**DD CAIIC-Israel-Data Collation & Follow-ups**

**Robotics Process Automation Solution Design Document (SDD)**

**Finance**

**Applied Materials**

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Document History

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| Date | Version | Name | Organization  Department | Function | Comments |
| 07/22/2020 | 1.0 | *Chithra Remesh* | *IBM* |  | Initial Draft |
| 07/27/2020 | 2.0 | *Chithra Remesh* | *IBM* |  | Updated shared folder and mailbox and section 4.2 |

Version Control

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| Date | Version | Role | Name | Organization  Department | Function | Comments |
| 07/22/2020 | 1.0 | Author | Chithra Remesh | IBM |  |  |
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## Document Overview

The Solution Design Document (SDD) is created for every business process automated using RPA. The SDD needs to be reviewed and updated for every change requested and applied to the automated process. This document provides a technical snapshot and must always reflect the latest design and key features of the automated workflow.

The document naming convention will follow the naming convention and the version of the automated process. This can be “business process name version” or it can be defined, case by case, as part of the larger RPA project design.

This document is completed by the RPA Solution architect and RPA developer who automates the business process. It is reviewed by the business process owner, application owner and CoE design authority.

This document is meant to assist the RPA COE, IT operations and process owners by providing a snapshot of the automated process details and components. It can also serve developers to have a quick glance at the setup, before diving into the code, to troubleshoot or update changes. The purpose of the document is to record the outcome specific to the automated master project and its subcomponents: projects, workflows, sequences etc.

## Automated Master Project details

Details filled in by the developer reflect the actual information for the master project released for production.

|  |  |  |
| --- | --- | --- |
| # | Item | Details  (Fill in with free text. If not applicable, mark the field as “n/a. No empty fields.) |
| **1** | **Master project name** | IA.0064.DD-CAIIC-Israel-Data Collation & Follow-ups |
| **2** | **Robot type**  **(attended/unattended/mix)** | unattended |
| **3** | **Is Orchestrator used?** (Yes/ No) | Yes |
| **4** | **Scalable?** (Yes/ No)  (can the process be run by multiple robots in parallel) | No |

## Pre-Requisites

### VM Setup

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Application | Version # + Additional Plug-ins | Variants |
| 1 | Microsoft Outlook | Default |  |
| 2 | Microsoft Excel | Default |  |

### Access Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Application | Access Profile / Attachment | Additional Comments |
| 2 | Microsoft Excel | Process Analyst | Read and Write Input Config file and Process related excels |
| 3 | Microsoft Outlook | Process Analyst | To Send mails and receive mails.  AM\_Israel\_Vendor\_Queries@amat.com |
| 4. | Share Drive | Process Analyst | DEV: [\\dca-nas-40\RPADEV\Development](file:///\\dca-nas-40\RPADEV\Development)  Prod: \\amat.com\folders\austin\finance\RPA\_DD\CAIIC\EMEA\Israel |

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Shared Folders/Mailboxes | Path | Access (Read / Write) |
| 1 | Sharedrive: [\\amat.com\folders\austin\finance\RPA\_DD\CAIIC\EMEA\Israel](file:///\\amat.com\folders\austin\finance\RPA_DD\CAIIC\EMEA\Israel)  AM\_Israel\_Vendor\_Queries@amat.com | n/a | n/a |

## Runtime Guide

### Runtime diagram [Architectural structure of the Master Project]

Display the interaction between components (package / robots, Orchestrator queues, and running order).



**PDD for the DD CAIIC-Israel-Data Collation & Follow-ups process listed in the following document attached**

https://teams.microsoft.com/l/file/EBAE722C-DF99-4A0E-9CA4-92ED8530261A?tenantId=709c2643-b1a9-4415-ad0f-521cfa6ba3f5&fileType=docx&objectUrl=https%3A%2F%2Fteam.amat.com%2Fsites%2FFinanceRPAWorkshopFiles-BPO%2FShared%20Documents%2FBPO%2FPTP%2FTopics%2FDirect%20Debit%20Invoices%2FUse%20Cases%2FCAIIC-EMEA%20ISRAEL-Data%20Collation%20%26%20Followups%2FPhaseGate%202%20-%20Design%20Committee%20Approval%2FPDD%20%26%20SDD%2FPDD-AMAT-PTP-DD-CAIIC-EMEA-ISRAEL-Data%20Collation%20%26%20Followups-Ver%209.0.docx&baseUrl=https%3A%2F%2Fteam.amat.com%2Fsites%2FFinanceRPAWorkshopFiles-BPO&serviceName=teams&threadId=19:4760f354a16a478f9e70bb6ae738689c@thread.tacv2&groupId=0cb41838-28f2-4aef-ae8c-4dbfe3370af5

### List of packages

Include **the list of packages with versions, and the high level description** for each of them, to explain each one`s purpose:

|  |  |  |
| --- | --- | --- |
| # | Package name | High Level description |
| 1 | IA.0064.DD CAIIC-Israel-Data Collation & Follow-ups | The package will read input Config file and add vendor list to Queue. Then each queue item will process according to business scenarios. |
| 2 |  |  |

*\*Add more rows to the table to include all the project names and version. No fields should be left empty. Use “n/a” for the items that don`t apply to your project.*

### Master Project Runtime details

Details of the automated process:

|  |  |  |
| --- | --- | --- |
| # | Item | Details  (Fill in with free text. If the section does not apply to your automation, mark the field as “n/a”. No empty fields. ) |
| **1** | **Production environment details** | TBD |
| **2** | **Prerequisites to run** | Excel Templates and  Share drive path access and Outlook access |
| **3** | **Input Data** | List of Vendors & its Details,  .TXT files as Email attachment,  Vendor Report Mails |
| **4** | **Expected Output (output data)** | Weekly File Activity Tracker File with TXT File Details ,  Process Inputs (TXT & Report) Tracker File with TXT File Details ,  Follow-up mails to Vendors |
| **5** | **How to start the automated process?** | Scheduled from Orchestrator |
| **6** | **Resuming the process from a particular step** | n/a |
| **7** | **Reporting**  (queues reporting, Kibana or another platform) | Queue |
| **8** | **Manual Error Handling**  (roll back or manually complete failed transactions). Procedures to reset the item. Ex “set status as investigating” | n/a |
|  | **7 a. How to resume the process in case of error** |  |
|  | **7 b. How to manually fix transactions with error** | n/a |
| **9** | **Use of Orchestrator** | Yes |
|  | **Password policies**  (specific compliance requests?) | Secure credential wallet |
|  | **Stored Credentials:**  (Never hard code credentials in the workflow) | Assets |
|  | **List of Asset Names:**  (Follow naming convention ProcessName\_AssetName) | IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.RootFolderPath  IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.VendorConfigFileName  IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.Process InputsFileName  IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.WeeklyFileActivityFileName  IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.ExceptionToList  IA.0064.Proc.DD\_CAIIC\_Israel\_DataCollationandFollowUp.ExceptionCCList |
|  | **Schedule details:** | Every Thursday-9.00am CET |
| **10** | **Multiple resolutions supported**  (in case of image automation/ Citrix) | n/a |
|  | **Recommended resolution** | default |

## Project details

Payment Run Automation -Proposal Creation Process is to create payment proposals based on the due dates, which enable the final phase of fund transfer.

#### Project Name: IA.0064.DD-CAIIC-ISRAEL- Data Collation & Followups

*Add to the title of this section the actual project name of the automated process.*

|  |  |  |
| --- | --- | --- |
| # | Item name | Details  (Fill in with free text. If not applicable, mark the field as “n/a. No empty fields.) |
| **1** | **Environment used for development**  (name, location, configuration details etc.) | Dev/QA |
| **2** | **Environment prerequisites**  (OS details, libraries, required apps) | Excel, Outlook, Share drive |
| **3** | **Logging level** | Info, Error |
| **4** | **Details about automation** (if the apps were automated using UI Automation, Image & Text) | Excel and email based automation |
| **5** | **In case of an attended bot, can the user operate the computer while the robot is running?** | No |
| **6** | **Repository for project**  (where the developed project is stored) | BitBucket  <needs to get from Ajay> |
| **7** | **Custom logs defined in the workflows**  **(**where Throw Activity was used or custom log message was defined**)** | Yes |
| **8** | **Frequent errors found in the development phase** | n/a |
| **9** | **Workarounds used in the automation phase** | n/a |
| **10** | **Configuration method**  (assets, excel file, Json file) | Assets, RE-Framework Config File (Excel) |
| **11** | **Configuration details**  (path for input files, configuration Orchestrator assets used) |  |
| **12** | **Workflow File Export List**  (Use the project mapping tool) | n/a |

#### Workflow(s) specific to IA.0064.DD-CAIIC-ISRAEL- Data Collation & Followups

#### Add to the title of this section the actual project name to which the workflows are specific to. The name should normally coincide with the Project name mentioned at Section 4.1

Define below all the workflow files (.xaml files) used in the project, with the Input and Output data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Workflow file name | Description | Input Argument | Output Argument |
| 1 | Main.xaml |  | In\_Config\_file | n/a |
| drive2 | ReadVendorConfigFile.xaml | Read the input file | In\_Config\_file | n/a |
| 3 | AddVendorDataToQueue.xaml | Add vendor Details in Queue | In\_Config\_file | n/a |
| 4 | SearchMail.xaml | Search outlook mail from specific mail id and subject line | In\_Config\_file | n/a |
| 5 | SendFollowUpMail.xaml | To send Followup mail to specific mail id | In\_Config\_file | n/a |
| 6 | DownloadAttachments.xaml | To download specific attachments from mails and rename it. | n/a | n/a |
| 7 | ReadTxtFile.xaml | To data in the downloaded txt file | n/a | n/a |

*\*Add more rows to the table to include all the workflow file names. No fields should be left empty. Use “n/a” for the items that don`t apply to your project.*

\*If the workflow is a flowchart, also include below the exported image from Studio.

\*\*Start the list with the one that will run by default when the package is executed.

#### Queues(s) specific to IA.0064.DD-CAIIC-ISRAEL-Data Collation & Followups

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Name | Purpose | Configuration |
| 1 | IA.0064.DD-CAIIC-ISRAEL-Data Collation & Followups | Add vendor details in Queue | Reference: vendor id/vendor name |

#### Reusable Components

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Component | Target System | Description |
| 1 | ExcelClose | Excel | This is used to close any open excel document |
| 2 | WriteExcelCell | Excel | This is used to write cell for open excel document |
| 3 | CreateBotRunFolder | Robot Server | To process files locally on the server |
| 4 | DeleteBotRunFolder | Robot Server | To delete local folder after processing is completed. |

## Deployment Strategy

**Guidance**:TBD

## Compliance Considerations

|  |  |  |
| --- | --- | --- |
| # | Item | Specific Considerations (otherwise mark N/A)  (Fill in with free text. If not applicable, mark the field as “n/a. No empty fields.) |
| **1** | **Sarbanes Oxley (SOX)** | n/a |
| **2** | **HIPAA** | n/a |
| **3** | **FERC Standards of Conduct** | n/a |
| **4** | **Personally Identifiable Information (ensure process follows PoLP)** | n/a |
| **5** | **Others** | n/a |

## Bot Configuration

### Production Orchestrator Asset Values (do not include credentials)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Asset | Type (Integer, Bool, Text, Credential) | Value (Assets will always overwrite other config) |
| TBD |  |  | TBD |
|  |  |  |  |

### Configuration Files

|  |  |  |
| --- | --- | --- |
| S. No. | Input (Mapping) File | Use |
|  | RE-Framework Config File | To store process level configuration details |

## Other Details

### Dependencies:

### Future improvements:

### Debugging tips:

### Other Remarks:

## Post UAT specifications

**Average duration per transaction**: (varies depending on the Test environment):

**Recommended number of robots for the specified volumes**: One

**Specified schedule**: TBD

## Glossary

1. **Master project** - the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation.
2. **Project** - a UiPath Studio project containing one or multiple workflow files. A project can be converted to a package and run independently, covering a particular scope within the master project. The project is used when defining the development and support phase of the automation.
3. **Package** - the output of compiling a project. A package can be deployed on the robot machine and be executed by the robot service. Only one package can be executed at a given time by a robot. The package is used when defining the running phase of the automation
4. **Workflow** - a component of the package, the workflow encapsulates a part of the project logic. The workflow can be of type: sequence, flowchart or state machine. A workflow is saved as a .xaml file inside the project folder. A workflow file can be invoked from another workflow and by default there is an initial workflow file that will run when executing the package.
5. **Activity** - an action that the robot executes.
6. **Sequence** - a workflow where activities are executed one after another, in a sequential order
7. **Flowchart** - a workflow where activities are connected by arrows and the logic of the workflow can be easily followed in a visual manner. The flowchart can also be exported as an image from UiPath studio
8. **State machine** - a more advanced way of organizing a workflow, similar to a flowchart.
9. **Orchestrator** – Enterprise architecture server platform supporting: release management, centralized logging, reporting, auditing and monitoring tools, remote control, centralized scheduling, queue/robot workload management, assets management.