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| CAPIOT Software |
| **Document Template Management** |
| Design Document |

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| Harsha Jeshnani  4-10-2017 |

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| **Document Version Number** | **Document Revision Date** | **Written By** | **Change Summary** | **Reviewer** |
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# **1. Introduction**

Document Template Management system will be used to fetch appropriate templates (Mail/SMS/Physical Letter) for different processes and scenarios based on various rules that would be configured in Decision Table of Business Rules Engine. These templates will be modified to replace the dynamic fields with their actual values at run time and the updated template will be sent to the consuming application. Business users will be able to add new rules, update existing rules and view the existing rules using the Front end UI portal. Oracle SOA Suite 12c will be used for Business Process realization and management of service interactions between communicating participants.

## **Purpose**

The purpose of this document is to provide a comprehensive low level design for Document Template Management system using Oracle SOA Suite 12c. This document will be updated as and when there is significant change in the solution.

## **Scope**

This document provides end-to-end solution design for:

* Document Template Management

Current scope includes:

* Front end UI portal will be developed for creating and updating Business rules for Document Template Management.
* The system will generate templates with static (actual content of the template) and dynamic (dynamic fields the need to be replaced) data.
* The system will offer a functionality for marking rules as inactive if they are no longer needed. It will also provide a functionality to set an effective date/validity date for rules.
* **Integration with the consuming application** - Document Template Management system will fetch the appropriate templates based on various conditions, update it with dynamic data and send it back to the consuming application.
* **Logging and Exception Handling** - The transactional records would be stored in database for internal reference. In case of any technical exceptions, the exception would be logged.

## **Assumptions**

The following table lists down the assumptions made during process design. The same will be revisited and updated as and when these assumptions are supported by concrete decisions.

|  |  |
| --- | --- |
| **Sr. No.** | **Description** |
| 1. | All the dynamic fields present in the template will be received as a part of input to the  System. |
| 2. | If some of the dynamic fields are not received in the input then those fields will be sent as it is to the consuming application |
| 3. | The template will be sent as HTML content to the consuming application. |

## **Acronyms and Definitions**

|  |  |
| --- | --- |
| **Acronym** | **Definition** |
| SOA | Service Oriented Architecture |
| BPEL | Business Process Execution Language |
| BRE | Business Rules Engine |
| DTM | Document Template Management |

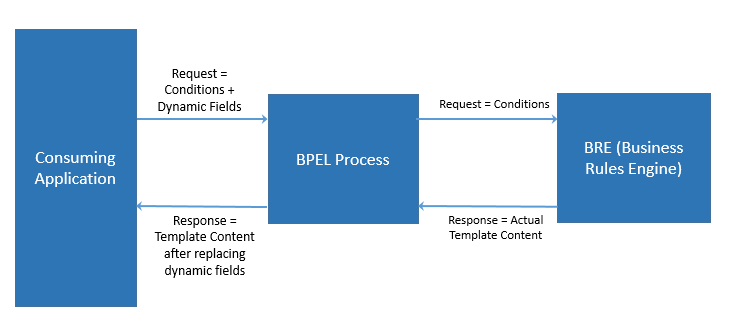
## **References**

|  |  |
| --- | --- |
| **Sr. No.** | **Document Name/URL** |
| 1. | Reference URL : <http://docgenerator.coxandkings.com/> |
| 2. | Reference URL : <http://docgenerator.coxandkings.com/filter> |

# **Document Template Management Overview**

## **Solution Architecture**

The diagram below is a representation of the solution architecture for Document Template Management system.



## **Document Template Management Components**

### **BPEL Process**

* BPEL process will be exposed as a web service. The consuming application will send a request to BPEL process which will consist of values of conditions and dynamic variables that need to be replaced in the templates.
* It will invoke Business Rules Engine (BRE) which will retrieve the template content corresponding to those conditions.
* BPEL Process will enrich the template with the values of dynamic fields and send the template back to the consuming application.

### **Business Rules Engine**

* BRE will check if there is any active rule which matches the incoming request conditions.
* On the basis of these conditions, BRE will retrieve the template content and send it to the BPEL process.
* If any of the template (SMS /Mail / Physical Letter) is not available, the value of template content is set as “Unavailable”.
* If there are no matching conditions, status is set to “No matching rules” else the status is set to “Success”.

# **Document Template Management Implementation**

This section covers the Document Template Management implementation in Oracle SOA Suite 12c. It covers the details of incoming request and outgoing response.

## **Request Data Model**

The table below contains the list of elements and their possible values which will be received as input to the BPEL process. The number of dynamic fields and their values change according to the value of process. The table below lists the dynamic fields for the process “Communications”.

|  |  |
| --- | --- |
| **Elements** | **Possible Values / Description** |
| **DTM Input (Conditions)** | |
| Group Of Companies | Cox and Kings Group Of Companies |
| Group Company | Cox and Kings(I) Ltd, |
| Company | Cox & Kings Ltd. , Cox & Kings Dubai, etc. |
| Business Unit | BTR, DOM, FRX, OBT etc. |
| Sub Business Unit | DOM, FRX, FIT, DD etc. |
| Market | India, DUBAI etc. |
| Source | Call Centre, Online, Branch etc. |
| Product type | Packages, Standalone |
| Products | Flight, Hotel, Cruise, Tour Package, etc. |
| Destination (Only for Product=”Tour Package”) | Seychelles, Mauritius etc. |
| Brochure (Only for Product=”Tour Package”) | Trade Fairs -2017 etc. |
| Tour (Only for Product=”Tour Package”) | Andaman Delight, etc. |
| Process | Enquiry, Amendment, Booking, etc. |
| Scenario | Enquiry Assessment, Cancellation etc. |
| Rule1 | Approved, Balance Payment, etc. |
| Rule2 | Approved, Balance Payment, etc. |
| Rule3 | Approved, Balance Payment, etc. |
| Communication Type | Acknowledgement, Request, External, etc. |
| Communicate To | Supplier, Client, Airline etc. |
| Incoming Communication Type | Call, Courier, Email etc. |
| Outgoing Communication Type | Courier, Email, Fax, SMS, Physical letter, etc. |
| Outgoing Communication attachment Type | Brochure, Invoice, etc. |
| Attachment Document Type | Visa Information, Booking Form etc. |
| **Dynamic Fields (Process = “Communications”)** | |
| TOUR\_BROCHURE | Tour Brochure Name |
| DEPARTURE\_DATE | Departure Date |
| PAX\_COUNT | Total Passenger Count |
| PAX\_COUNT-1 | Total Passenger Count minus 1 |
| DURATION | - |
| ROMMING\_TYPE | - |
| LEAD\_PAX\_FULLNAME | Full name of Lead Passenger |
| EMPLOYEE\_FULLNAME | Full name of Employee |
| EMPLOYEE\_CONTACT\_TELEPHONE | - |
| EMPLOYEE\_CONTACT\_FAX | - |
| EMPLOYEE\_CONTACT\_EMAIL | - |
| LEAD\_PAX\_TITLE | - |
| LEAD\_PAX\_LASTNAME | Last name of Lead Passenger |
| TOUR\_NAME | - |
| OFFICER\_DESIGNATION | - |
| OFFICER\_NAME | - |
| OFFICER\_EXTN | - |
| OFFICER\_EMAIL | - |
| OFFICER\_TEL | - |
| OFFICER\_MOBILE | - |
| PAYMENT\_TYPE | - |
| PAYMENT\_DATE | - |
| AMOUNT | - |
| PAYMENT\_SCHEDULE | - |
| SINGULAR\_PLURAL | - |
| MAIN\_TRANSFER\_SERVICE | - |
| ALT\_TRANSFER\_SERVICE | - |
| URL\_OFFER\_BOOKLET | - |
| URL\_BOOKING\_FORM | - |
| URL\_TNC | - |
| FULL\_AMOUNT | - |
| EMPLOYEE\_POSITION | - |
| HOTEL\_NOUN\_FORM | - |
| FINAL\_ALT\_HOTEL | - |
| HOTEL\_IS\_ARE | - |
| FINAL\_MAIN\_HOTEL | - |
| NEW\_MEAL | - |
| NEW\_DEPARTURE\_DATE | - |
| DOCUMENT\_LIST\_HANDED\_OVER | - |
| REASON\_OF\_SIGHTSEEING\_CANCELLATION | - |
| NEW\_SIGHTSEEING\_NAME | - |
| NEW\_SIGHTSEEING\_DESCRIPTION | - |
| SIGHTSEEING\_NAME | - |
| DESTINATION\_NAME | - |
| REFERENCE\_NO | - |
| CANCELLATION\_RESON | - |

## **Response Schema**

The table below provides a list of elements that would be sent to the consuming application.

|  |  |
| --- | --- |
| **DTM Output (Template Content)** | |
| **Elements** | **Description / Possible Values** |
| Mail Template Content | Mail Template Content after replacing dynamic fields |
| SMS Template Content | SMS Template Content after replacing dynamic fields |
| Physical Letter Template Content | Physical Letter Template Content after replacing dynamic fields |
| Status | Success / No Matching Rules |