Solution Design Document

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1. PURPOSE

Outlines the major components of the Master Project (the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation) taking into account all the business restrictions (scheduling, peaks, future increases in volume, etc.). The focus of the Solution Architect will be on:

- Robustness
- Scalability
- Efficiency
- Replicability
- Reusability of component.

The information herein is targeted primarily at the developers who will initially implement the solution and subsequently at the support developers in case of change requests.

2. AUTOMATED PROCESS DETAILS

Details filled in need to reflect the actual information for the Master Project released for production. The following table will be populated:

Item	Description
Master Project Name	Contact Center Intelligence - CCI
Robot Type	BOR (Back Office Robot)
Orchestrator used?	Yes
Scalable	Yes
UiPath version used	2023.10.0

3. RUNTIME GUIDE

3.1 Master Project Runtime Details

ITEM NAME	DESCRIPTION
Production environment details	N/A
Prerequisites to run	Your mail needs to be set up. Must have ServiceNow, OpenAI, Integromat, and SnatchBot accounts. In Intergromat your scenarios must be running. Finally need to enable connections in UiPath Integration Service to OpenAI and ServiceNow.
Input Data	Get pieces of information from mail correspondence or else Chatbot or through IVR call.
Expected output	The ServiceNow ticket needs to be created based on customer requests and update that ticket number and the status of the request to the user.
How to start the automated process	The process will be started from the orchestrator server.
Reporting (Queues reporting, Kibana, or another platform)	N/A
How is Orchestrator used?	Orchestrator used for scheduling the process.
Password policies (Mention any specific compliance requests)	N/A
Stored credentials (Never use hardcoded credentials in the workflow!)	Credentials are stored in the UiPath Data Service cloud platform.
List of queue names (Naming convention: ProcessName_QueueName)	CCI Chat
Schedule Details	Daily
Multiple Resolutions Supported? (In case of image automation / Citrix and VDI)	N/A
Recommended Resolution	N/A

3.2 Project name

ITEM NAME	DESCRIPTION
The environment used for development (Name, location, configuration details, etc.)	UiPath Studio, ServiceNow, SnatchBot, Intergromat.
Environment prerequisites (OS details, libraries, required apps)	Windows 11, Uipath Studio, UiPath Orchestrator, UiPath Assistant, UiPath Data Service, UiPath Integration Service, ServiceNow, SnatchBot, Integromat, Outlook.
Repository for project (Where is the developed project stored)	N/A
Configuration method (Assets, excel file, JSON file)	Data Service, ServiceNow, Outlook.
List of reused components	N/A
List of new reusable components	1. ServiceNow Ticket creation bot. 2. ServiceNow Ticket processing bot.

3.3 Project(s) workflows

| Workflow Name	Description
Main	Invokes all the other workflows
Extracting Data from DataService	Extracting the Config File details from the Data Services.
Init_Workflow	Initializing value extracted from Data Service to appropriate variables and values.
Extracting_Email_Content	Performing email-based actions like reading mail correspondence, saving attachments, and identifying sending information and requests.
IDP	Performing Intelligent Document Processing (IDP) on saved mail attachments.
Data to DataService	Update the extracted information from IDP workflow to UiPath Data Service.
Creating ServiceNow ticket	Creating ServiceNow ticket based on customer request.
UiForm Main	UiForms to fill customer information and for validation.
SubmitTrigger	Submit and send customer information to Orchestrator from UiForms.
CloseTrigger	Show updated UiForm to review.

3.4 Packages

Package Name	Description
UiPath.DataService.Activities	To retrieve configuration details and update user-shared document information.
UiPath.Excel.Activities	To create and assign configuration details.
UiPath.IntelligentOCR.Activities	To process user-shared documents using IDP.
UiPath.Mail.Activities	To communicate with customers with mail correspondence.
UiPath.OCR.Activities	To perform the IDP process.
UiPath.System.Activities	To perform basic system actions like click, open, close, minimize, maximize, etc....
UiPath.OpenAI.IntegrationService.Activities	To implementing GenAI (ChatGPT).
UiPath.ServiceNow.IntegrationService.Activities	To create a ticket for a user request and track that request with that ticket number.
UiPath.Form.Activities	To create and help to work with UiPath forms.
UiPath.HttpWebhook.IntegrationService.Activities	To transfer and receive data throughout the UiPath Webhooks.

3.5 Architectural Structure of the Master Project

Contact Center Intelligence is the solution to address support team challenges faced via Email, Chat, and Voice.
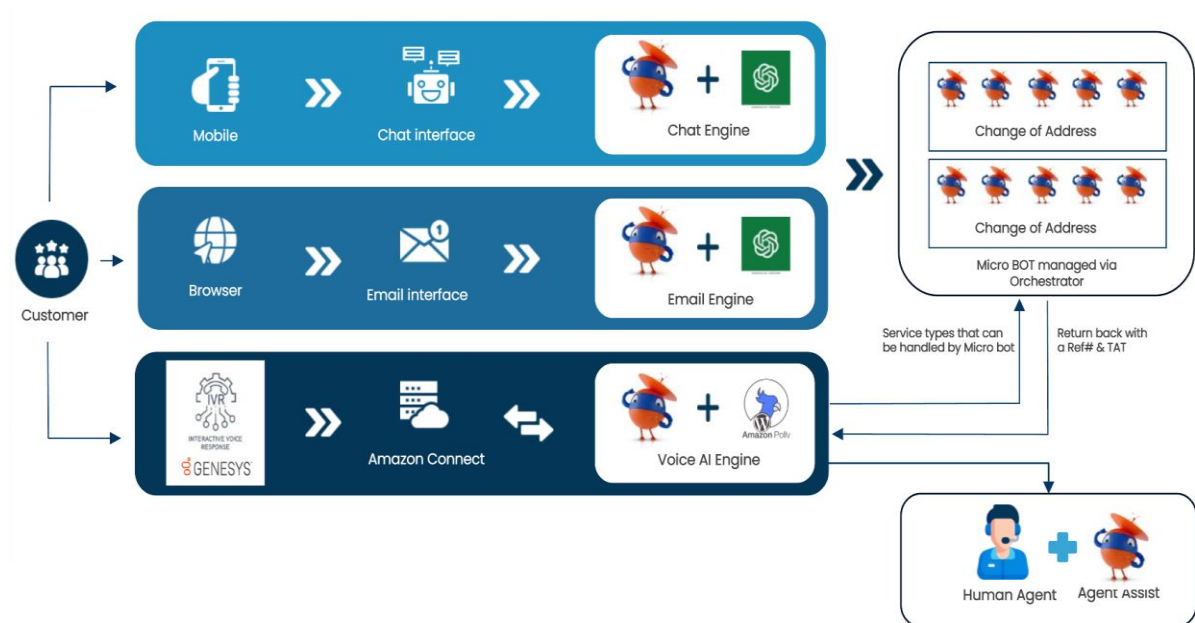
4. OTHER DETAILS

**Future Improvements**

- TBD

5. GLOSSARY

The main terms used in the Solution Architecture Document are defined below:

Master project - the overall output of the development, containing one or multiple projects that together cover the scope of the robotic process automation. There is a 1 to 1 connection between the Master Project and the Process to be automated (As presented in the PDD).

Project - an 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. Multiple projects can be converted into one package depending on the aims and restrictions of the automation. The project is used when defining the development and support phase of the automation.

Package - the output of compiling one or multiple projects. 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.

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.
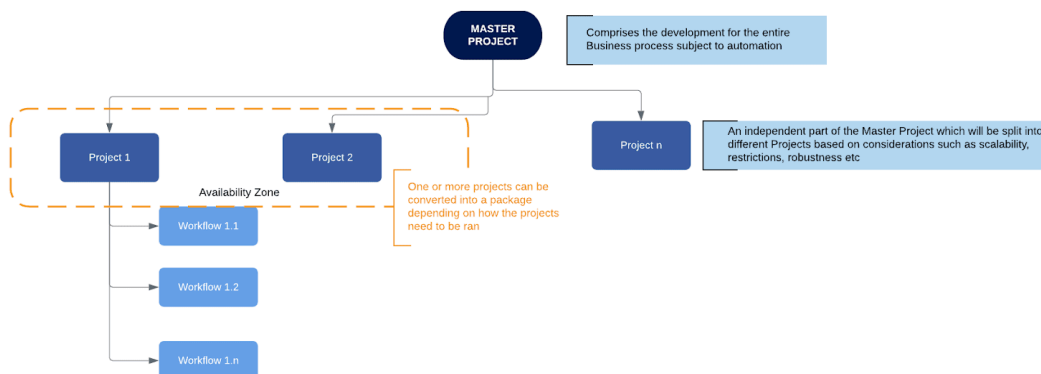
Activity - an action that the robot executes.

Sequence - a workflow where activities are executed one after another, in a sequential order

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.

State machine - a more advanced way of organizing a workflow, similar to a flowchart.

BOR - Back-office robot

FOR – Front-office robot

Orchestrator – Enterprise architecture server platform supporting release management, centralized logging, reporting, auditing and monitoring tools, remote control, centralized scheduling, queue/robot workload management, and assets management.