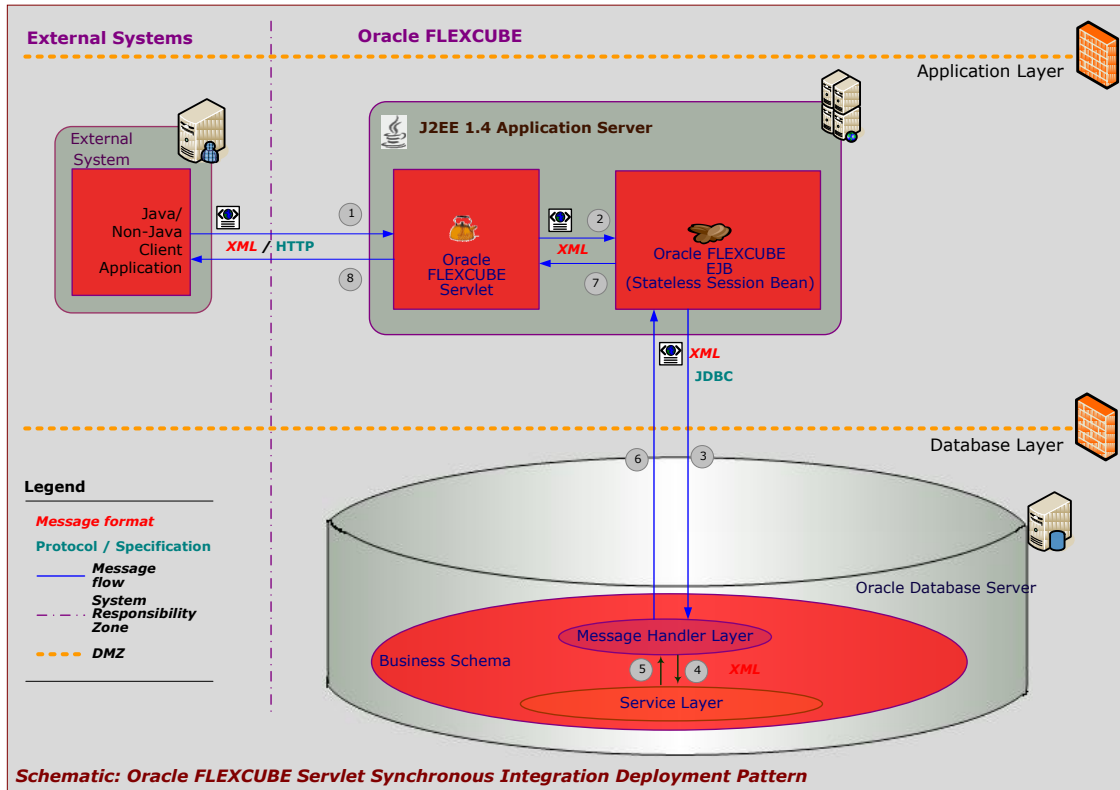

4.1 Web Services (XML in SOAP)

The various services available in Gateway are deployed and exposed as "web services" in this deployment pattern. The web services are synchronous in nature. The services are "Document-Literal" and follow a message based style wherein the payload XML (both request and response) is embedded into the SOAP message. The web services have servlet endpoints to ensure a low footprint. Internally the web services invoke the Gateway EJB for performing the necessary operations

External Systems

Oracle FLEXCUBE

Application Layer

External System

Java/ Non-Java Client Application

SOAP / **HTTP**

1

J2EE 1.4 Application Server

Oracle FLEXCUBE WS

8

XML

2

Oracle FLEXCUBE EJB

(Stateless Session Bean)

7

XML

JDBC

Database Layer

Oracle Database Server

6

3

Message Handler Layer

Business Schema

5

4

XML

Service Layer

Legend

Message format

Protocol / Specification

Message flow

System Responsibility Zone

DMZ

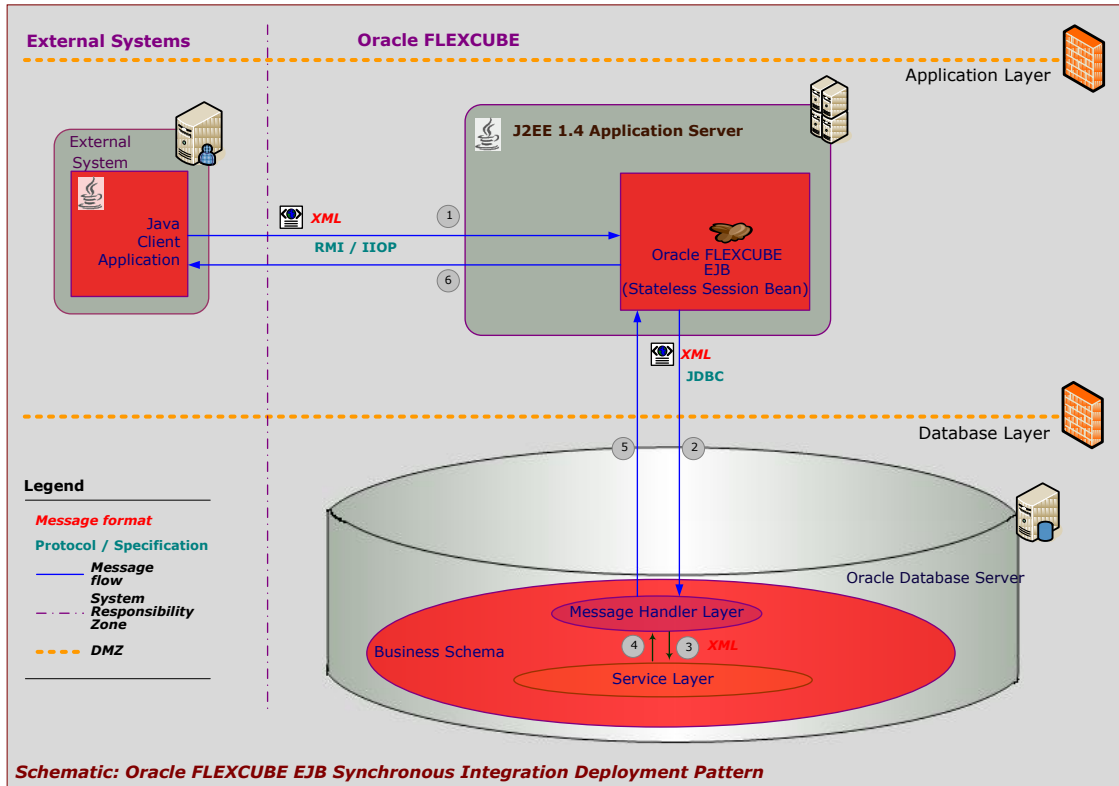*Schematic: Oracle FLEXCUBE WS Synchronous Integration Deployment Pattern*

4.2 Simple HTTP (XML over HTTP)

The various services available in Gateway are deployed and exposed as a servlet in this deployment pattern. There is only one Gateway servlet and irrespective of the service being invoked the payload will have to be sent to this servlet as simple XML messages in the body of the HTTP message. Internally the servlet invokes the Gateway EJB for performing the necessary operations.

Schematic: Oracle FLEXCUBE Servlet Synchronous Integration Deployment Pattern

4.3 Enterprise Java Bean (XML over RMI/IIOP)

The various services available in Gateway are deployed and exposed as a Enterprise Java Bean (EJB) in this deployment pattern. There is only one Gateway EJB and irrespective of the service being invoked the payload will have to be sent to this EJB as a method call (XML over RMI/IIOP). The Gateway EJB is the true synchronous entry point into the FLEXCUBE database which is responsible for processing the messages and contains the business logic for all the services.

Legend

Message format

Protocol / Specification

Message flow

System Responsibility Zone

DMZ

*Schematic: Oracle FLEXCUBE EJB Synchronous Integration Deployment Pattern*

4.4 JMS Providers using Message Driven Bean (XML over JMS)

Message oriented Middleware (MoM) like Oracle Weblogic JMS, IBM MQ Series, TIBCO EMSc are very popular means of integration. The Gateway provides a mechanism to integrate via these MoMs using a Message Driven Bean that supports JMS standard. The integration will be asynchronous in nature (from the invoking system's perspective). The various services available in Gateway can be invoked using this deployment pattern. The request XML can be placed in a queue and the response obtained in another queue.

Schematic: Oracle FLEXCUBE MDB Asynchronous Application Integration Deployment Pattern
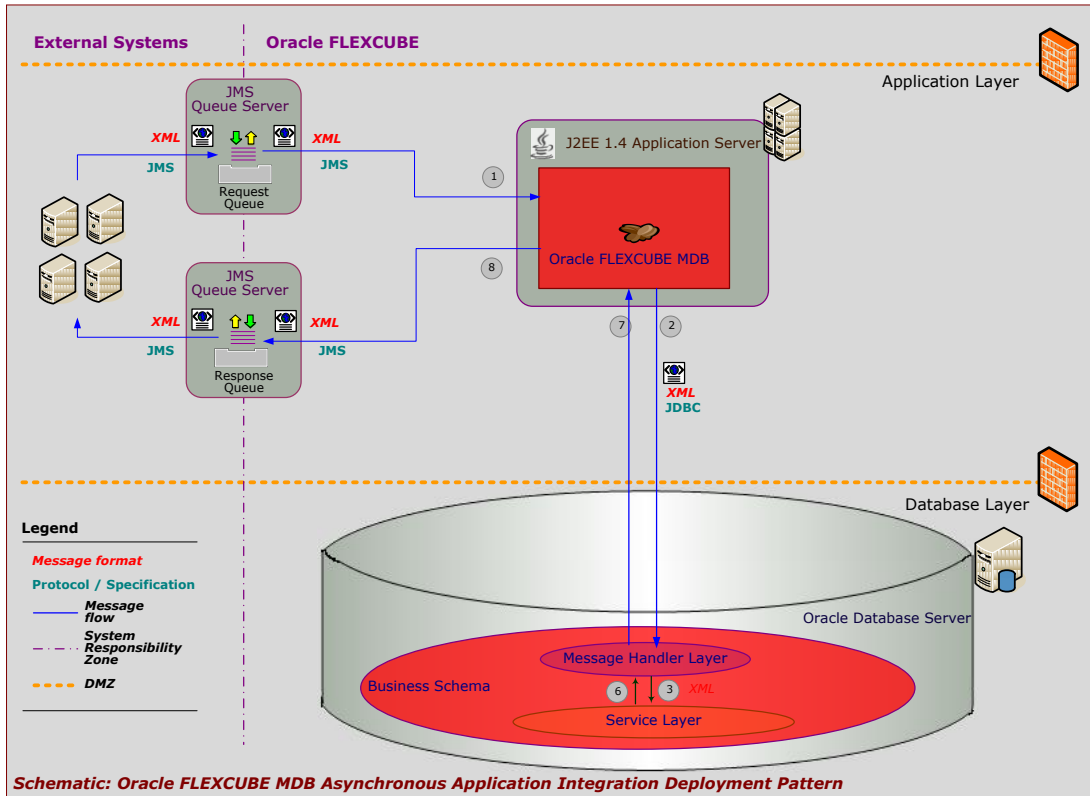
4.5 Notifications

This deployment pattern is used to publish the business events that occur in FLEXCUBE IS asynchronously. These events are published in the form of XML messages on to one or more queues or topics hosted in a JMS provider.

Schematic: Oracle FLEXCUBE J2EE Notify Application Integration Deployment Layer
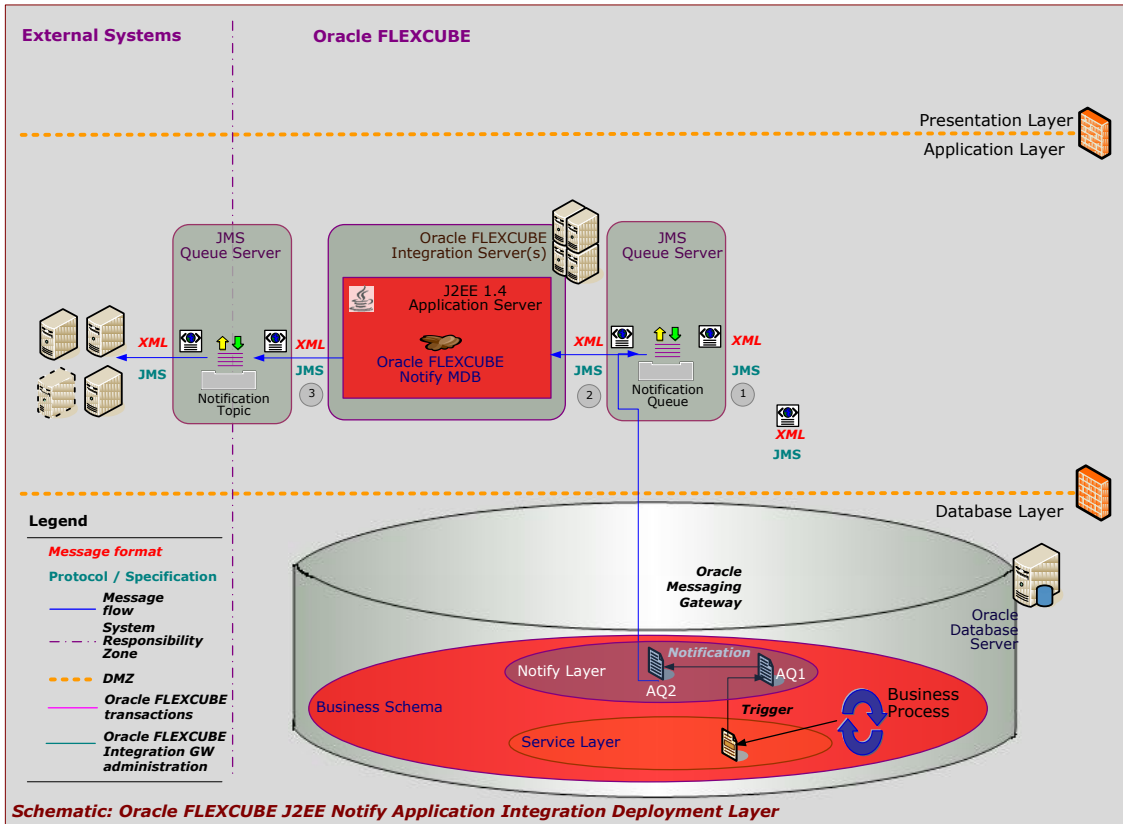
Refer *FCIS-FD02-05-01-RAD Notification Development* for more information on how to develop Notifications in FLEXCUBE IS.

5 FLEXCUBE IS EMS Gateway

5.1 Integration with SWIFT Alliance

EMS Gateway provides file based (local folder or FTP) connectivity to SWIFT Alliance. EMS Gateway can be used to connect to Queue based deployment of SWIFT – MQSA. Both incoming and outgoing connectivity to SWIFT Alliance and MQSA is provided by EMS.

Schematic: EMS Incoming Interface Deployment Pattern
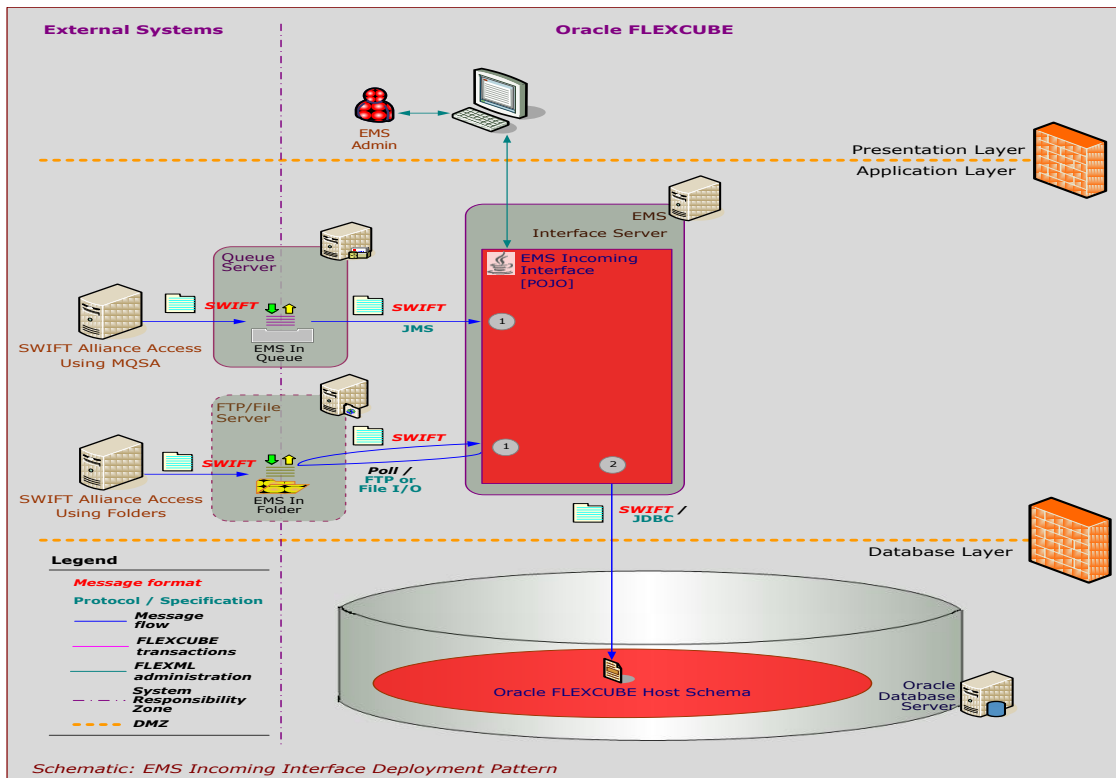
5.2 E-mailing of FLEXCUBE IS Advices

Advices generated by FLEXCUBE can be e-mailed to the customer. This is achieved by the EMS Gateway by connecting to a configurable SMTP server

Schematic: EMS Outgoing Interface Deployment Pattern
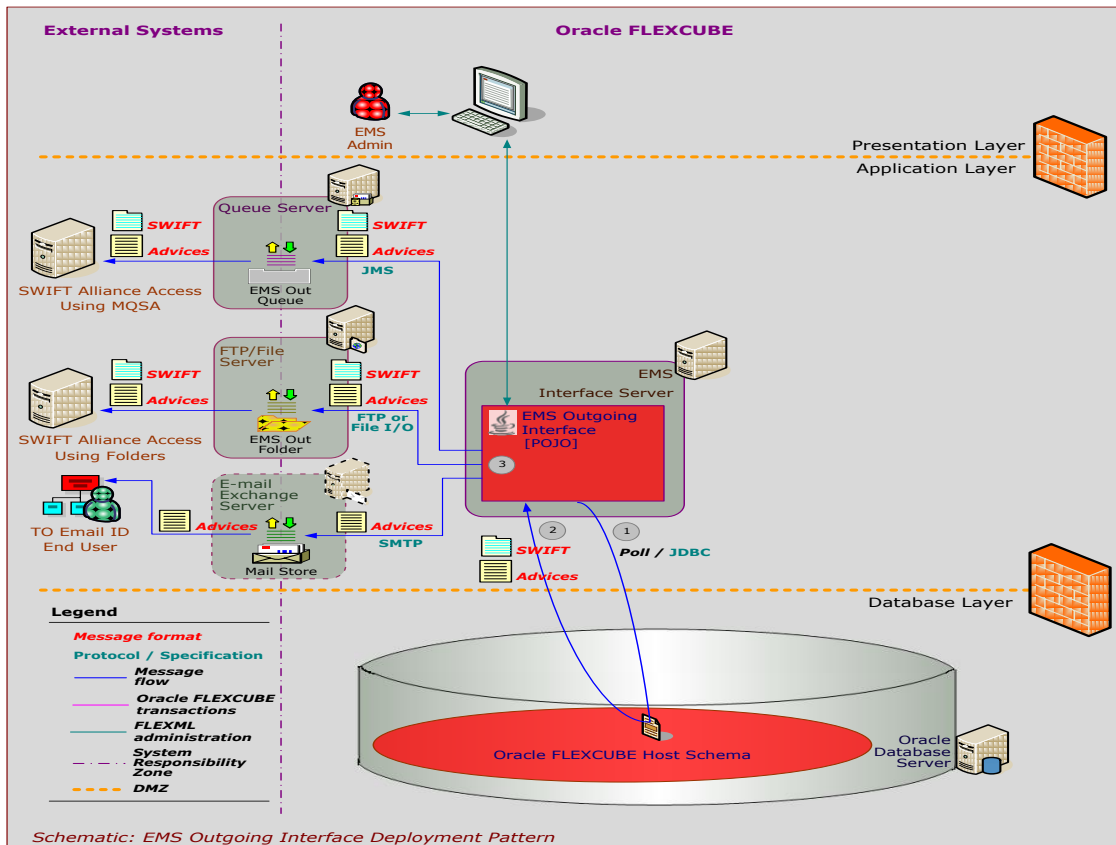
6 FLEXCUBE IS Switch Gateway

6.1 ATM-POS Switch Integration

The Switch Gateway enables integration of FLEXCUBE IS with ATM-POS switches. Communication is over TCP/IP using ISO 8583 messages. Support is available for "On Us" and "Remote On Us" and "Off us" transactions.

Schematic: Oracle FLEXCUBE Switch Integration Gateway (SWIG) Synchronous Deployment Pattern
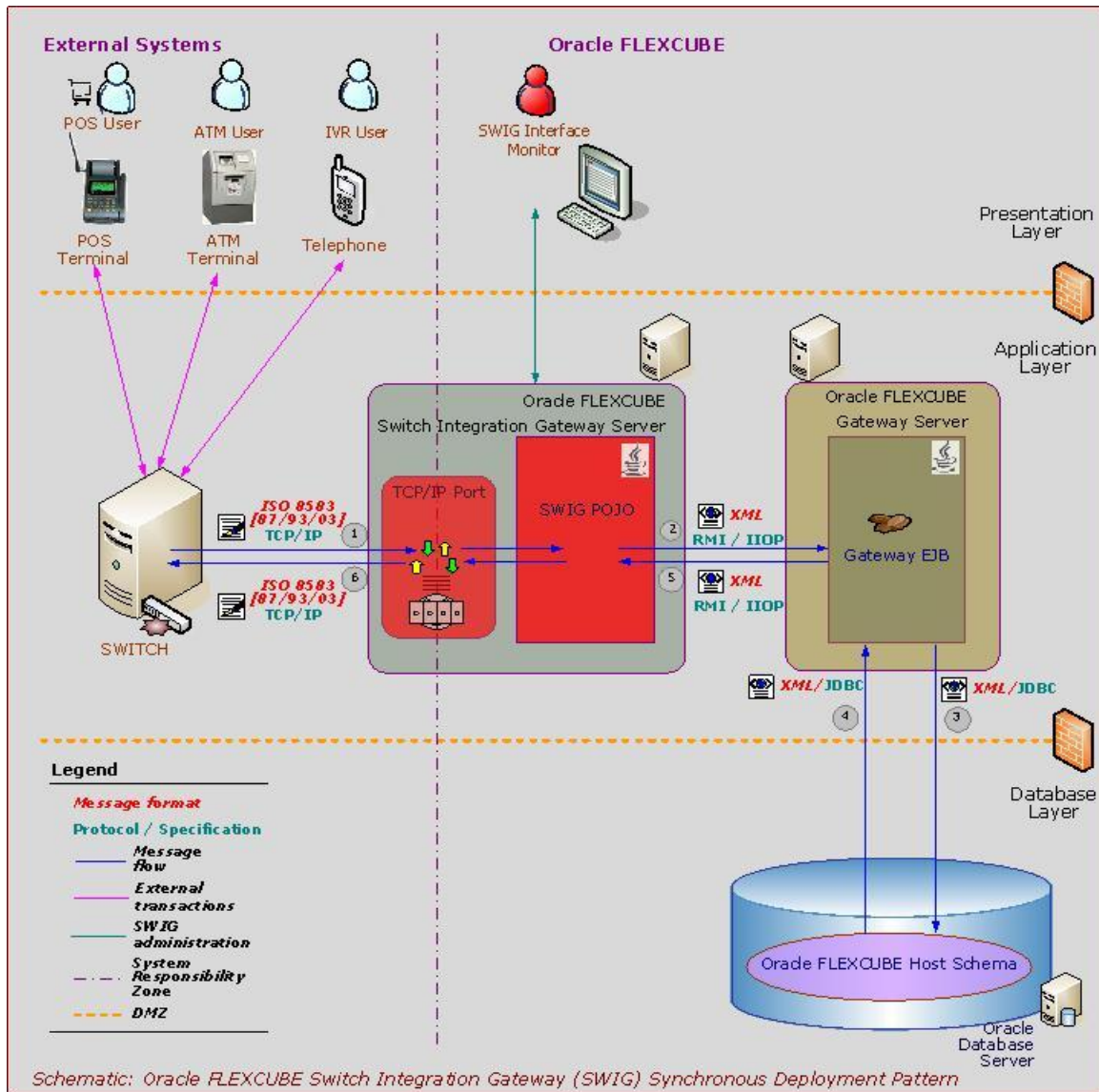
7 FLEXCUBE IS ASCII Generic Interface

FLEXCUBE IS provides Generic Interface (GI) framework for ASCII based interface with external systems. GI is used to define incoming ASCII data upload or outgoing data handoff. GI framework uses the FLEXCUBE IS RAD generated database units to route the upload actions.

8 FLEXCUBE Upload Adapter

FLEXCUBE IS provides the spread sheet macro based upload framework, which is used for one time data upload into FLEXCUBE. Upload Adapter framework provides mechanism to push data into staging tables and upload into master table using designated function ID

Refer the document FCIS-FD04-03-01-Upload Adapter Development Guide to know on how to develop the FLEXCUBE Upload adapter.

FCIS-FD04-01-01-Interface Getting started
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