LECTURE 02A.
RPA. UIPATH PLATFORM

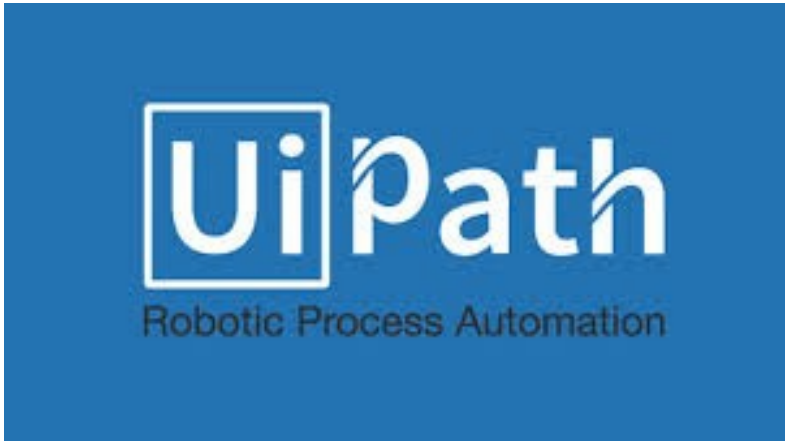
Robotic Process Automation
[10 October 2022]

Elective Course, 2022-2023, Fall Semester

Camelia Chisăliţă-Creţu, Lecturer PhD
Babeş-Bolyai University

Acknowledgements

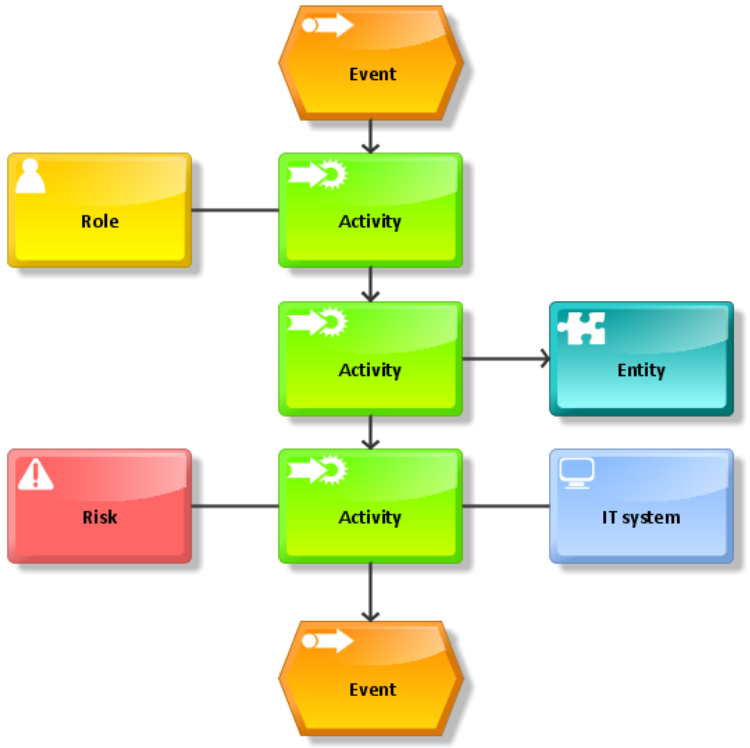
This course is presented to our Faculty with the support of UiPath Romania.



Contents

Business Process. Definition

- A **business process** is
  - a series of steps or **activities** performed by (a group of) stakeholders to achieve a **meaningful goal**;
- E.g.:
  - generate an invoice;
  - monitor an e-mail account;
  - extract data from PDF files;
  - a tea making method;
  - prepare a meal;
  - etc.



Automated Processes. Characteristics

- Processes that may be automated are:
  - **Highly manual;**
  - **Repetitive;**
  - **Rule-based;**
  - **Low exceptions rate;**
  - **Standard readable electronic input;**
  - **High volume of data;**
  - **Mature and stable.**

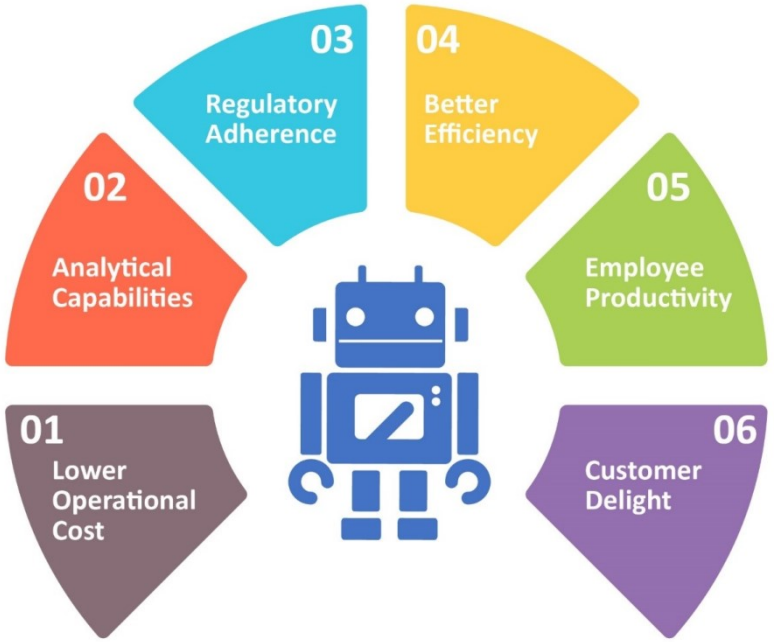
Robotic Process Automation. Definition

- **Robotic Process Automation (RPA)**
  - **Robotic -** robotic entities, i.e., (software) robots, **imitates human actions**;
  - **Process -** a series of actions that lead to significant work or a meaningful result;
  - **Automation -** any activity performed **without human intervention** by a robot.
- **RPA is**
  - **the technology used to automate processes or tasks performed by humans;**

- RPA emerges from business process automation (BPA) technology;
- A **software robot** is
  - a *software the automates software use.*

RPA. Benefits

- **RPA advantages are:**
  - **Rapid ROI (return on investment);**
  - **Enhanced processed;**
  - **Better customer experience;**
  - **Eliminated repetitive work;**
  - **Improved service delivery;**
  - **Enhanced ability to manage;**
  - **Cost reduction;**
  - **Insights and analytics;**
  - **Non-invasive technology;**
  - **Increased compliance;**
  - **Scalability and flexibility.**



Software robots take over the non-value-added tasks performed manually by humans, while they become virtual managers that monitor the robots and handle the exceptions.

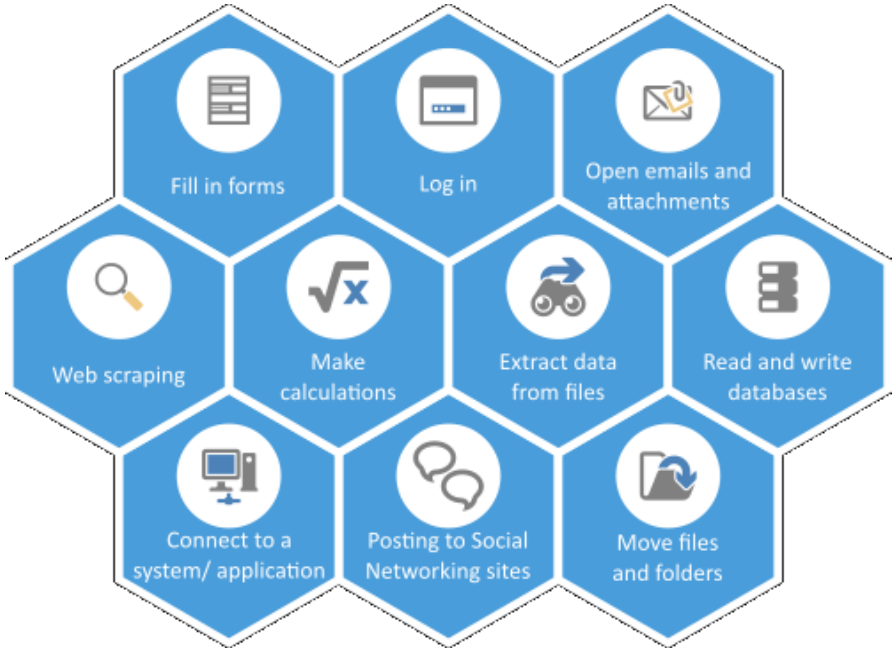
RPA. Applications

	FINANCE AND ACCOUNTING	PROCUREMENT	HUMAN RESOURCES	CONTACT CENTER	INDUSTRY SPECIFIC PROCESSES	
BANKING	●	◔	◑	◑	●	Cards activation Frauds claim discovery
INSURANCE	◑	○	○	◑	●	Claims processing New business preparation
HEALTHCARE	◑	◑	◑	◑	●	Reports automation System reconciliation
MANUFACTURING	●	◑	◑	○	○	Bills of Material generation
HI-TECH&TELECOM	◑	◑	○	◑	◑	Service order management Quality reporting
ENERGY&UTILITIES	◑	◑	◑	◑	◑	Account setup Meter reading validation
	Accounts receivable, Accounts Payable, General Ledger	Invoice processing, from requisition to issue of purchase order	Payroll, hiring, data management	Customer service		

Legend: RPA ADOPTION EXTENT — High ● Medium ◑ Low ○

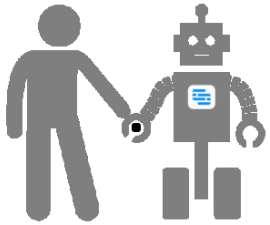
RPA. Capabilities

- RPA systems need to provide the followings:
  - **Communication with the other systems:**
    - **screen scrapping or**
    - **API integration;**
  - **Decision making;**
  - **Interface to enable robot programming.**

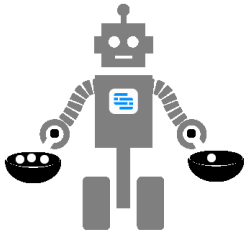


RPA. Type of Robots

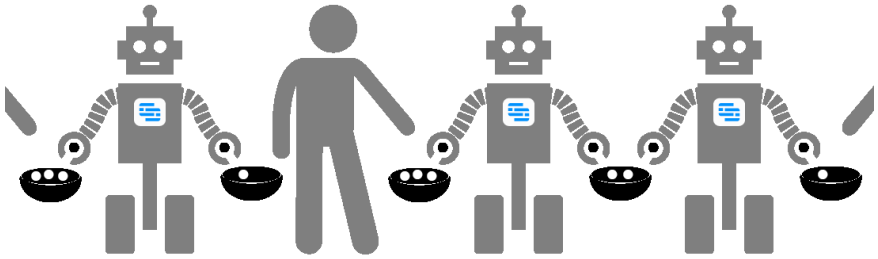
- RPA systems need to provide the followings:
  - **Attended** – requires human intervention while performing the automated process;
  - **Unattended** – possesses decision-making capabilities.
  - **Hybrid RPA** – has combined capabilities of both attended and unattended robots.



Attended Bot Automation



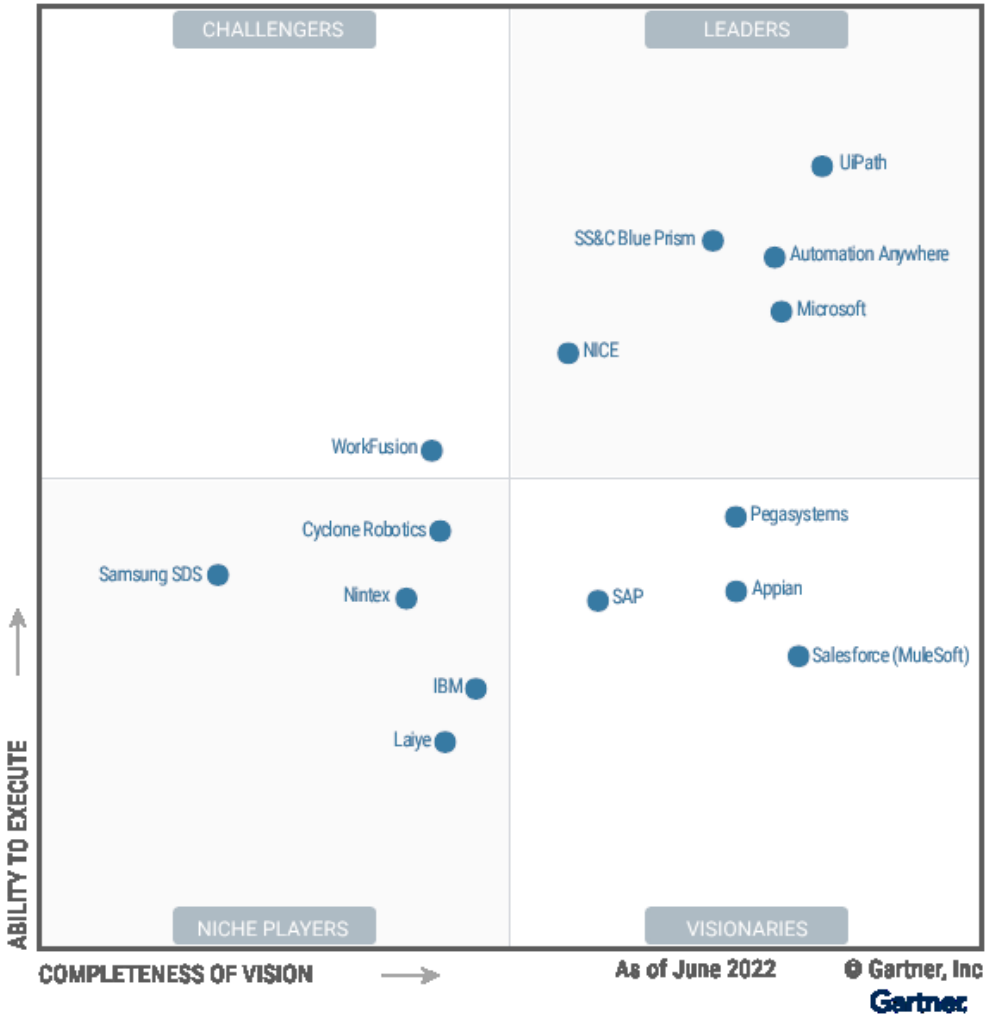
Unattended Bot Automation



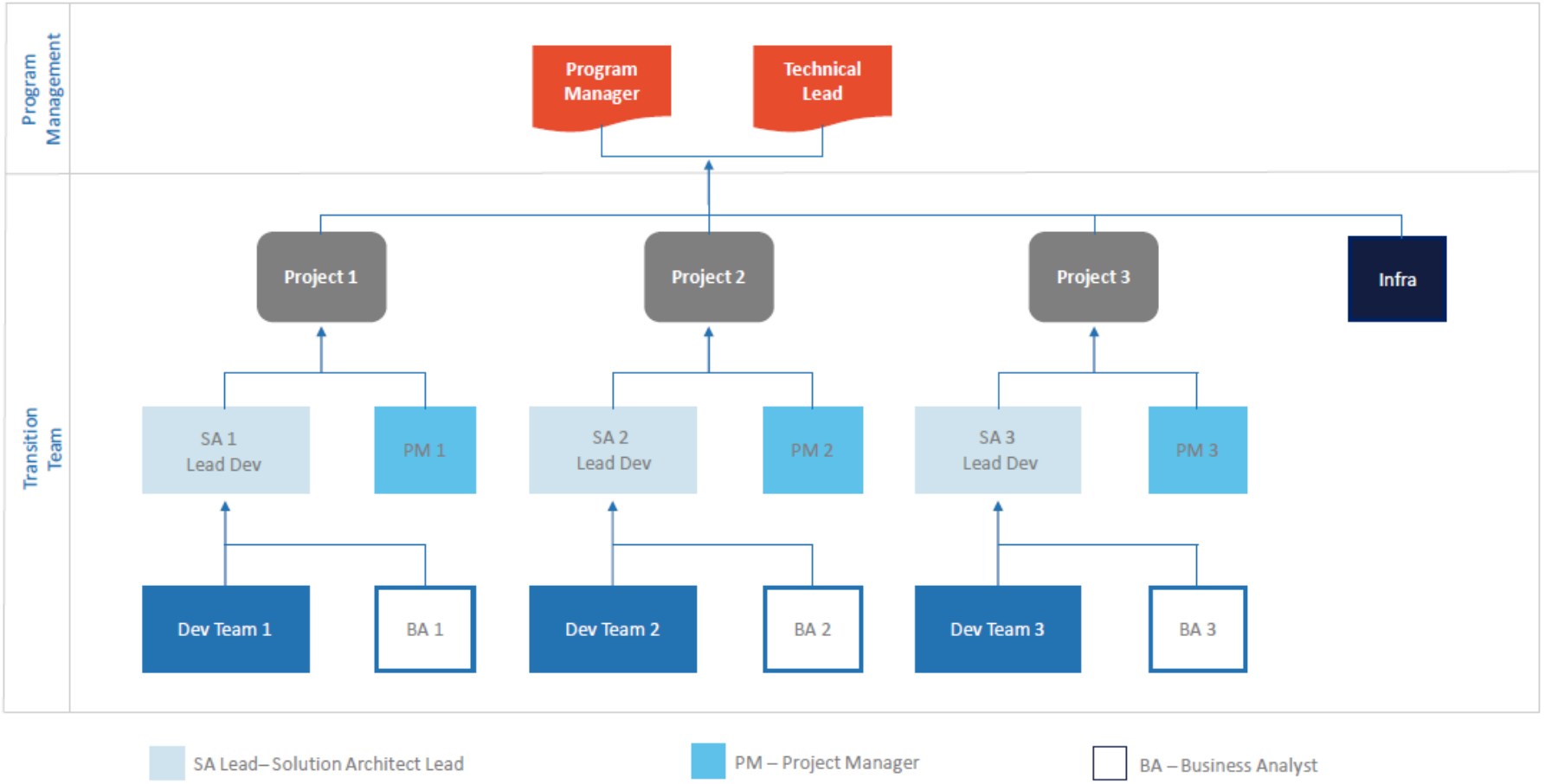
Hybrid Automation

RPA. Tools

- Tools used in RPA:
  - **UiPath;**
  - **Blue Prism;**
  - **Automation Anywhere;**
  - **Power Automate (Microsoft);**
  - **Pega;**
  - **Contextor;**
  - **Nice Systems;**
  - **Kofax;**
  - **Kryon;**
  - **Softomotive.**



RPA. Project Team Structure

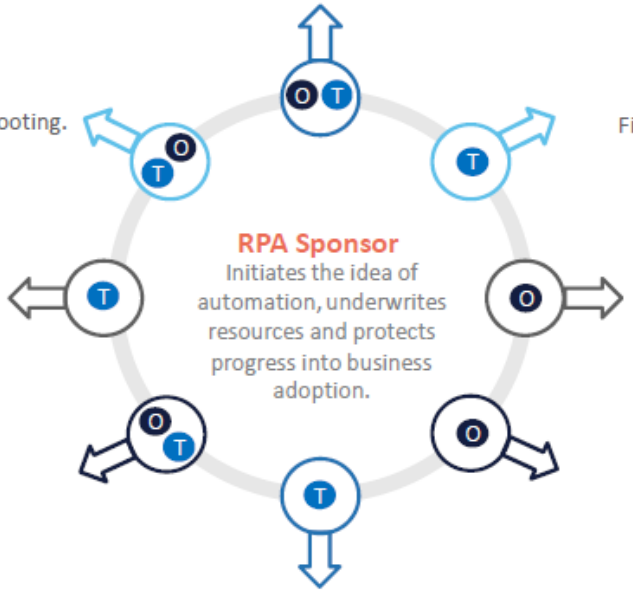


RPA. Robotic Operating Team

RPA Project Manager
Forms the RPA team to build the setup and deliver the program across business units. Manages the RPA ream and the business stakeholders to achieve the expected automation results.

RPA Infrastructure Engineer
Handles server installations and troubleshooting.

RPA Service Support
First-line support for the RPA solution deployed.



RPA Solution Architect
Defines the Architecture of the RPA solution and is a guardian of the overall performance of the agreed solution.

RPA Supervisor
Administers, orchestrates and controls the virtual workforce in the operational environment.

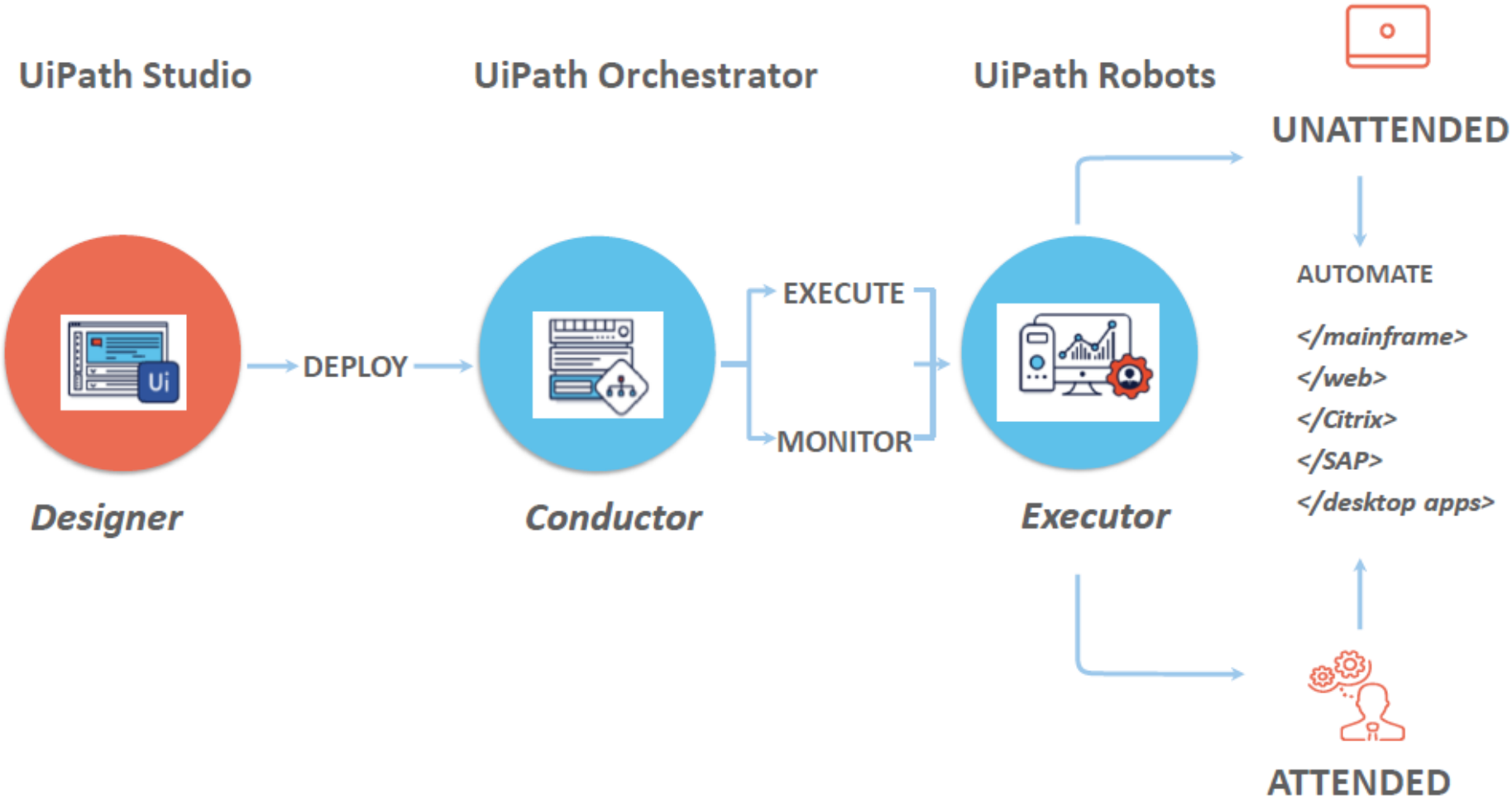
RPA Developer
Designs, develops and tests the automation artifacts.

RPA Business Analyst
Creates the process definitions and process maps used for automation.

RPA Change Manager
Creates a change and communicates a plan, which is aligned to the project deliverables, in order to ease RPA adoption within the company.

RPA Operations O T RPA Transitions

UiPath Platform. Components



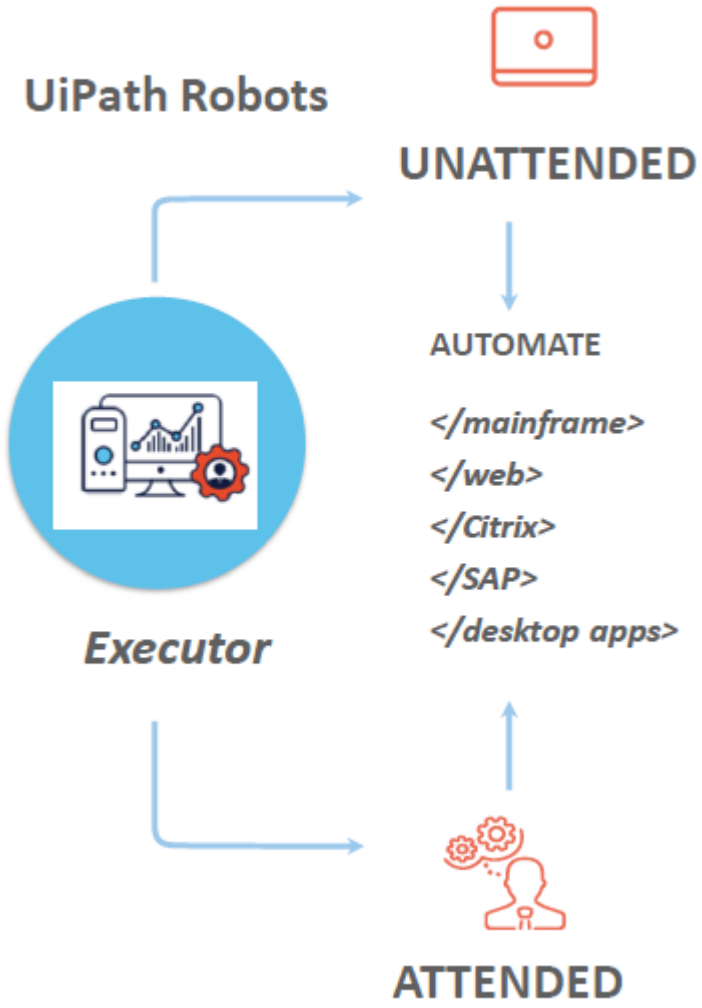
UiPath Platform. UiPath Studio

- **UiPath Studio:**
  - a design tool that allows to create the diagrams of business processes;
- it is similar to Microsoft Visio;
- it combines:
  - **.NET platform** (stable, highly flexible, modular) and
  - **Microsoft Workflow Foundation**
    - for fast and reliable process automation;

- it allows to create workflows by drag-and-drop actions;
- the projects are executed locally by using the **Start** button.

UiPath Platform. UiPath Robots

- **UiPath Robots:**
  - allows to perform the processes designed in UiPath Studio, similar to a human user in the real world;
- **two type of robots:**
  - **attended;**
  - **unattended;**



UiPath Platform. Types of Robots

ATTENDED ROBOT

- Assists human operators.
- Triggered manually and running locally.
- Fit for manual, repetitive, rule-based activities, requires human intervention.
- Communication with Server: bi-directional (restricted).
- - Robot to Server: Execution logs,
- automated process upload.
- - Server to Robot: Automated process
- version deployment ONLY.

Features:

- Process management (automatic process update/rollback)
- Agent assisted mode
- Centralized logging, reporting and auditing tools.

FO

UNATTENDED ROBOT

- Doesn't require human intervention.
- Triggered and running remotely.
- Fit for manual, repetitive, rule-based back office activities NOT requiring human intervention.
- Communication with Server: bi-directional (unrestricted).
- - Robot to Server: Execution logs,
- automated process upload, robot status
- - Server to Robot: Automated process
- version deployment, schedule, start,
- reset
-

Features:

- Process management (automatic process update/rollback)
- Asset management
- Centralized logging, reporting and auditing and monitoring

BO

UiPath Platform. UiPath Orchestrator

- **UiPath Orchestrator:**
  - performs the **management** and the **scheduling** of **attended robots**;
- it is a web-based management platform which provides:
  - remote robot control and monitoring capabilities;
  - release management and centralized scheduling methods for robots and processes;
- the centralized **work queues** functionality facilitates

the *human-robot collaboration* and *business exception handling*.

UiPath Orchestrator

Conductor

References

- UiPath Docs - https://docs.uipath.com/studio/docs
- UiPath Forum - https://forum.uipath.com/
- UiPath Academy - https://academy.uipath.com/