



# AUTOMATION HANDBOOK

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ABOUT RPA



# ABOUT RPA

**What is RPA? | Why RPA?**

# What is RPA?

[Robotic Process Automation]

The Leading Enterprise RPA Platform

UiPath

Automation that interacts  
with a computer-centric  
process with a software User  
Interface providing support



RPA configures software that  
will automate the activities or  
tasks previously performed by  
humans



Robotic automation uses a  
computer (a.k.a. robot) to run  
application software in the  
exact same way that a person  
works with that software



RPA aims to replace repetitive  
tasks performed by humans,  
with a virtual workforce.  
Humans then make judgmental  
calls, handle exceptions and  
provide oversight

## How can RPA help me?



RAPID ROI



ENHANCED PROCESSES



BETTER CUSTOMER  
EXPERIENCE



ELIMINATE REPEAT  
WORK



IMPROVED SERVICE  
DELIVERY



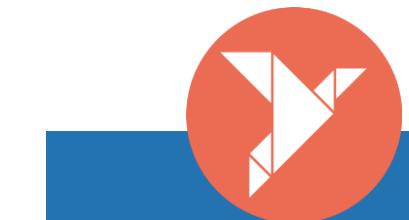
ENHANCED ABILITY  
TO MANAGE



COST REDUCTION



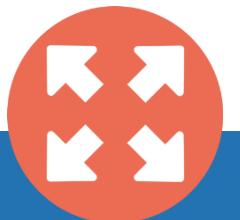
INSIGHTS AND  
ANALYTICS



NON-INVASIVE  
TECHNOLOGY



INCREASED  
COMPLIANCE



SCALABILITY AND  
FLEXIBILITY

# Companies are constantly under pressure to address market drivers to stay competitive

The Leading Enterprise RPA Platform



Cost Pressure

Growth

Outsourcing  
Market Saturation

Customer Expectations

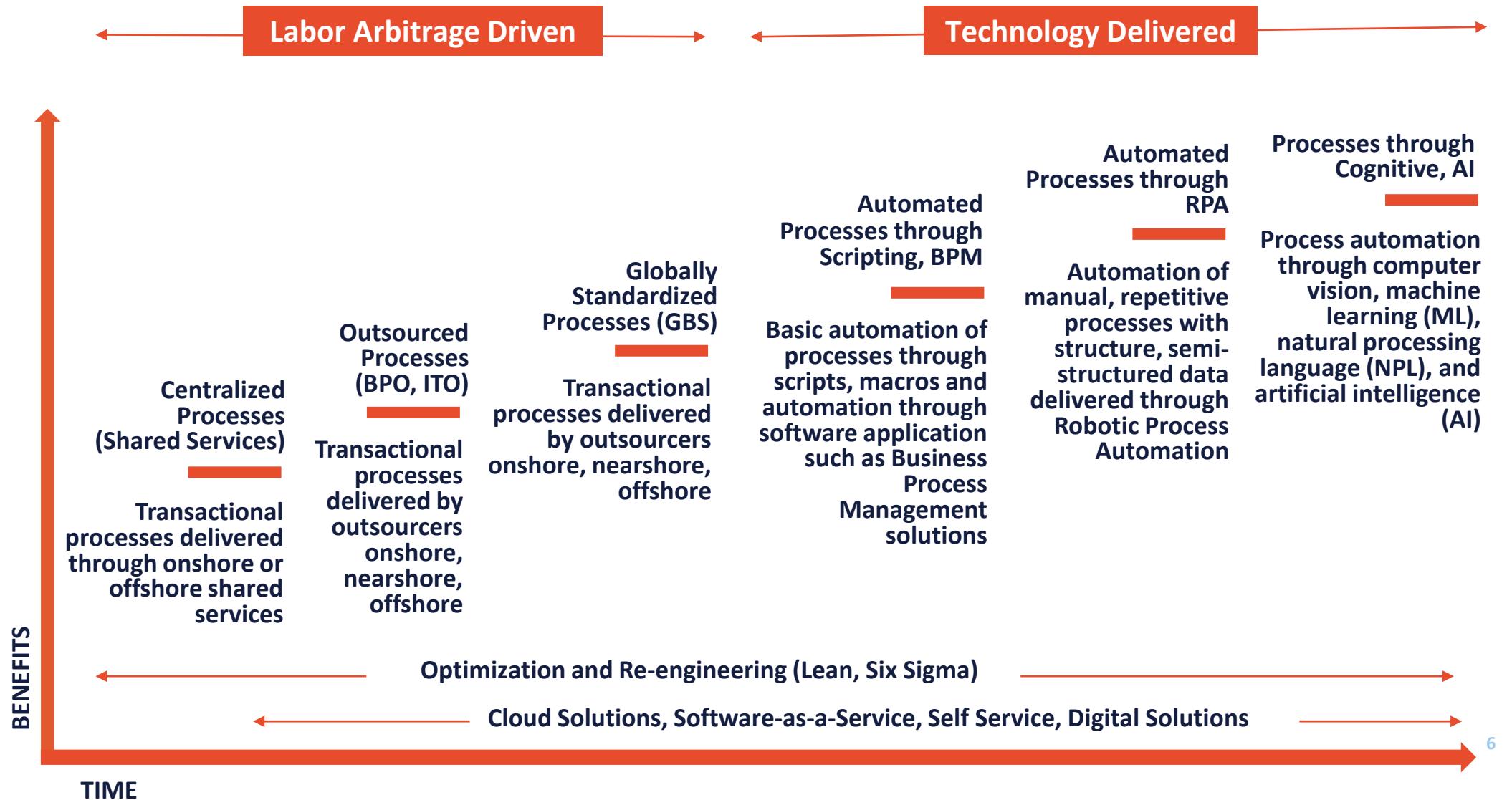
New Technologies

Compliance &  
Regulations



Companies are addressing these market drivers by evaluating process and service delivery through new operating models, technology, and process optimization

# How can RPA help me?



# The time for RPA Is Now!

## Why RPA? And Why Now?

### THE TIME FOR RPA IS NOW!

RPA is globally gaining interest due to the relatively low cost and ease of implementation.

Previously, automation had been seen as the domain of administrative, manufacturing, labour and service-based work. Current research and statistics indicate that RPA is increasingly transforming knowledge-based, professional service jobs.

**25%** of tasks across every job category will be automated by 2019

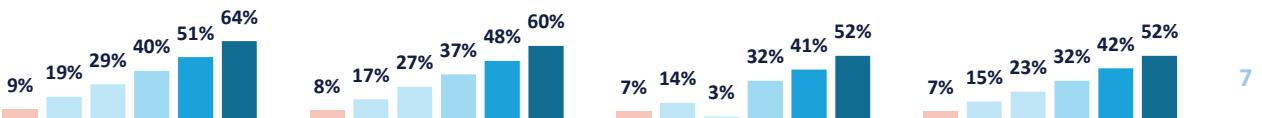
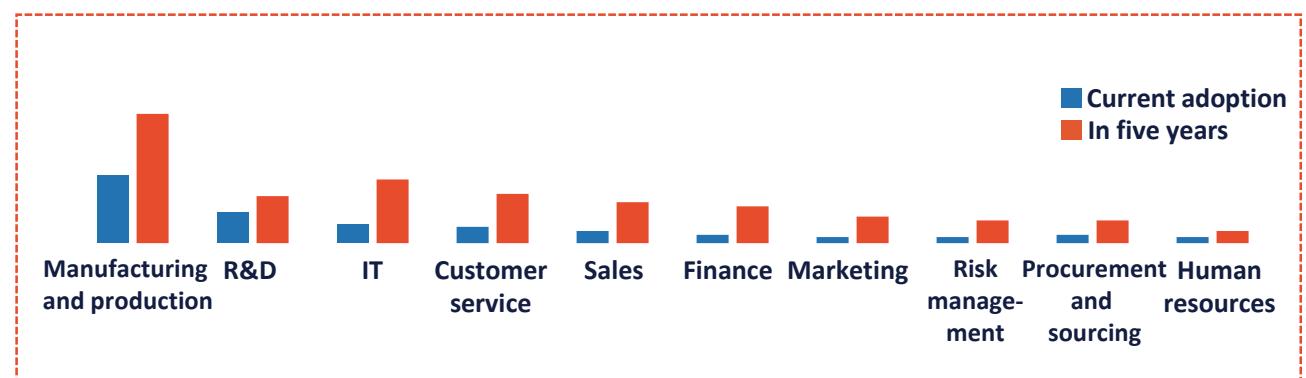
SOURCE: Forester Research 2015

### CURRENT AND FUTURE INDUSTRY RPA ADOPTION

The most rapid changes due to automation are expected in the areas of manufacturing & production, IT, R&D, customer service, sales, and finance.

It is obvious that the business benefits and the workforce impact cannot be ignored by companies looking to remain profitable in the long run.

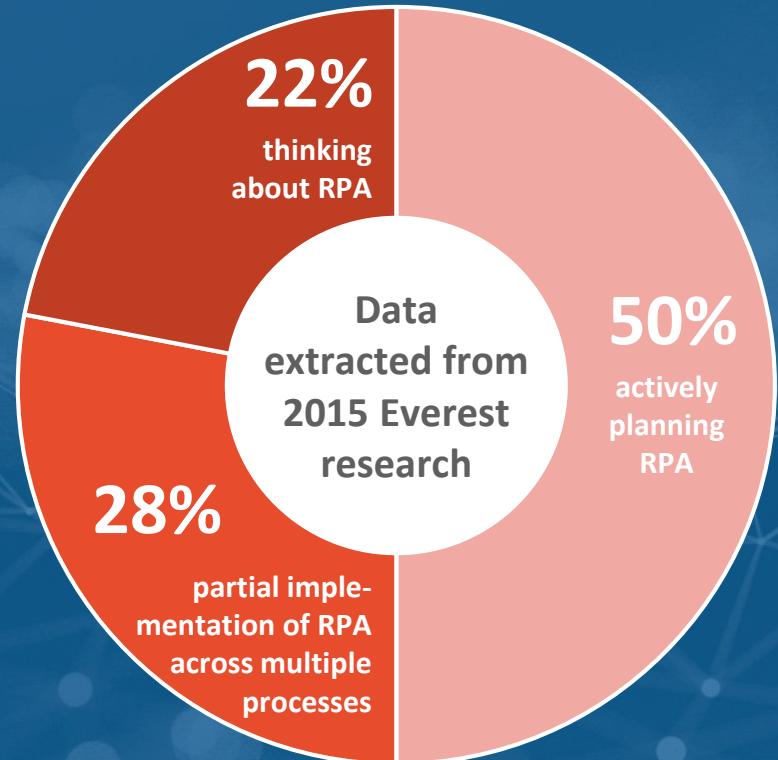
Organizations need to adopt technological innovation and consciously integrate RPA into operational business processes.



# RPA Penetration

RPA is high priority for most global in-house centres

UiPath



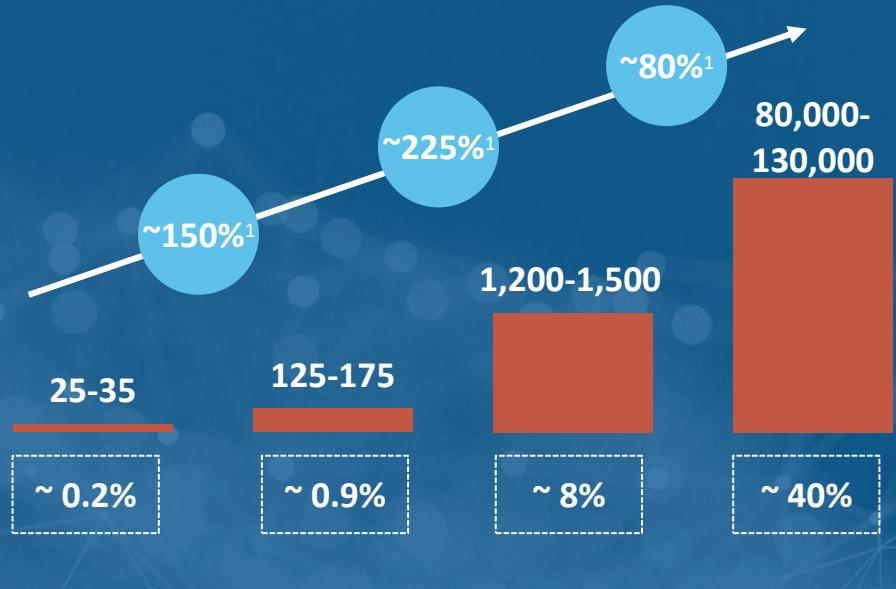
*The decision regarding RPA is not around whether to do it or not. It is rather about the approach: by geography, by process, etc.*  
— COUNTRY HEAD OF INDIA GIC

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RPA SPENDING  
\$ MILLION

RPA SPENDING  
PENETRATION

COMMENTS



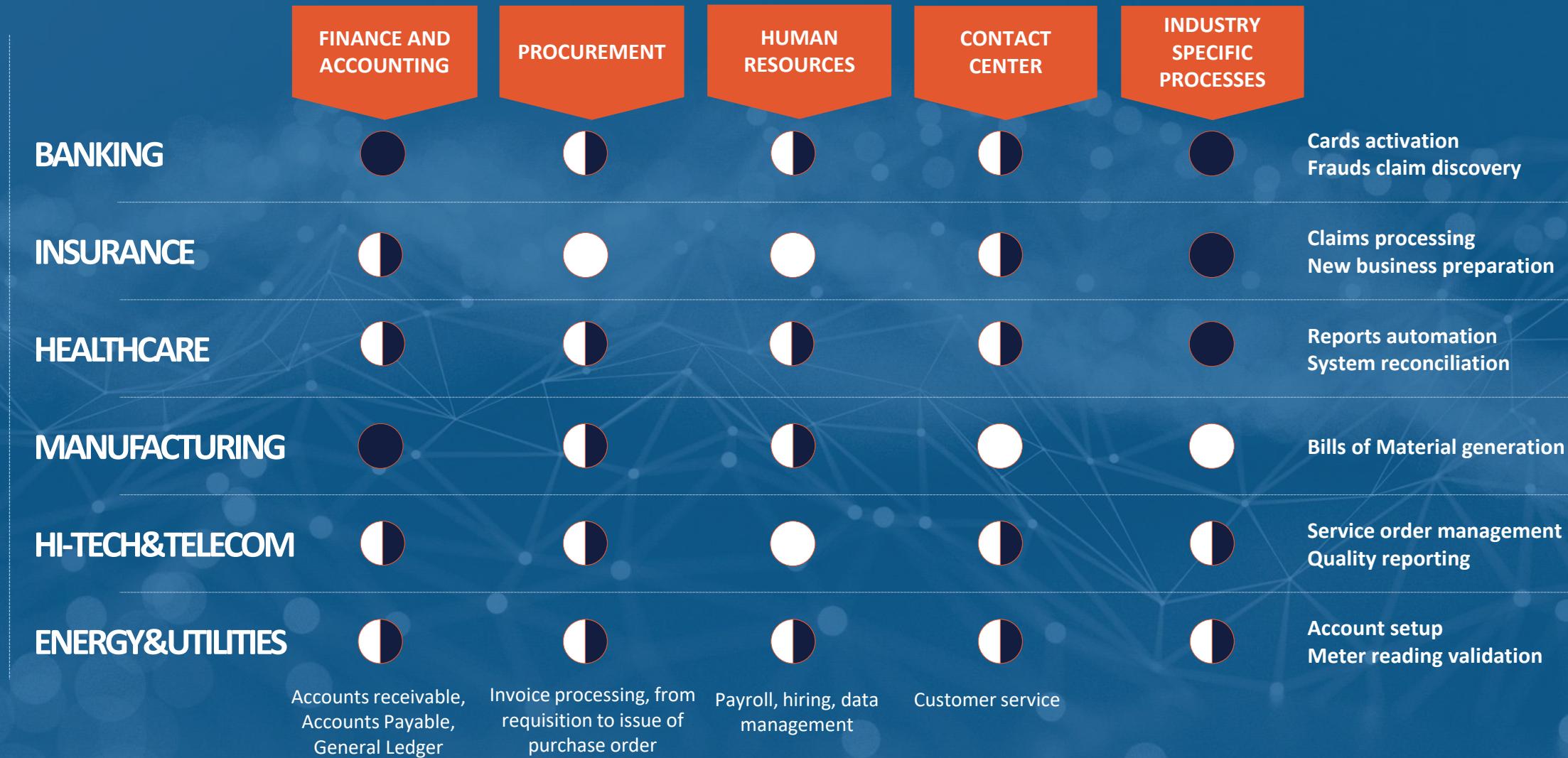
- Early RPA adopters now in the industrialize phase have started to reap the benefits of greater cost savings from operational efficiency.
- Most CIGs approach RPA technology vendors directly.
- Most of them are also building in-house RPA teams to support RPA opportunities, deployment, and to run operations.

<sup>1</sup>) Compound annual growth rate

# RPA Adoption Across Processes And Industries

## RPA is high priority for most global in-house centres

The Leading Enterprise RPA Platform



# Busting the myths about RPA

## 4 common myths about RPA

The Leading Enterprise RPA Platform

### RPA IS MAINLY DRIVEN BY COSTS SAVINGS

THE TRUTH IS THAT... costs savings are only one of the key drivers amongst others such as strategical payoffs or operational benefits.

### ROBOTS WILL TAKE PEOPLE'S JOBS

THE TRUTH IS THAT... all recent studies performed on companies adopting RPA, show that the vast majority of these companies are focused on increasing the effectiveness and the efficiency of their human workforce instead of eliminating it

THE ROBOTIC WORKFORCE WILL BECOME AN EXTENSION OF THE HUMAN WORKFORCE.

### RPA WILL DEPLOY PERFECT ROBOTS, WITH 0% ERROR RATES

THE TRUTH IS THAT... while robots can replicate the activities their activities with 100% accuracy, changes in their "external" environment - may trigger errors.

### ROBOTS CAN THINK JUST LIKE HUMANS DO

THE TRUTH IS THAT... robots only mimic human behavior, combined with machine based cognitive intelligence but can also replicate human reasoning

THE VIRTUAL AND HUMAN WORKFORCE WILL CONTINUE TO CO-EXIST.



# How can RPA help me?

The Leading Enterprise RPA Platform

## Rapid Roi

Average of 6-9 months, instead of years (BPMS projects) due the rapid speed of automation.

## Increased Compliance

Through rule based automation, which can enforce compliance requirements & keep audit trails 100% of the time.

## Eliminate Repeat Work

Reducing headcount: The new army of virtual FTEs takes over the repetitive, non-value-adding tasks performed by humans, while humans act as virtual workforce managers - monitoring robots and handling exceptions.

## Insights And Analytics

All activities performed by robots can be logged and interpreted through customized reporting tools, for the most part providing visual dashboards that can be adapted for each operational requirement.

## Enhanced Processes

Enhances process quality, compliance, security and continuity. RPA expedites processes, leading to an increase in throughput and a boost in overall productivity.

## Improved Service Delivery

RPA boosts the quality of services delivered by minimizing manual intervention, errors & work duplication while rapidly decreasing processing times = increasing capacity.

# How can RPA help me?

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## Better Customer Experience

Increasing service quality up to a 100% accuracy rate due to high repeatability and zero fatigue.  
Decreasing delivery time – a reduction of up to 90% in cycle times.

## Enhanced Ability To Manage

RPA brings improved governance & compliance (requirements are embedded in automation rules), through improved processes & data security, and enhanced disaster recovery (remote server control over the robots).

## Cost Reduction

An RPA robot costs a fraction of an FTE and can work 24/7/365, which translates into a cost reduction of 35-65% for onshore process operations and 10-30% in offshore delivery.

## Non-invasive Technology

RPA doesn't require any major IT architecture changes or deep integration with the underlying systems (unlike BPMS). RPA offers a reliable, but fast and cost efficient way for a "light weight" integration into processes and IT assets.

## Scalability And Flexibility

Once a robot is trained, additional robots can be deployed quickly for either no extra or minimal cost. Scaling the robots up or down due to volume fluctuation takes place in a matter of minutes.



# THANK YOU!



# ABOUT UIPATH

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THE COMPANY

“

*Better technology means  
better automation*



DANIEL DINES, CEO / FOUNDER





## OUR VISION

We believe human work should be creative and inspiring.  
We anticipate that everything that can be automated, will be.



## OUR MISSION

We help companies develop an agile digital workforce that enables them to eliminate repetitive business efforts and improve operational quality.

Our RPA technology has been proven to automate more efficiently.

# Our journey





## 2005

### OUR INFANCY

Began to build the first automation libraries and shared them with developers worldwide. We received very positive feedback throughout the years.



## 2013

### OUR FIRST UI AUTOMATION

1st UiPath Desktop Automation product-line launched based on Microsoft Workflow Designer – specifically targeting the Robotic Process Automation (RPA) market.

The first RPA journey was initiated with Sutherland and Dell to automate business processes.



## 2015

### TIPPING POINT

First partnerships are concluded with several global BPO & Consulting Firms such as: Cognizant, Capgemini, Symphony, NIIT, Genfour, Virtual Operations, Symphony. Hundreds of processes begin to be automated using the UiPath RPA tool.



## 2016

### GROWTH

April 2016 – Launch of Front Office and Back Office Server suites. Launch of Studio Community Edition reaching 10,000 active members in 6 months. New office locations opened. Attracted top talent and grew our team from 25 to more than 100 people strong. Added more than 100 enterprise customers.



## 2017

### GLOBAL EXPANSION

UiPath emerges as leading RPA software vendor as recognized by top industry analysts Everest and Forrester. The company continues to grow - teams are scaling up and new locations are opening globally.

# Presence and team

UiPath Worldwide Presence

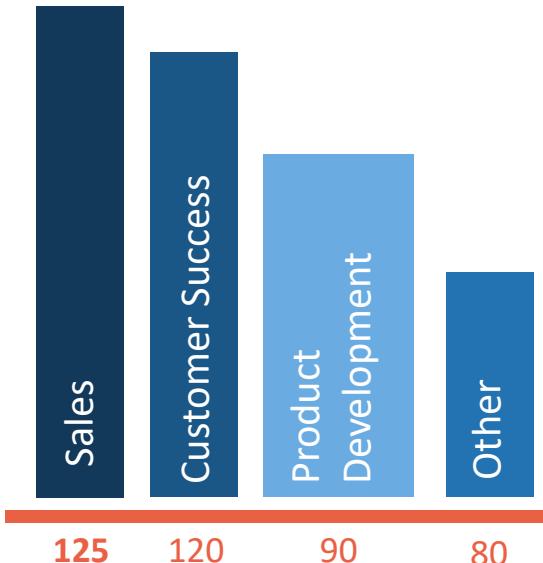


**UIPATH HQ IS LOCATED IN NEW YORK CITY, USA**

- USA
- Romania
- India
- UK
- Japan
- France
- Singapore

The Leading Enterprise RPA Platform

UiPath Team Worldwide



As of Dec. 2017

We have full-time employees in the departments of development and implementation support with varying degrees of experience (between 2-15 years) in programming core technologies used by our software.

**FUTURE OFFICES:** Germany, Spain, Australia

# UiPath: A recognized leader in RPA



## PRIVATE EQUITY RECOGNITION

\$30M Series A funding from Accel. UiPath joins Facebook, Dropbox, Spotify, Slack, Venmo, Flipkart, Kayak and more: backed by Accel for their game-changing technology. April 2017



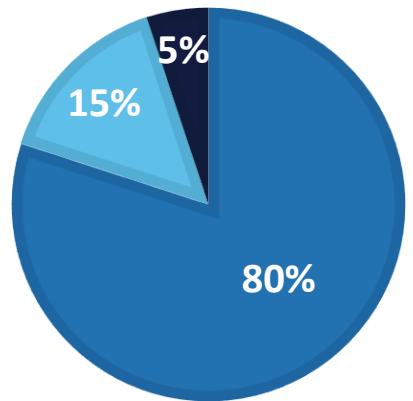
## INDUSTRY RECOGNITION

UiPath named RPA “Technology Leader and Industry Star Performer”: Everest Group, January 2017

Since 2005 our conviction, “Better technology means better automation” has led to:

The Leading Enterprise RPA Platform

### CLIENT BY THEIR REVENUE

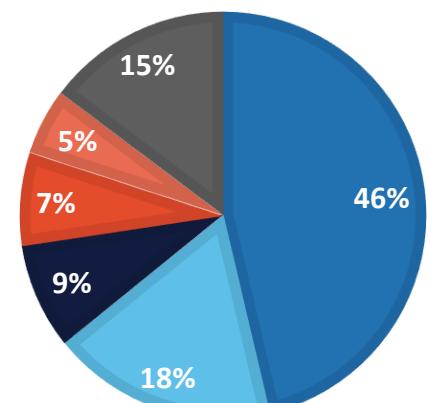


> 1 billion USD

> 25 million USD

< 25 million USD

### CLIENT BY INDUSTRY



Banking, FS, Insurance

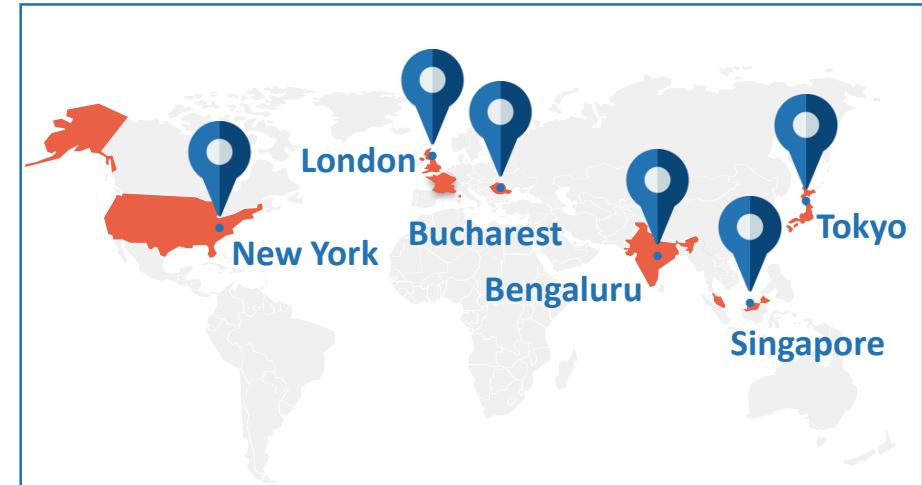
Healthcare, Pharma

Manufacturing

Comms, Media, Telecom

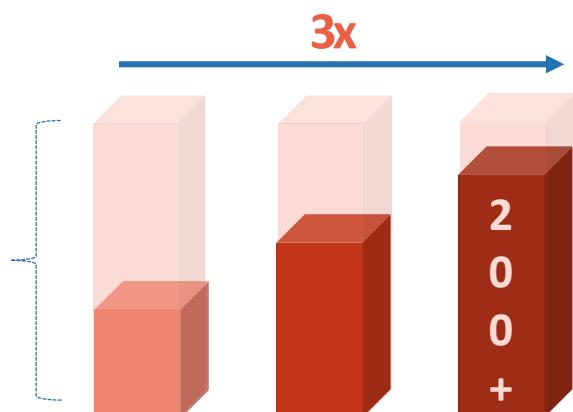
Retail

Others



CLIENT PRESENCE	North America	Europe	UK	Asia Pacific
	45%	30%	15%	10%

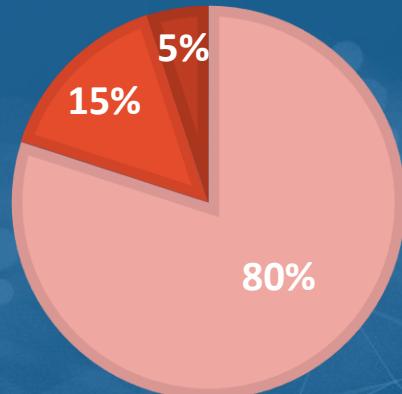
### CLIENT ADOPTION



# Client adoption

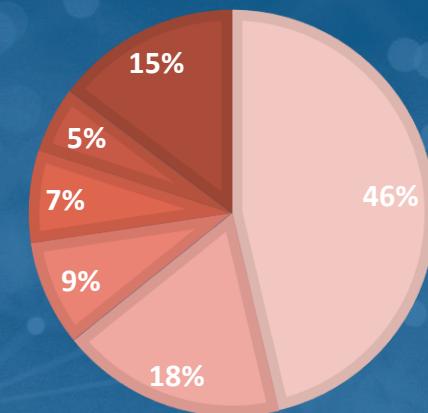


CLIENT BY THEIR REVENUE



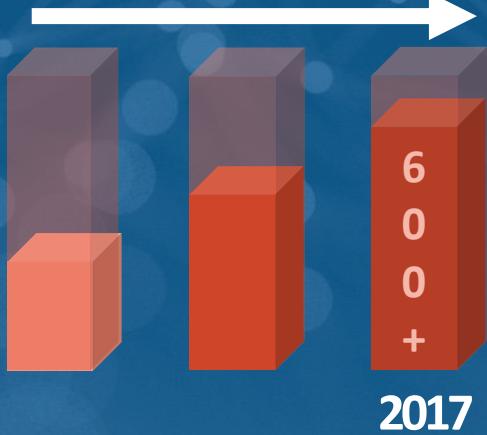
- > 1 billion USD
- > 25 million USD
- < 25 million USD

CLIENT BY INDUSTRY



- Banking, FS, Insurance
- Healthcare, Pharma
- Manufacturing
- Comms, Media, Telecom

3x



CLIENT PRESENCE *(as of September 2017)*

North America 45%    Europe 30%    Asia Pacific 10%

Forbes

25 “Forbes 500” clients  
2 of them in top 10



# WHAT MAKES US DIFFERENT

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CAPABILITY  
VELOCITY  
SCALABILITY

# UiPath key differentiator

Velocity in three directions



## SCOPE

### A. CAPABILITY

More process automation with higher complexity at all Enterprise Security and Risk Compliance levels

## SPRINT

### B. AGILITY

Faster realization, better customer experience with less effort

## SIZE

### C. SCALABILITY

Build for many process automations and big roll-outs

# Differentiator

## A. Capability

**1.**  
**INTELLIGENT  
COMPUTER  
VISION**

UiPath robots use AI enabled Computer Vision ensuring highest level of accuracy in capturing data from different screen layouts.

**2.**  
**RDA & RPA  
SOLUTION**

Back-office activities, in unattended batch mode & front office tasks attended by human agents who retain full control and supervision.

**3.**  
**TRULY  
SYSTEM  
AGNOSTIC**

Without disrupting your legacy systems. UiPath works with all technologies (Windows, Java, SAP, Oracle Apps, etc.) and automates Citrix impeccably

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*RPA is fast becoming the authority for operational business transformation.  
But not all RPA technologies are created equal. Choose a solution that can automate the widest range of processes in any line of business.*

# Differentiator

## C. Scalability

### 1. MULTI-TENANCY

Customer RPA groups can utilize separate, secure tenant space provided by UiPath's Cloud or on-premises server platform allowing deployment of robots with autonomy, privacy and security.

### 2. HIGH-DENSITY

Multiple robots can be placed on a single virtual machine, all supported by a management platform which provides as many robot mappings as needed.

### 3. EXTENSIBLE, OPEN AND MODULAR

Our overall solution resides on an extensible platform that increases breadth of RPA by easily incorporating 3rd party technologies (AI, Cognitive, OCR). It allows real-time collaboration, complete reuse and redistribution of automation resources, centralized data repository, history visibility, project monitoring & easy rollback in case of recovery scenarios.

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#### THE PREREQUISITE FOR PERFORMANT RPA.

*Expect nothing less than a solution and architecture that covers a large amount of RPA knowledge transfer and deployment, and ensures operational continuity at large scale.*

# UiPath: A Recognized Leader in RPA

*Since 2005 our conviction, “Better technology means better automation” has led to:*



## INDUSTRY RECOGNITION

UiPath named RPA “Technology Leader and Industry Star Performer”: Everest Group, January 2017.

UiPath, known for unrivalled Citrix automation performance with its computer vision technology, has been recognized as an RPA industry leader in the “Forrester Wave™ Robotic Process Automation, Q1 2017”.

## VC FUNDING

UiPath wins the awards for ‘Best Use of AI in Enterprise’ and ‘Outstanding Achievement in the Use of AI’ at CognitiveX , London 2017.

\$30M Series A funding from Accel in April 2017. UiPath joins their portfolio of game-changing technologies such as Facebook, Dropbox, Spotify, Slack, Venmo, Flipkart, Kayak.

# Results Driven Technology

UiPath



## ERROR REDUCTION

100%



## COST REDUCTION

65+ %



## CYCLE TIME REDUCTION

75+ %



## HIGH SCALABILITY

within minutes

Products designed to provide strong security, enterprise grade compliance & robust governance.

“

*Moving into the era of AI-Based automation, we will continue to be the industry leader by enabling client solutions beyond RPA technologies.”*

BORIS KRUMREY, CHIEF ROBOTICS OFFICER



# Our Automation Roadmap



## INNOVATION EXCELLENCE

Rated Highest for Technology\*\*  
Rated “Best in Class” for:  
- Value Delivered\*\*  
- Ease of Use\*\*  
- Security & Compliance \*\*

\*Forrester Research, February 2017

\*\*Everest Group Research, January 2017

## ADVANCED COGNITION

Automates Unstructured Data &  
Complex Rules;  
Case Management Capabilities

## ARTIFICIAL INTELLIGENCE

Reasons & Remembers  
Learns from Data  
Engages Interactively  
Finds Automation Opportunities

ONLY UIPATH UPDATES  
CUSTOMERS WITH TWO MAJOR  
RELEASES/YEAR & PUBLISHES A  
PRODUCT ROADMAP

# The UiPath Product Roadmap

The Leading Enterprise RPA Platform



**Big Scale**

**Security**

**Path to AI**

**Ease of Use**

**Ecosystem**

**2017**

**2018.1**

**2018.2**

**2019.1**

**2019.2**

## LARGE ENTERPRISE SCALE

Designed to scale in a resilient configuration & fastest to deploy and run process automations

## ENTERPRISE GROWTH PLATFORM

Super scalable, highly secure and tightly integrated with Cognitive Services

## AI-HUMAN-ROBOT ORCHESTRATION PLATFORM

Expansion of Cognitive Services and Enabling business users to work with intelligent robots

## DIGITAL WORKFORCE PLATFORM

A digital workforce platform as turn-key solution with initial self-learning capabilities

**Continuous Rolling Upgrades**

# Customers

The Leading Enterprise RPA Platform





# THANK YOU!



**UiPath**

# ABOUT UIPATH

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## THE PRODUCT



## ABOUT OUR PRODUCT

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1. **UiPath RPA suite – general info**
2. **UiPath studio features**
3. **UiPath orchestrator features**
4. **Security, architecture & disaster recovery**
5. **Your journey to RPA**
6. **Release cycle and roadmap**
7. **Hardware & software requirements**
8. **Support & maintenance**



## JOB

The expected result of automation.

## WORKFLOW

The representation of the automated job (e.g. automation artefacts). A set of instructions that tells the robot how to do its job.

## ACTIVITIES

The actions assigned for execution in the automated process.  
*E.g.: if/click/insert table/do while.*

## ROBOT

A computer process that executes the job described by the workflow.

## UiPath STUDIO

The software that enables business users with no coding skills to automate processes.

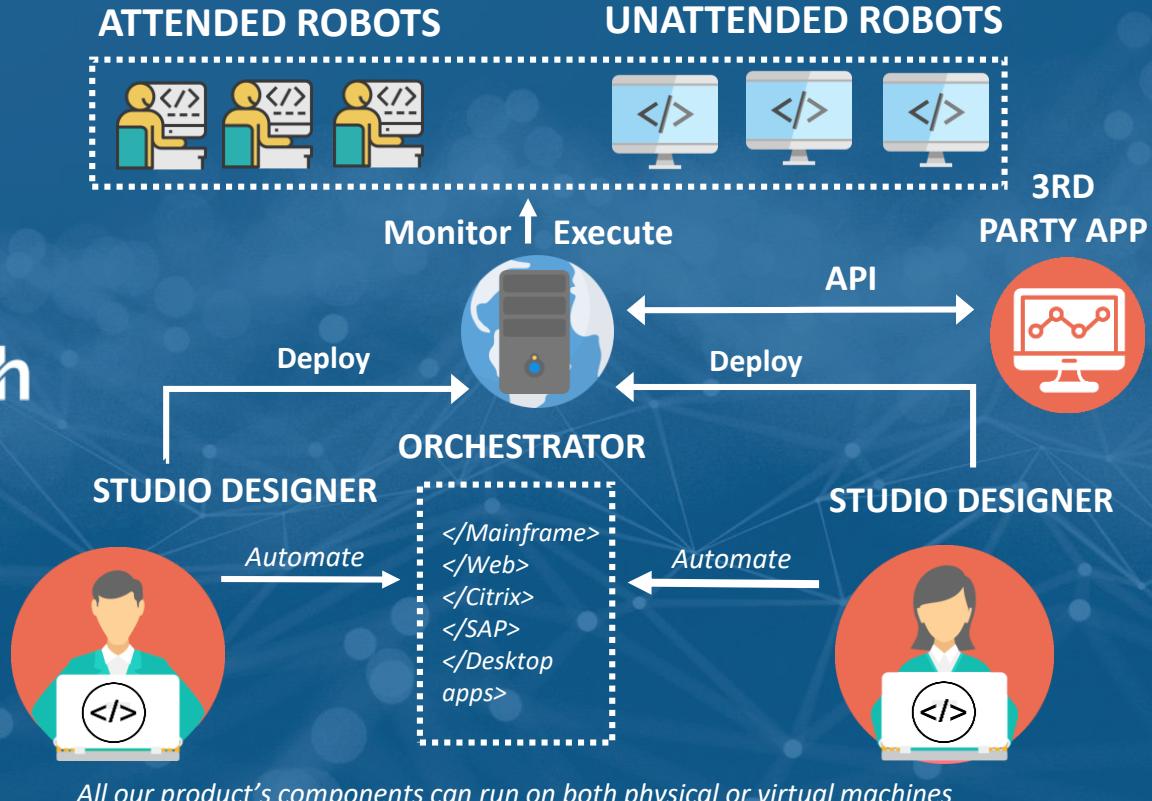
## ORCHESTRATOR

The server platform controlling, scheduling and monitoring robots. A browser-based application that acts as a command center.

# UiPath RPA Suite - High Level Setup

## Next Generation Products - Today

The Leading Enterprise RPA Platform



All our products and features reside within a platform architecture designed to provide strong security, enterprise grade compliance, & robust governance.

Our products deliver enterprise-wide automation benefits. The UiPath Orchestrator manages robots specifically developed for customer front and back office processes.

1. The Attended Robot: Delivers lower costs and higher performance with front office agent- supporting automation features.
2. The Unattended Robot: These robots utilize unattended automation to run high back office transaction volumes in batch mode.
3. UiPath Orchestrator: An enterprise architecture server platform supporting process management, centralized logging, reporting, auditing & monitoring tools, remote control, centralized scheduling, queue/robot workload management, and asset management.
4. UiPath Studio: Enables users to automate with highly intuitive tools (not code) with process recorders, drag & drop widgets, & best practice templates.

# Choose your robot: attended or unattended robot?

The Leading Enterprise RPA Platform

## ATTENDED ROBOT

### DEFINITION

the Attended Robot works side by side with the human operators and assists them in automatically completing the processes.

### GENERAL USE

for manual, repetitive, highly rule-based activities containing decision points that require human intervention (either due to pure judgment calls required, or due to high complexity and high volatility in process inputs).

### BEST FIT FOR

Service Desks, Helpdesks and Call Centres

### COMMUNICATION WITH SERVER

bi-directional (restricted)

## UNATTENDED ROBOT

the Unattended Robot is a robot that independent of any human interaction.

for manual, repetitive, highly rule-based back office activities not requiring any human intervention.

### ROBOT TO SERVER

execution logs, automated process upload.

any type of back office activity prone to automation

### SERVER TO ROBOT

execution logs, automated process upload.

execution logs, automated process upload, robot status.

### FEATURES

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

bi-directional (unrestricted)

execution logs, automated process upload, robot status.

- Process management (automatic process update/rollback)
- Centralized logging, reporting, auditing and monitoring
- Remote control & centralized scheduling
- Queue/robot workload management.
- Asset management

*The attended robot works from the same desktop as the human operator. Can be triggered ONLY from a local machine, manually, by a human action, and CANNOT be controlled remotely (run or scheduled from the Orchestrator).*

Unlike the attended robots, the unattended robots can be triggered remotely, directly from the server.

# UiPath RPA Suite | Best in class RPA solution

UiPath has been in the UI automation business since 2005. For the last 10 years, the development team has created UI automation libraries for SAP, Citrix and terminal environments, which have been battle tested throughout those years by its customers. This has given UiPath unmatched automation accuracy rates.

UiPath solutions fully leverage the technology behind Microsoft Workflow Foundation and .NET framework. UiPath Studio is based on Microsoft Workflow Designer and Microsoft Visual Studio – tools, which use process map/Visio style views to enable workflow creation. This feature gives the user a more ergonomic experience leading to considerably faster development times even in the case of complex processes.

The UiPath RPA Suite comes with a cloud server scalable platform, which enables a user-friendly web-based server console, called Orchestrator. From here, the user can easily perform up and down scaling of the robots, audit and monitor robot activity, queue and schedule items based on priority or other criteria to ensure SLAs, and handle errors & exceptions. They can do all this while benefiting from world-class reporting capabilities through the usage of the embedded ElasticSearch or Kibana dashboards and tools.

## FUNCTIONAL REQUIREMENTS

Application agnostic	Cognitive (machine learning)	No programming	Integrated recorder
Workflow designer capabilities	High performance & high availability	Logging and reporting capabilities	Other features
Deployment flexibility			

Please refer to the Appendix for detailed view of above mentioned features

## COGNITIVE & NATURAL LANGUAGE PROCESSING

- Our recorder can define a library of initial activities, but not decisions. The business rules need to be entered manually into the flow by the RPA developer.
- For the moment, our product accommodates an easy update of automation workflows through the direct intervention of the RPA developer or of a technician from Business Operations. The automation packages are uploaded to the Orchestrator (Server) at a click of a button, while the package release to multiple robots can be performed in a matter of seconds.
- Machine learning capabilities including self-learning (possibility for the robots to auto-update the automation workflows) and intelligent recording through process discovery features are on our product roadmap for future releases, however currently they are not supported.
- For machine learning based on unstructured data and enhanced digitization capabilities, we advise using Celaton, which can easily be integrated to our tool with minimum development effort required.



- A tool pack called “Cognitive” is available, and contains several specific tools such as: Google Text Translate, Google Text Analysis, IBM Watson Text Analysis and Microsoft Text Analysis.
- Google Text Translate enables a user to translate text from one language to another. The Google Text Analysis, IBM Watson Text Analysis and Microsoft Text Analysis tools help extract the overall sentiment of a document, can provide a syntactic analysis of sentences, indicate key phrases, and recognize the language it was written in.

# UiPath RPA Suite | Future proof

## MINIMUM PROGRAMMING EXPERIENCE

- The UiPath Studio – the automation development tool - is based on Windows Workflow Foundation, allowing a user to drag and drop actions to add and to link activities.
- It is visual, easy to understand, and learn – very similar to Visio process mapping.
- While for an RPA developer, IT experience or programming is not a must, scripting experience or programming basics (.NET, C#, C++, etc.) are highly recommended skills to have within the team as it helps a great deal in improving the learning curve and assisting the rest of the team in implementing more complex automations.



Our trainings are based on the roles the participants will hold in the future Robotics team. Currently we have identified the following roles: RPA Developer, RPA Business Analyst/Process Analyst, RPA Process Controller (in charge of monitoring the robotic workforce and performing work allocation), RPA Service Support (first line of support for RPA related issues), RPA IT Admin (in charge of installation and troubleshooting the server and desktop RPA solutions).

# UiPath RPA Suite | Deployment flexibility and application agnostic

The Leading Enterprise RPA Platform

## DEPLOYMENT FLEXIBILITY

- UiPath comes out of the box with the option to be installed on physical machines or in the cloud (or on internal private networks).
- The best deployment model for a large geographical area is the cloud. The components of the server solution can be deployed in Microsoft Azure Cloud using the PaaS model (Platform as a Service) or you can choose to deploy virtual machines in the cloud (like Amazon cloud) and the robots can be virtual machines.
- Our product can run on VMWare, Microsoft Hyper-V, Citrix XenServer, XenDesktop, Windows Azure virtual machine, and Amazon Cloud virtual machines.

## APPLICATION AGNOSTIC

- With UiPath, you benefit from a highly non-intrusive RPA tool, as it relies on the user interface to automate repetitive, manual, frequent, and rule-based activities performed by human users on the machines.
- Our software is process and application agnostic and applies to any technology (native, web, Citrix etc.) You can automate any rule-based processes that are currently executed by employees on their computer screens.
- UiPath works very well even with virtualized applications where there is no access to the application user interface elements.



# UiPath RPA Suite

## Fast, scalable, reliable

The Leading Enterprise RPA Platform



### UiPath Orchestrator

#### UNATTENDED ROBOTS



#### NETWORK LOAD BALANCER

#### ORCHESTRATOR 1

#### ORCHESTRATOR 2

#### ORCHESTRATOR N

#### SQL Server Farm with AlwaysON



#### OPTIONAL

Elasticsearch, Kibana and Logstash



ES Node 3



ES Node 2

### FAILOVER/HIGH AVAILABILITY

The UiPath Server platform: the Orchestrator is built to support fast scalability and deliver high availability. The Orchestrator comes with recommendations of several deployment scenarios, which capture the specificities of the different RPA deployment stages - from initiate RPA to Pilot RPA, Ramp up and Industrialization – taking into consideration the number of robots deployed and disaster recovery preferences.

### HIGH FLEXIBILITY FOR VOLUME FLUCTUATIONS

Ease of scalability is one of the key strengths of our UiPath RPA suite. An automation workflow can be deployed from one robot to dozens or even hundreds in a matter of seconds, and the same applies for down-scaling. This feature allows business users to adjust the robot work effort instantly, based on the volume variations received during the day.

### HIGH-DENSITY ROBOTS

To achieve increased productivity with fewer resources, our High-Density Robots feature enables you to use each machine at your disposal at its maximum potential and improves the way different automation teams within the same company collaborate. Run multiple processes on multiple Robots on the same machine at the same time, each under a different user account.

This feature can be enabled only on machines running Windows Server.

# UiPath RPA Suite

## Integration with other Products

UiPath



### CHALLENGE

- Large amounts of unstructured data
- Web application automation
- Read / handle large files
- Image & text recognition
- Reporting & analytics

### EXTENSIONS

- CELATON
- Browser extensions/ integration
- MS Office & PDF API integration
- OCR engines (Modi, Google, Abby)
- Kibana, ElasticSearch

### BENEFITS

- Convert unstructured to structured data
- Read and write without opening the application
- Wizard automation of web apps
- Accurate image recognition
- Live reporting & analytics

# UiPath Studio Features

## Workflow Designer for Business users



### CODE FREE

- The UiPath Studio – the automation development tool - is based on Windows Workflow Foundation, allowing a user to drag and drop actions to add and to link activities.
- It is visual, easy to understand, and learn – very similar to Visio process mapping.

### LOGICAL

- The UiPath Studio allows you to create a graphical representation of the automated business process from scratch, assuming it can be easily integrated with decision points, handle repetitive rule based activities and escalated to pre-defined points of contact in case of errors or exceptions.

### HUMAN ACTION EMULATION

- The automation workflow is composed of activities specific to user actions, which means that it mimics the logical steps behind a human action, for example read an email and extract the attachment, input data in an application - type, click, open and close applications, navigate in a web browser, read data from Word or Excel etc.

### HIGHLY VISUAL

- UiPath is highly visual and it doesn't necessarily require programming skills, except a basic understanding of what a conditional statement (if) is, what a loop (while, for each) is, or what an exception is.

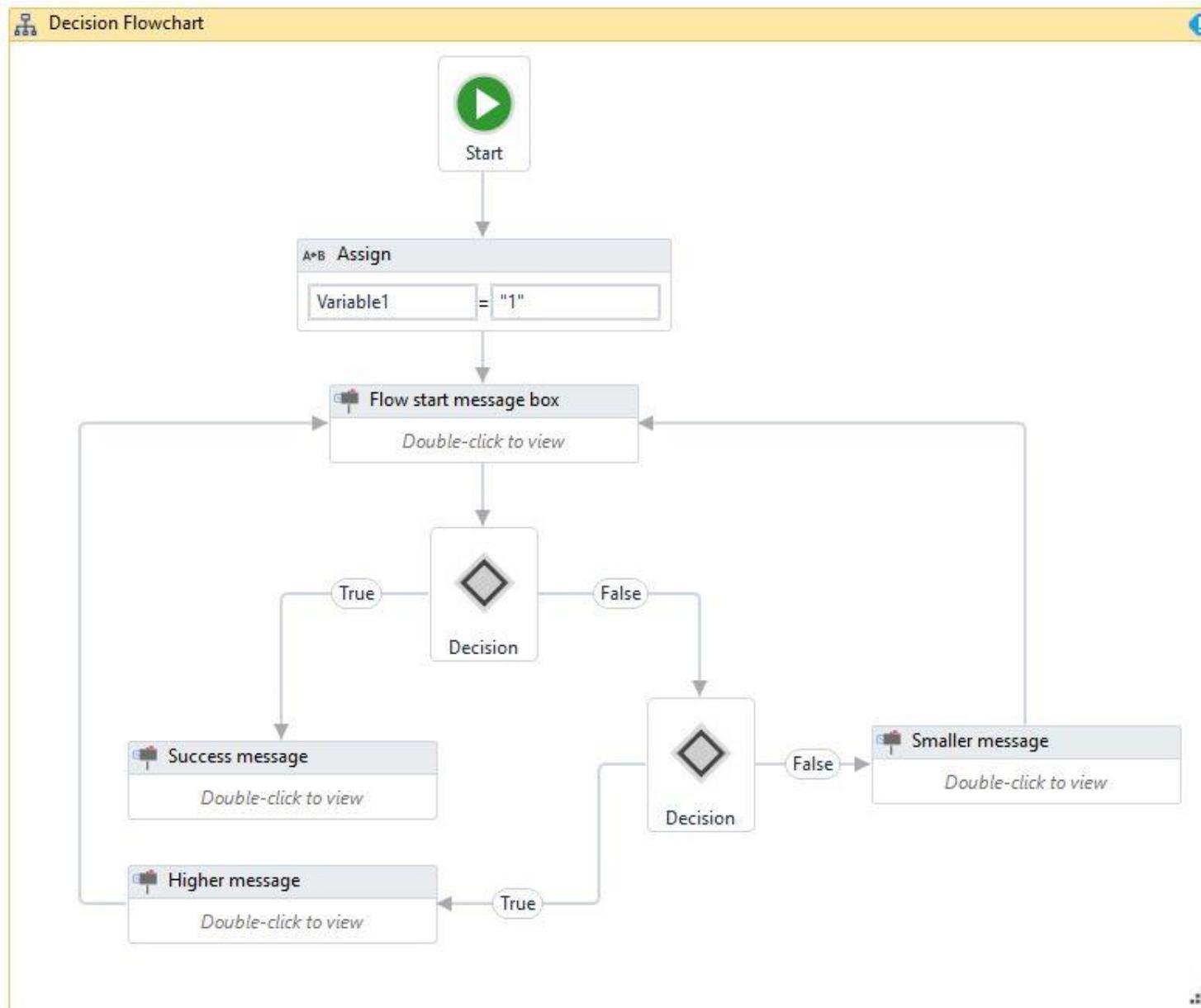
### SUPPORTED INPUTS AND OUTPUTS

- UiPath handles any electronic data that is stored in a structured format (e.g. Excel file, XML file, table embedded in an email, application screen, etc.)
- A workflow can open and manipulate any application, switching between them and behaving as a human user does. In order to automate business processes, our product has specific activities to extract text from images (OCR) and to handle PDF files and Office files (Word, Excel).
- The robot is able to open and close applications, read data, process it and input data to and from various environments (text files, application UI, databases, Office files, emails, etc.)

# The UiPath Studio

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UiPath



# UiPath Studio Features

## Fast and user friendly workflow design capabilities

### SCREEN CAPTURE

- Screen data scraping, SAP, Citrix and Terminal Emulators are the key strengths of our tool.
- Data extraction is automated, with 100% accuracy, from the screens of desktop and web applications.
- Robots can be easily trained to find relevant text and use it as anchors for their actions.
- We have embedded several OCR engines: Google OCR & Google Cloud OCR, Microsoft OCR & Microsoft Cloud OCR, Abbyy OCR & Abbyy Cloud OCR. The cloud versions are generally more advanced, yet how fast you receive the results depends on your Internet speed and usually require an API key.

### INTEGRATED RECORDER

- UiPath comes with an integrated recorder, which can be used to build a sequence of user actions (mouse and keyboard) integrated in the workflow.
- There are 4 different versions of the recorder: for desktop applications, for web applications, for Terminal emulators and for Citrix.
- Data scraping and screen scraping are other 2 important features of the Studio.

### INTERFACE & USABILITY

- The UiPath Studio has a highly intuitive interface and it is very easy to use. We support keyboard shortcuts for most commands and double-clicking any activity automatically adds it to your workflow. The Package manager helps manage and configure package sources, so adding and updating activities can be done with just one click.

### PRE-BUILD AUTOMATION WIDGETS

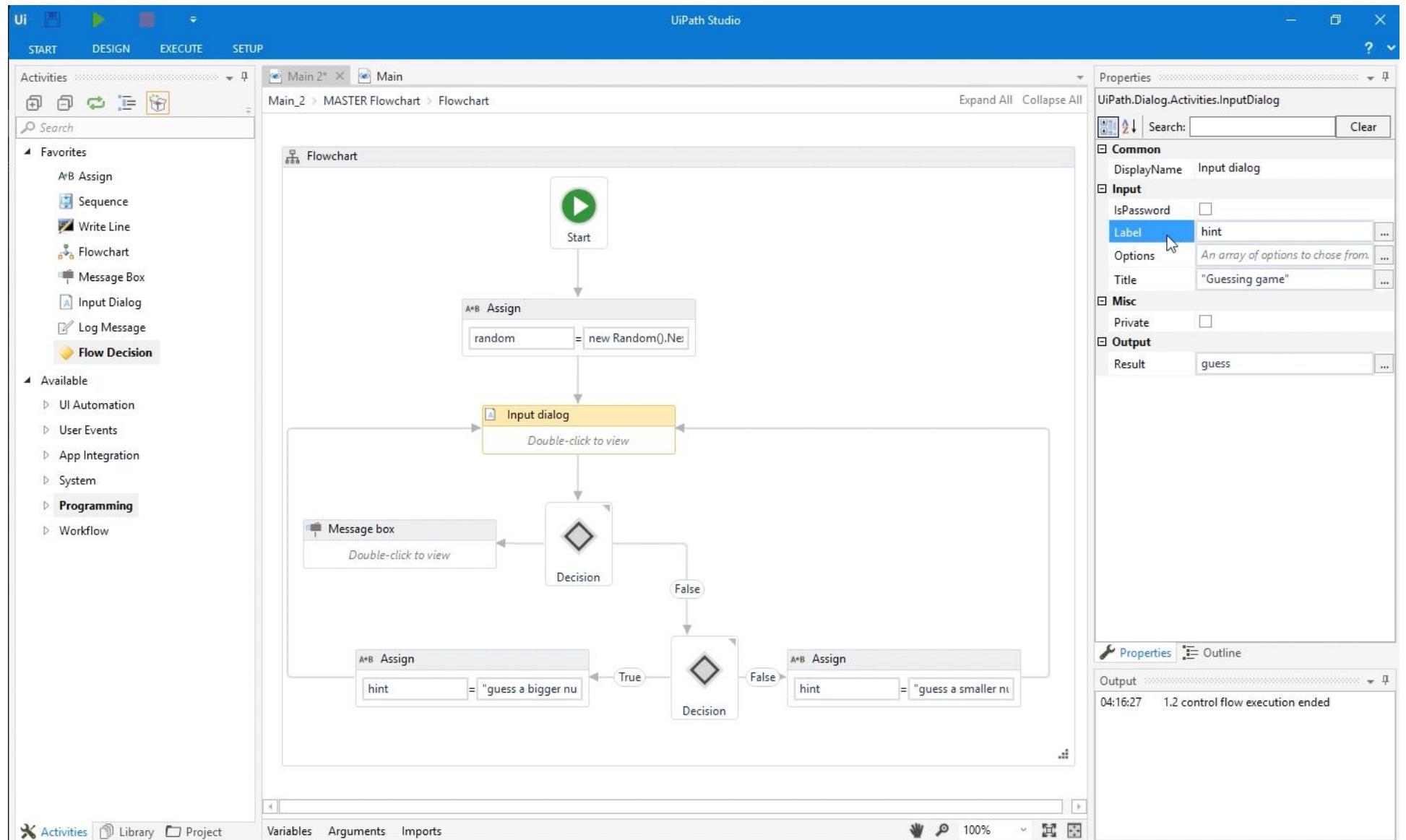
- UiPath provides several tools to read and write emails from Exchange, Outlook, POP3, SMTP and IMAP, including attachments. Our solution automates terminal emulators (to 3270 and 5250 standards), and applications running in the Citrix environment.
- UiPath Studio is able to integrate, for the purpose of automating manual processes, with any Windows application (we provide bridges and connectors for Java, SAP, Green Screen, Silverlight, Chrome and IE browsers, etc.)

### UIPATH FUNCTIONALITIES

- The product has specific features to extract text from images (OCR) and to handle PDF files and Office files (Word, Excel). It provides several tools to read and write emails from Exchange, Outlook, POP3, SMTP and IMAP, including working with attachments.
- The robot is capable of opening and closing applications, reading data and inputting data to & from various environments (text files, application UI, databases, Office files, emails, etc.)
- UiPath can connect to any database if the specific driver is present. A workflow can open and manipulate any application, switching between them and behaving as a human user. We fully support Windows Active Directory and we can access Windows Credential Store for authentication. Programming is required only when the user needs to perform string manipulation functions (like substring, trim, replace, etc.), needs to extract date parts, needs to use .NET classes like Random, etc.

# The UiPath Studio

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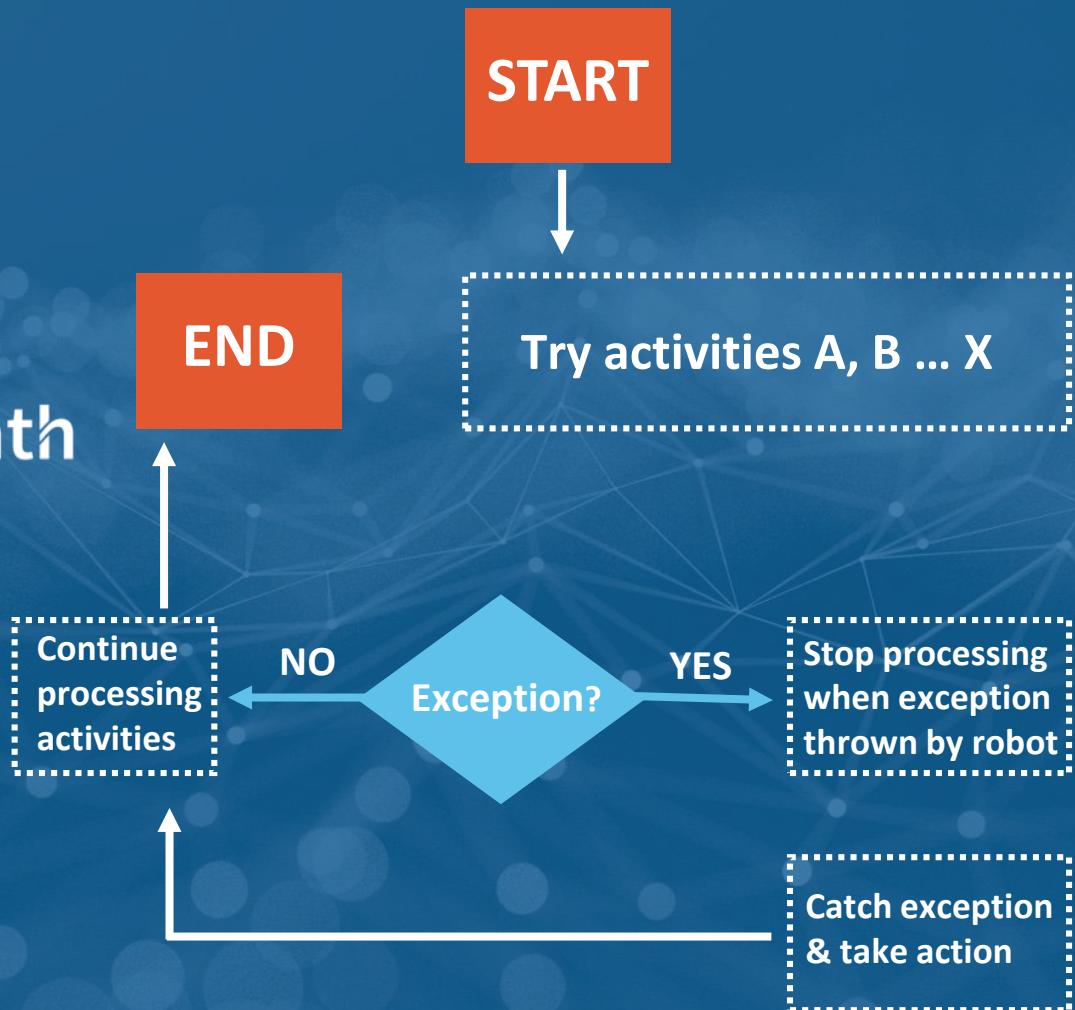


UiPath

# Error/Exception Handling principles (1/2)

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On one hand, UiPath offers a try-catch paradigm, designed to catch errors and exceptions. When an error/exception is caught, the local log files on each robot machine capture all the failures. The workflow can be designed to do several things - send log messages to the server, take a screenshot, pop-up a dialog for user input, display a message box, send an email or even an SMS to specified people.

On the other hand, UiPath implements queues. Monitoring is done through our web console UiPath Orchestrator.

Exceptions can be split into 2 categories: Unknown and Known exceptions.

1. Unknown exceptions - usually caused by unexpected events, causing the workflow to crash. UiPath uses a Try-Catch feature for dealing with these types of exceptions, which enables the robot to continue executing the workflow even when an error appears that would normally cause the program to crash.

*Note: There are 3 blocks – “Try”, “Catch” and “Final.” The robot will try to execute all the activities in the “Try” block. When an exception is caught, logs are created and all other actions listed in the “Try” block are skipped. A separate set of instructions (actions) are enabled in the “Catch” block, and once the robot completes them, it will continue the execution for all the remaining activities. Activities outside the “Try” and “Catch” blocks are generically called “Final” in UiPath.*

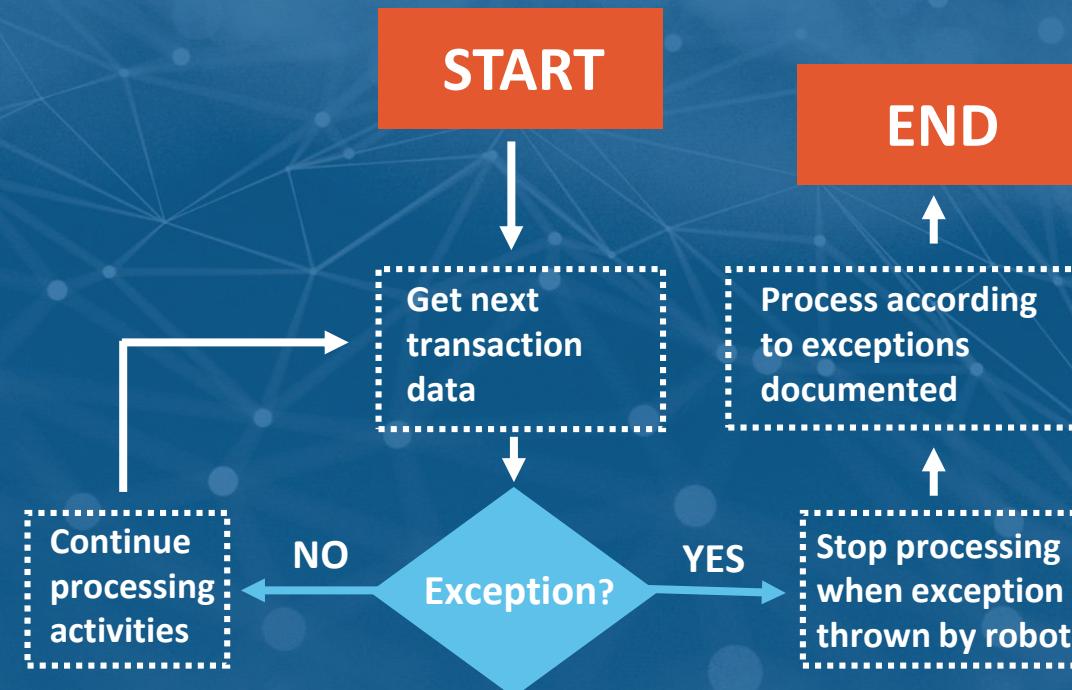
# Error/Exception Handling principles (2/2)

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2. Known exceptions - exceptions from the business process, which should not be processed (they are incorporated in the workflow by the RPA developer e.g., a transaction number starting with “001” will not be processed; usually, logs are kept and different actions can be taken, depending on the process requirements e.g. capture transaction number, send a daily report to designated person, etc.)

*Note: The robot will read the transaction data and check if it should be processed or not, based on the validation criteria incorporated in the workflow. If any of the exception criteria are met, the transaction will follow a different workflow, as defined in the solution design phase.*

UiPath



# UiPath Orchestrator Features

## Logging and Reporting



### LOGGING CAPABILITIES

UiPath generates execution logs that can be used for audit purposes.

There are 2 types of logging available through our tool:

- On the Robot level – logs are saved locally in .txt format. A local user with the proper rights on the local machine can check the logs.
- On the Server level - messages logged by the robots and centralized by the Orchestrator can be sent to several targets, including databases, ElasticSearch, flat files, Splunk, Eventlog, etc.
- You can configure and customize the logging.

There is a flag that can enable tracking of each activity executed in a workflow.

All of our robots send heartbeats to the server so that the server knows instantly when a robot is down. You can track the transaction failure down to the last click.

If a robot reports an application exception then the server assigns the same transaction to another robot to retry. Should it get the same exception an alert is raised.

The entity has an extensible logging framework that can be configured to capture logs at various levels and to multiple targets.

### AUDITING CAPABILITIES

There are several ways of auditing the activity: on one hand, the robots can log customized messages to the server to reveal their current working items; alternately, the logging level of the client can be set to several values, the highest resulting in the robot sending a message to the server every time an activity is started and ended (the message contains the name of the activity and the timestamp).

This allows the possibility of creating statistics (what activity takes the most time to complete) and to discovering failures (when an activity is started but the server does not receive the "end activity" message).

There is a third auditing mechanism that records the user's actions on the Orchestrator web interface.

# UiPath Orchestrator Features

## Logging and Reporting

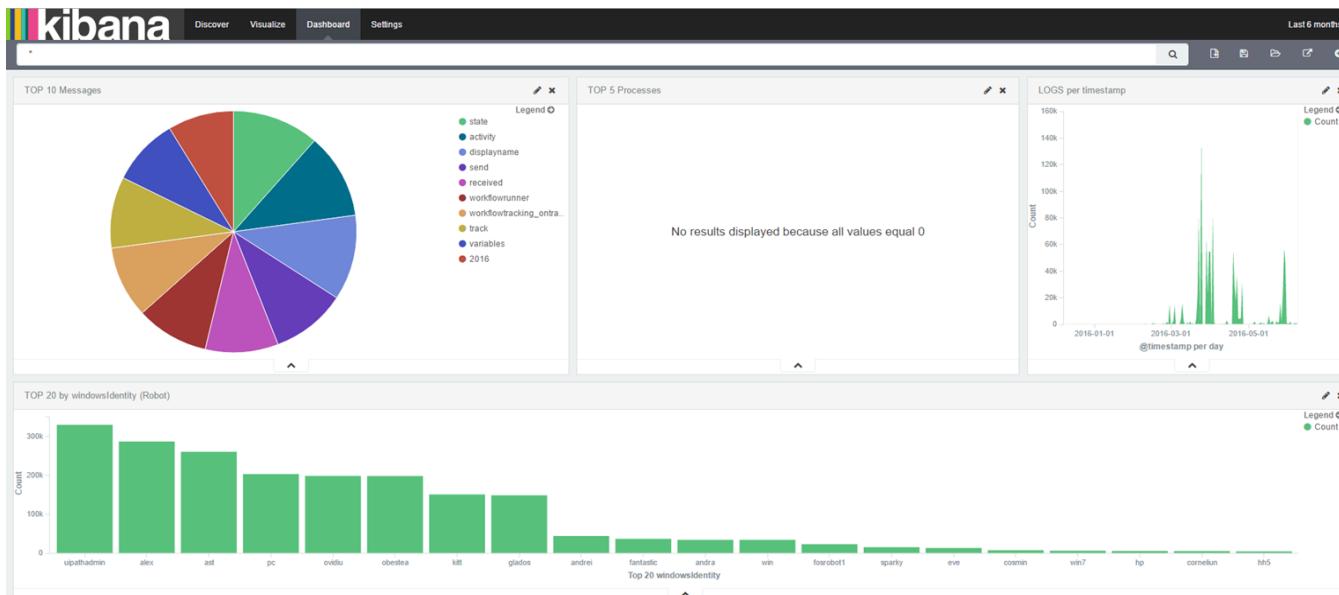
### MONITORING CAPABILITIES

The reporting capabilities of our tool are strongly linked to its logging capabilities.

- With the help of ElasticSearch and Kibana, which are embedded in our software you can benefit from powerful log interpretation tool, customized reporting with data visualization, and highly personalized dashboards.
- If you decide to store messages in the database, you have the power of the SQL language and SQL Server Reporting Services to create complex reports.

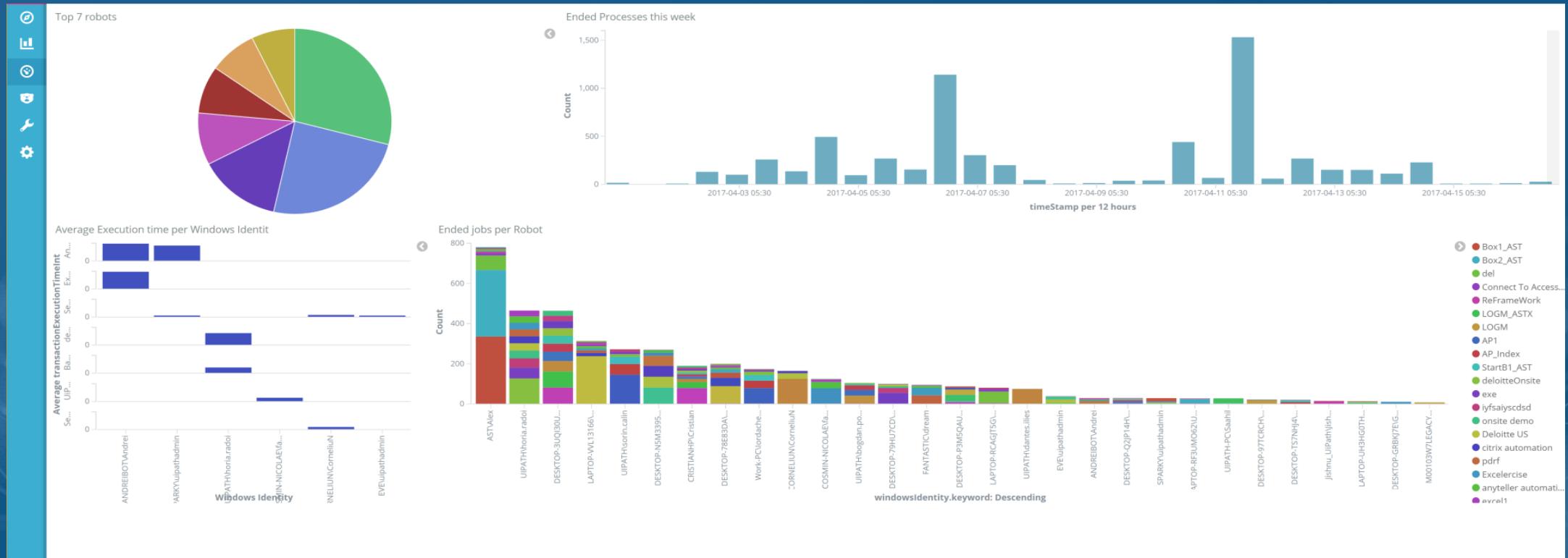


### KIBANA



# Examples of Kibana Dashboards (1/2)

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Kibana allows you to create, modify, and view your own customized Dashboards.

You can combine multiple visualizations onto a single page, then filter them by providing a search query or by selecting filters by clicking elements in the visualization.



## Examples of Kibana Dashboards (2/2)

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## AVERAGE EXECUTION TIME PER DAY PER PROCESS

## ERRORS REPORTED PER PROCESS PER DAY

# UiPath Orchestrator Features

## Alerts and Notifications

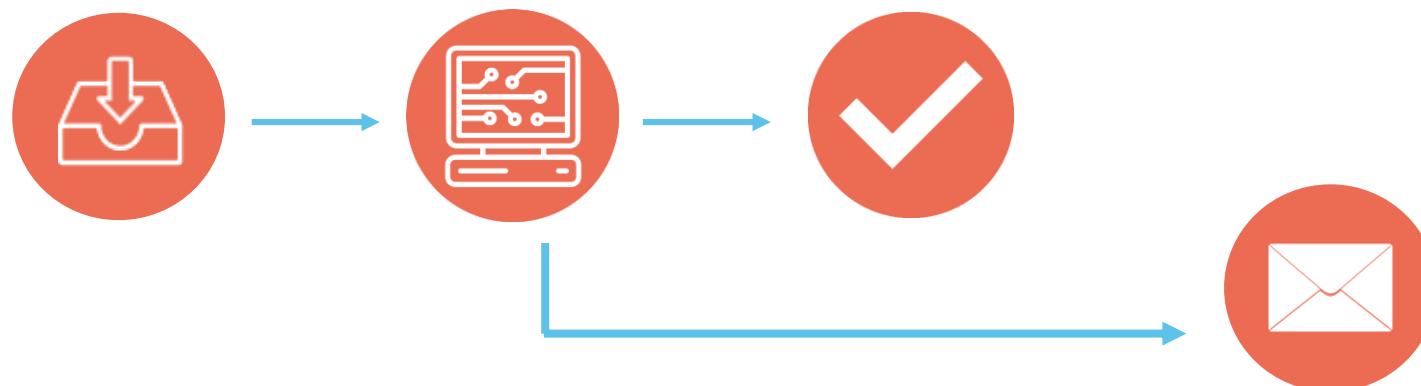
UiPath automation workflows can be designed to handle the following types of notifications straight out of the box:

- Send log messages to the server
- Update a status tracker
- Take a screenshot
- Pop-up a dialog for user input
- Display a message box
- Alerts
- Email notifications in case of critical issues

Additionally, UiPath enables monitoring in our web console, UiPath Orchestrator. The Monitor (a person with this role) using the server's web interface (UiPath Orchestrator) is able to monitor the execution of the remote robots.

A live notification system ensures he/she is instantly informed of any issues that might appear inside the automated business process.

Alerts are generated for Robots, queue items that fail with a business or an application exception, jobs that change status, or schedules that misfire.



# UiPath Orchestrator Features

## Deployment Flexibility

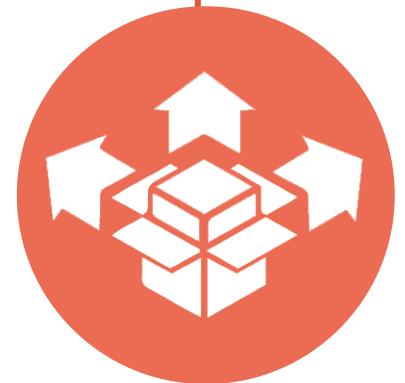


UiPath comes straight out of the box with the option to be installed on:

- Physical or virtual machines (VMWare, Microsoft Hyper-V, Citrix XenServer etc.)
- Using the cloud as IaaS (virtual machines deployed in the cloud)
- Using the cloud's PaaS model (Platform as a Service)

You can have one single instance of the Orchestrator in which you create different environments  
- for Development, Testing and Production

- 1.** Multiple instances of the Orchestrator (using a single server or set of servers), each with separate databases and with separate instances (indices) for ElasticSearch. One single license of the Orchestrator will accommodate this.
- 2.** Multi-tenant – using a single instance of the Orchestrator and one single database in which multiple tenants can be defined (with a data partition) and complete segregation (robots environments, logs etc.)



# UiPath Orchestrator Features

## Fast, Scalable, Reliable

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### HIGH AVAILABILITY

The UiPath Server platform – the Orchestrator UiPath can be configured for high availability on Windows Clusters.. UiPath comes with several deployment options for supporting high availability and Disaster recovery preferences.

### HIGH FLEXIBILITY FOR VOLUMES FLUCTUATIONS

The ease of scalability is one of the key strengths of the UiPath RPA tool. An automation workflow can be deployed from one robot to dozens or even hundreds in a matter of seconds – same applies for down-scaling. This feature allows business users to adjust the robot work effort instantly - based on the volume variations received during the day.

### ROLES, MANAGE, DEPLOY, EXECUTE, MONITOR

Roles - Integrated Active Directory access authorization

Manage - Robots, Processes, Assets & Work Queues

Deploy - Distribution of automation instructions to robots environments

Execute: schedule tasks, start stop robots

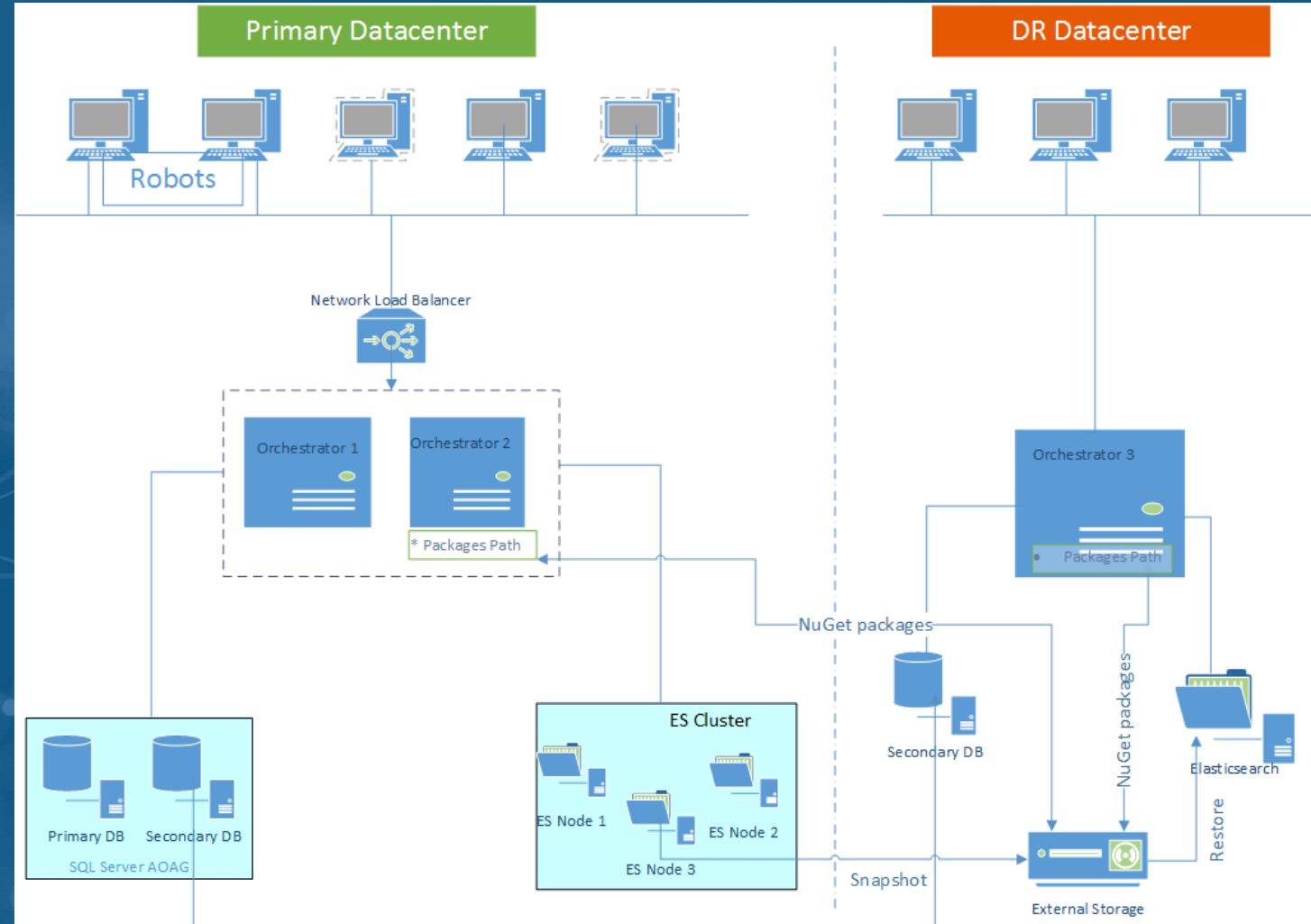
Monitor: real-time monitoring of robots, transactions,& audit logs. Configurable dashboards & reporting.



## DISASTER RECOVERY

The disaster recovery scenario involves 2 data centers and we provide solutions for the replication of persistent data from primary to secondary.

Each product uses its own replication mechanism: “Always on” for SQL server and “Snapshot/Restore” for ElasticSearch.



# UiPath security features

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If you choose to deploy the server platform on your premises, then the computers which are in a Windows domain will communicate with each other over the local network. We don't send any data or reporting information outside of your network.

## NETWORK

All robots connect to the standard http port 80, and https secure port 443 (if the case). On the server platform (Orchestrator), our Web service "Logging" is talking to Elasticsearch on port 9200. We also use port 5601 to access the Kibana plugin. The ports are all configurable.

## NETWORK PORTS

At the Server/Orchestrator level you can define roles, each role having access only to a set of functionalities; the messages logged by the robots and centralized to the server are accessible only to a group of people. The data is persistent.

## ORCHESTRATOR ROLES

UiPath generates execution logs that can be used for audit purposes. On the robot level they are saved locally in .txt format. On the server level the logs will be saved on a NoSQL database from the logging machine

## LOGGING & AUDITING

UiPath Workflows should not contain sensitive data or credentials, they should be passed on as external arguments or stored as Assets on the Orchestrator (encrypted locally). When robots are used without the Orchestrator, all credentials should be stored in the Windows Credential Store.

## CREDENTIALS

## NON INVASIVE

RPA allows existing applications to be modeled without affecting the underlying data or code landscape, by running automations uniquely through the user interface.



## SSO SUPPORT:

Our tool fully integrates Active Directory and supports Single Sign-On. Using centralized authentication, it allows access rights to be managed, maintained, and audited within a central function and adds an extra layer of security.

## SERVER SIDE SECURITY

On the server side, security is ensured by the Microsoft Technologies that we use; Entity Framework, SQL Server, Windows Active Directory, SignalR over HTTPS.

## DATA SECURITY

UiPath does not store any process related data locally. It only stores robot related activity reports either locally or on the Orchestrator side (if the server option is purchased).

## REPORTING & DASHBOARDS

With the help of ElasticSearch and Kibana, which are embedded in our software you can benefit from a powerful log interpretation tool, customized reporting with data visualization, and highly personalized dashboards.

## SETUP & RUNTIME

UiPath Runtime mitigates common .NET security vulnerabilities by running regular static code analysis. UiPath set-up does not open any firewall ports and does not give itself new privileges.

# UiPath RPA Suite Features

## Other Features

### SECURE PROCESSING

- UiPath supports integration with the SSO mechanism & PKI certificates, smart cards, and soft tokens through our Attended Robots where a robot can be programmed to stop and ask for user input.
- The robots will always use the user's Windows account to execute all actions – allowing for full traceability of all robot activities.
- It can fully integrate with AD and support controlled access to different AD groups.
- It can group processes and assign different rights to specific people.
- We fully support SSL/HTTPS. We use AES-256 for encrypting data at rest and HTTPS to secure data in transit.



### CREDENTIAL MANAGEMENT

- The credentials are stored encrypted in the server database. They are sent through an HTTPS channel.
- When the Robot receives the start notification (command), it goes to the assets web service, authenticates with the Robot ID and asks for the login credential, used to open up a Windows session on the client computer.
- The other credentials, necessary to authenticate to automated applications, can be requested by the workflow through dedicated activities like “Get Robot Credential.” When executing the activity “Get Robot Credential,” the Robot authenticates to the configuration service with its Robot ID and requests the credential by name.
- The Configuration service authorizes the Robot using the Robot ID and authenticates the Robot using the user name (the workflow is run under a username, and the HTTPS call contains the user’s identity as well - hence it can be authenticated through the active directory).
- When a credential is requested by a robot, the configuration service searches the database for the credential whose name was requested and, if found, decrypts the credential and sends the required information to the Robot. The credential is a 2-field structure: a string representing the username, and a SecureString representing the password. The SecureString is of a special .NET Framework type, which is encrypted within the framework. It is sent encrypted to the Robot. The Robot will access its unencrypted form by using special functions defined in .NET to access its contents.

# UiPath RPA Suite Features

## Other Features

### NATIVE CAPABILITIES

- Logging onto web/enterprise applications
- Receiving/Opening/Sending emails and attachments
- Processing requests into applications
- Moving files and folders
- Scraping data from the screen/web
- Word or Excel based automation
- Connecting to system APIs
- Following “if/then” decisions and rules; performing simple or complex decisions
- Merging data from multiple places
- Making calculations; performing complex algorithms

- Copying and pasting data
- Filling in forms
- Reading and writing to databases
- Using structured, repeatable, computer-based tasks
- Searching, collating or updating information
- Accessing one or more systems to complete a process
- Optionally, allowing advanced data processing by leveraging using scripting/programming languages
- Creating and exposing web services back to BPM/ERP
- Extracting and reformatting data into reports or dashboards
- Extracting structured data from documents



# UiPath RPA Suite Features

## Other Features

### APPLICATION INTERFACES

UiPath supports UI Automation interactions with Windows Forms, WPF, Web, Java, Delphi, Win32, FoxPro, Adobe Reader & Acrobat, Green screen, SAP, Oracle apps, Silverlight, or any web application on IE and Chrome browsers. UiPath comes with connections to these apps, thus being able to automate them as a normal Windows application.

Besides UI Automation interfaces, application integration interfaces for Excel, CSV, PDF, Databases, Web Services, Email (Gmail, Outlook, Exchange), PowerShell, XPS, FTP, SNMP are available. Reading and writing from Office documents is fully supported.

UiPath speaks .NET natively. The internal type system is .NET. A user can call a UiPath workflow from their .Net app and simply pass the .NET objects as variables to our workflow.

SAP, mainframes, legacy and particularly Citrix (as a transport layer) are huge use cases for UiPath.

UiPath comes with connectors (bridges) for Terminal Emulators (We automate Terminal Emulators 3270 and 5250 standards), Email (through POP3, IMAP, SMTP and Exchange), Silverlight and \*Database Connectivity.

### MAINTENANCE

The Orchestrator (server) comes with pre-defined and customizable roles to allow the monitoring, review and management of robots.

On the server side, there are several pre-defined roles:

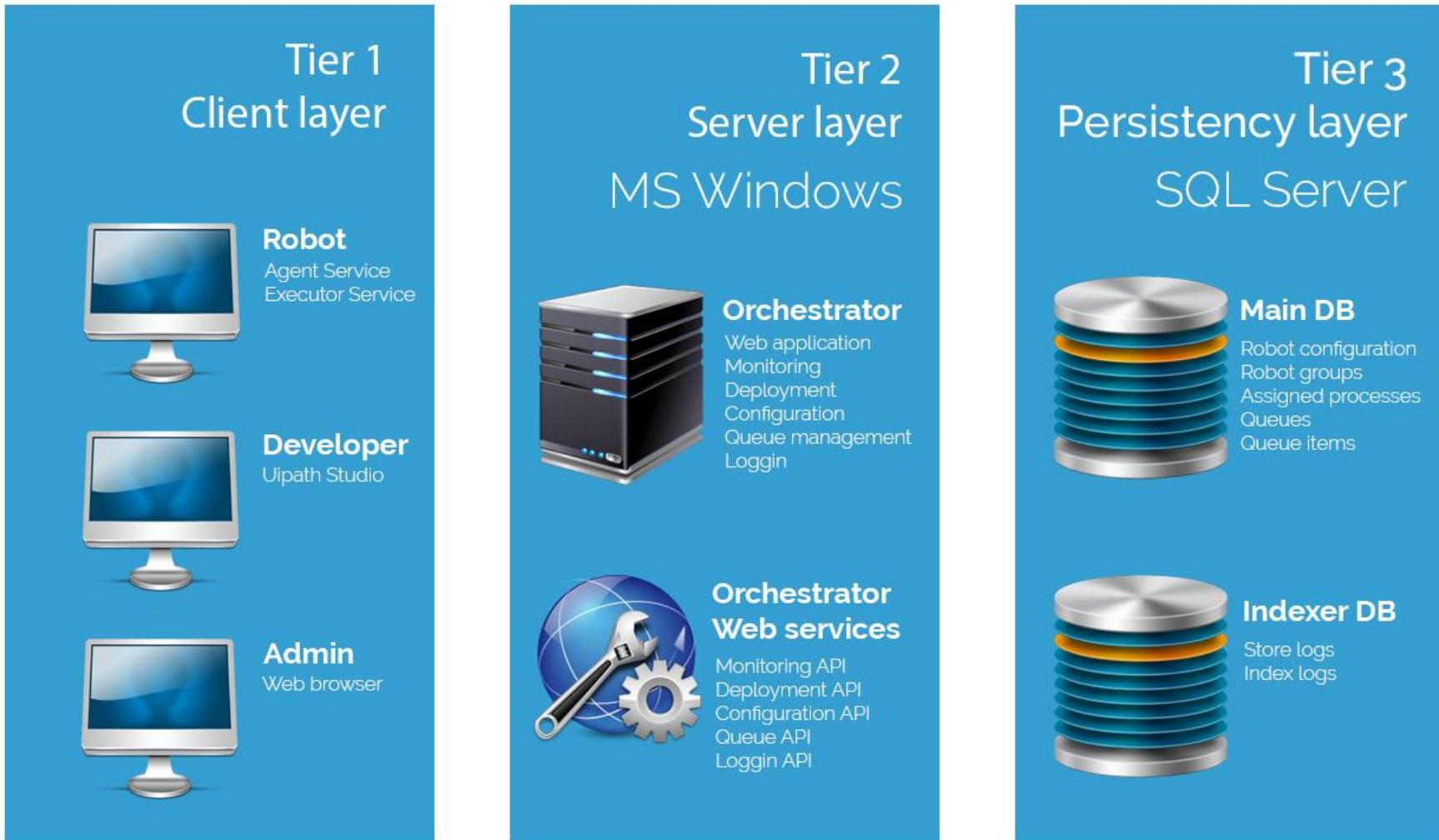
- The administrator can change the settings, add or delete robots, and assign or update packages to robots (a package is an automation process represented by a set of workflow files - a project).
- The reviewer can add/update/delete assets, manage robot groups, assign or un-assign processes to robot groups and manage the queues. He can also do what the Monitor is able to do: check process status and robot's logs.

Essentially you can combine different permissions into custom roles. Each role can be customized to have a different set of permissions. Roles can be defined and customized by the Orchestrator Administrator.

# UiPath Server Architecture

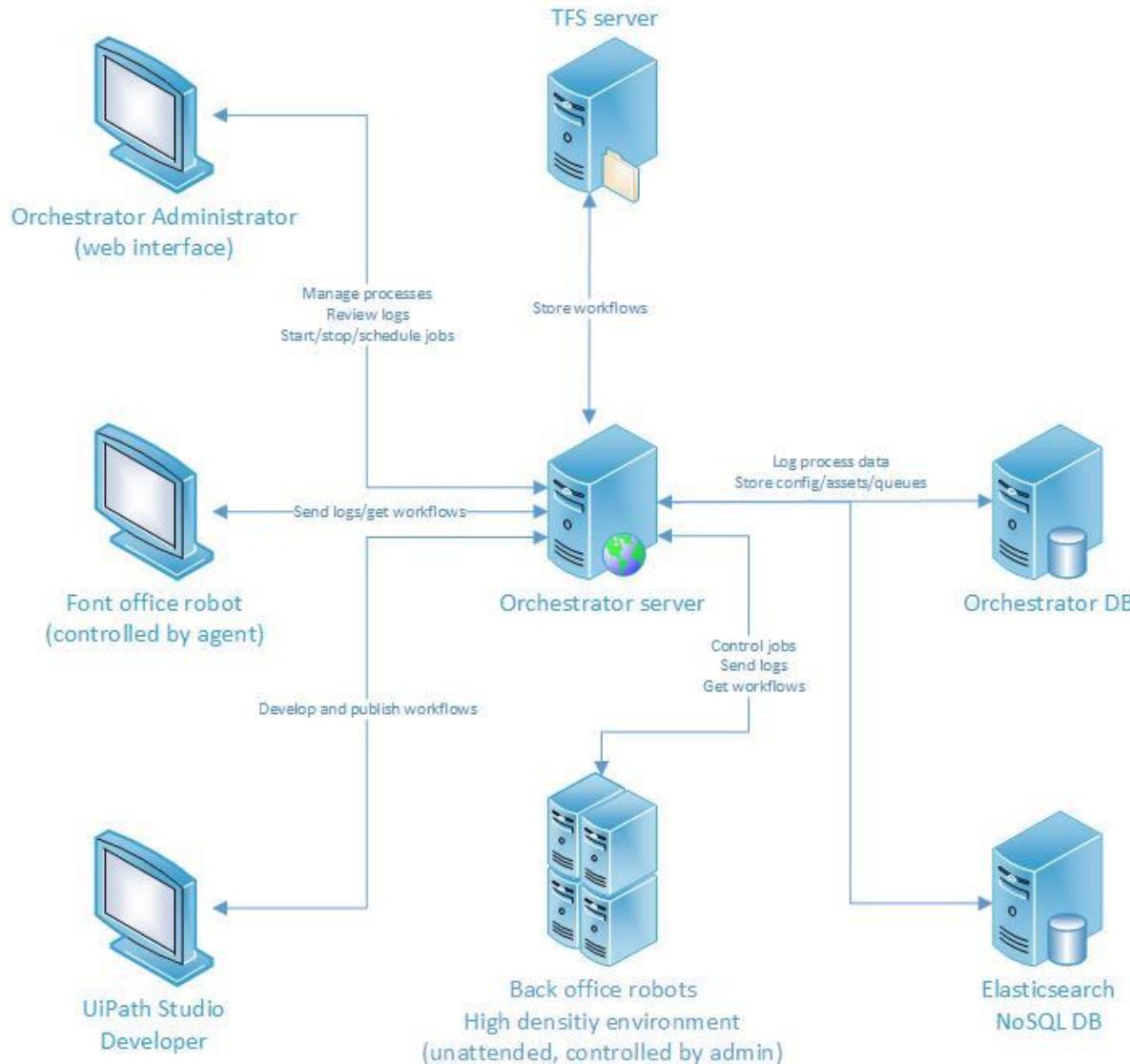
## High Level view of the Server Architecture

**UiPath**



# UiPath Server Architecture

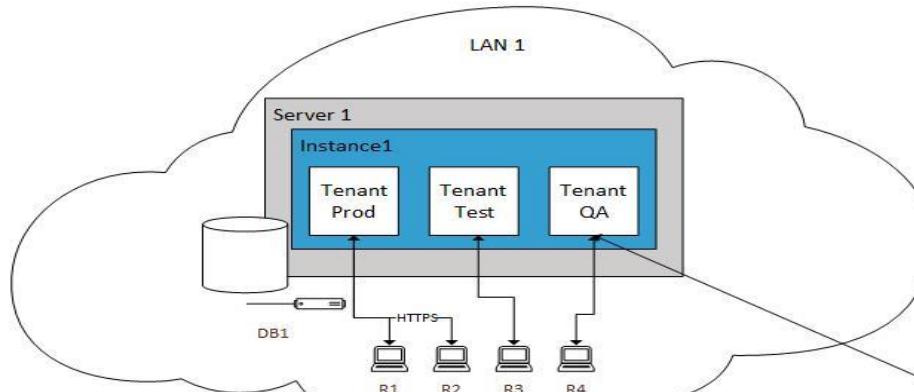
## Server Architecture components



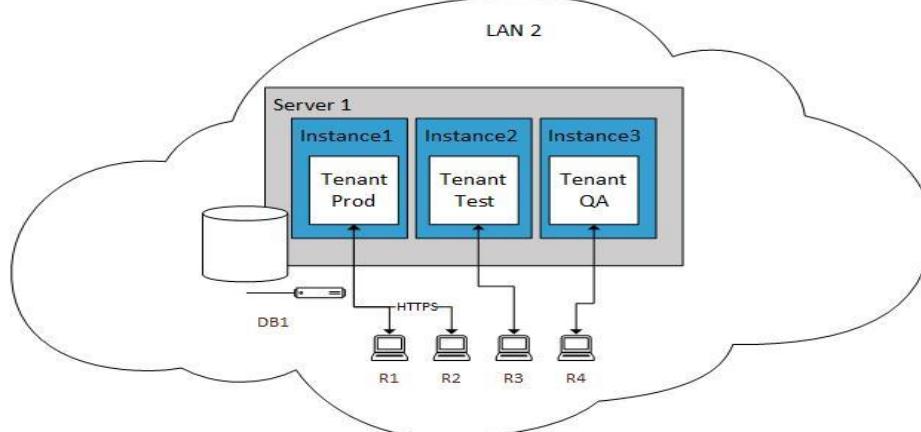
# Deployment options

UiPath

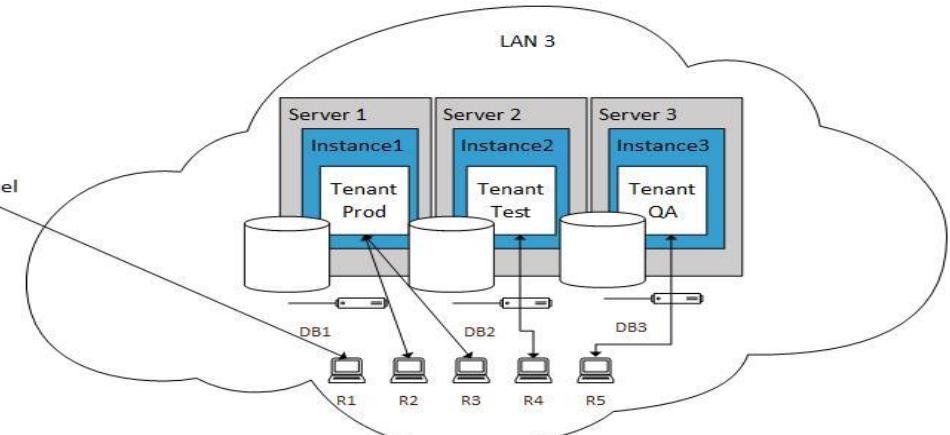
Environment 1  
1 Orchestrator server – 1 deployment - multiple tenants



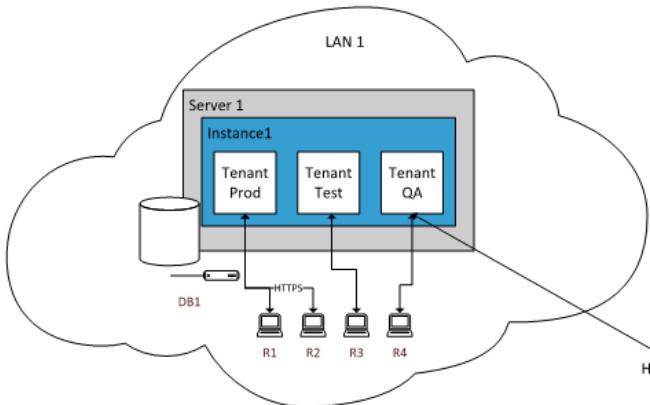
Environment 2  
1 Orchestrator server – multiple deployments - single tenants



Environment 3  
Multiple Orchestrator servers – single deployment - single tenants



# Deployment Options – PROs & CONs



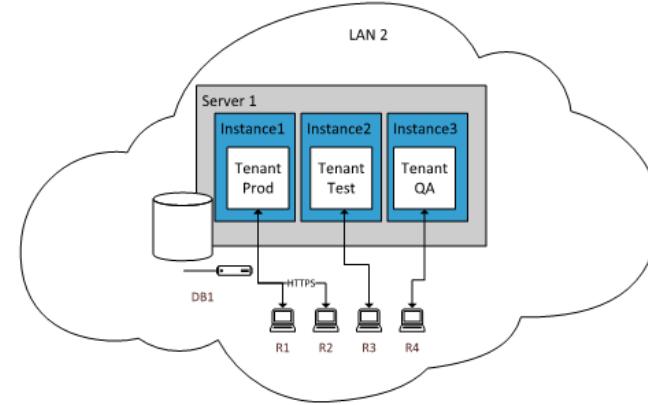
## MULTIPLE TENANTS ON ONE SERVER ENVIRONMENT 1

### PROS:

- Quick installation
- Reduced hardware and software costs

### CONS:

- In case of server failure all environments will become offline
- All services must be restarted at once



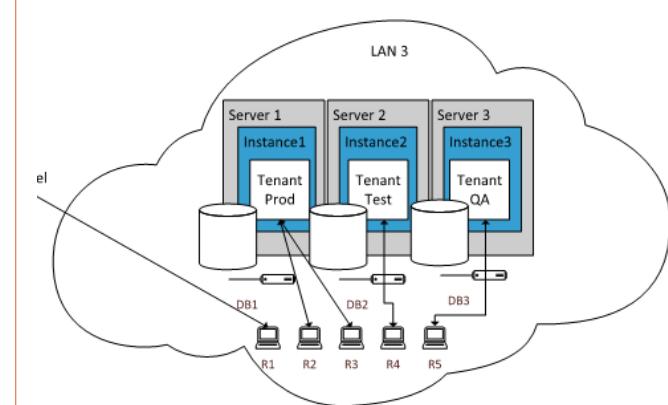
## MULTIPLE INSTANCES ON ONE SERVER ENVIRONMENT 2

### PROS:

- Lower hardware and software cost
- Separation of access URLs (using subdomains)
- One database, different schemas
- One IIS instance, different app pools
- Ability to control the services individually

### CONS:

- In case of server failure all environments will become offline



## MULTIPLE SERVERS ENVIRONMENT 3

### PROS:

- Greatest granularity
- Lower costs for DR solution
- Most scalable solution

### CONS:

- Higher configuration effort
- Highest costs for software and hardware

# Deployment for scalability and high availability

## HIGH AVAILABILITY ARCHITECTURE – DEPLOYMENT EXAMPLE

- The Monitoring Web Service is installed on a Windows Failover Cluster (Active / Passive).
- The Web Application, the Configuration Web Service and the Deployment Web Service are installed on a Windows Failover Cluster (Active / Passive).
- An SQL Server may be deployed using the “AlwaysOn” feature, which requires SQL Server 2012 Enterprise Edition or higher.

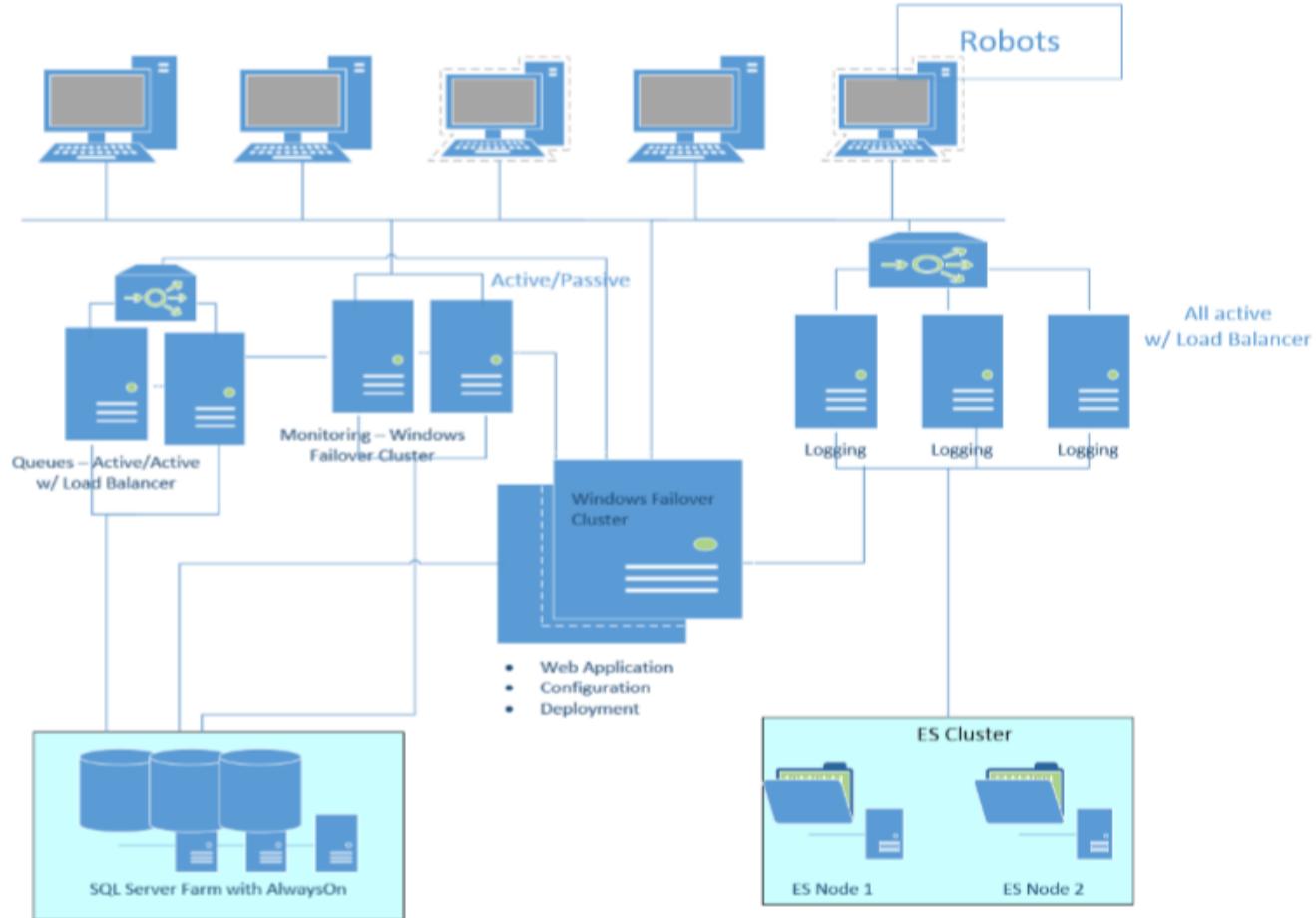


The “AlwaysOn” feature does not require external storage, but requires at least 3 SQL Server nodes. It may be deployed using a classical Windows Failover Cluster (Active / Passive), which requires external storage for the database files.

A Network Load Balancer (hardware or even software NLB, like NGINX) is required for the Queues Web Service cluster (Active / Active) and for the Logging Web Service cluster (Active / Active).

# Deployment for scalability and high availability

Recommended for 24/7 operation; includes high-availability for all the components.



# Your journey to RPA - storing & managing automations

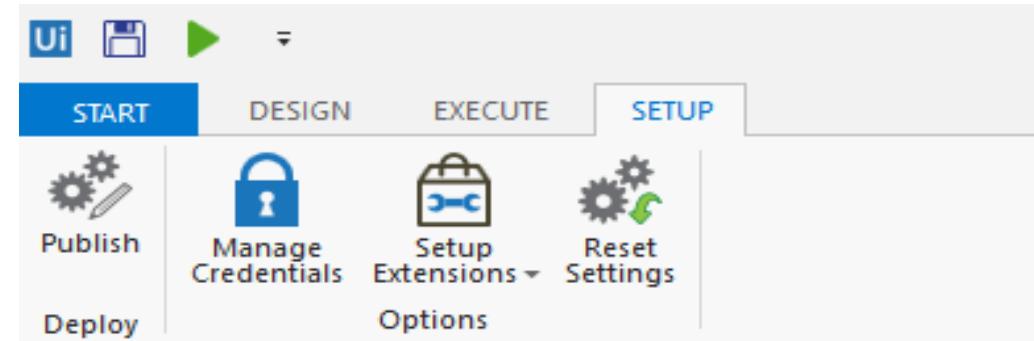
The workflow developer using UiPath Studio will create or update an existing workflow that can be published on the Orchestrator or executed manually on the client machine.

The Orchestrator UiPath platform supports segregation of duties & controllership through user & access roles.

The user with the "Reviewer" role has the option to deploy the automation workflow on one or multiple robots at the click of a button.

The Orchestrator also features a rollback option & a library that stores workflow version files. The reviewer can select the version of the automation file to run.

All versions of the automation workflows are stored on the Orchestrator.



**UiPath** Processes Distribution of process versions to robot environments

Name	Environment	Description	Version	Actions
11log	alex_petre_env		1.0.6236.34330	<input type="button" value="Manage Versions"/>
123_test	alex_petre_env		1.0.6264.29208	<input type="button" value="Manage Versions"/>
1VerySimpleInvoke	SERVER2012		1.0.6163.21382	<input type="button" value="Manage Versions"/>
AAAAA.....AAA	Doc_env		1.0.6074.19858	<input type="button" value="Manage Versions"/>
aaaaTestV1	kjhjhjk		1.0.6109.34923	<input type="button" value="Manage Versions"/>
aaaaTestV1	NANA		1.0.6109.34923	<input type="button" value="Manage Versions"/>
AACG	Doc_env		1.0.6040.28635	<input type="button" value="Manage Versions"/>

# Your Journey to RPA – Version management

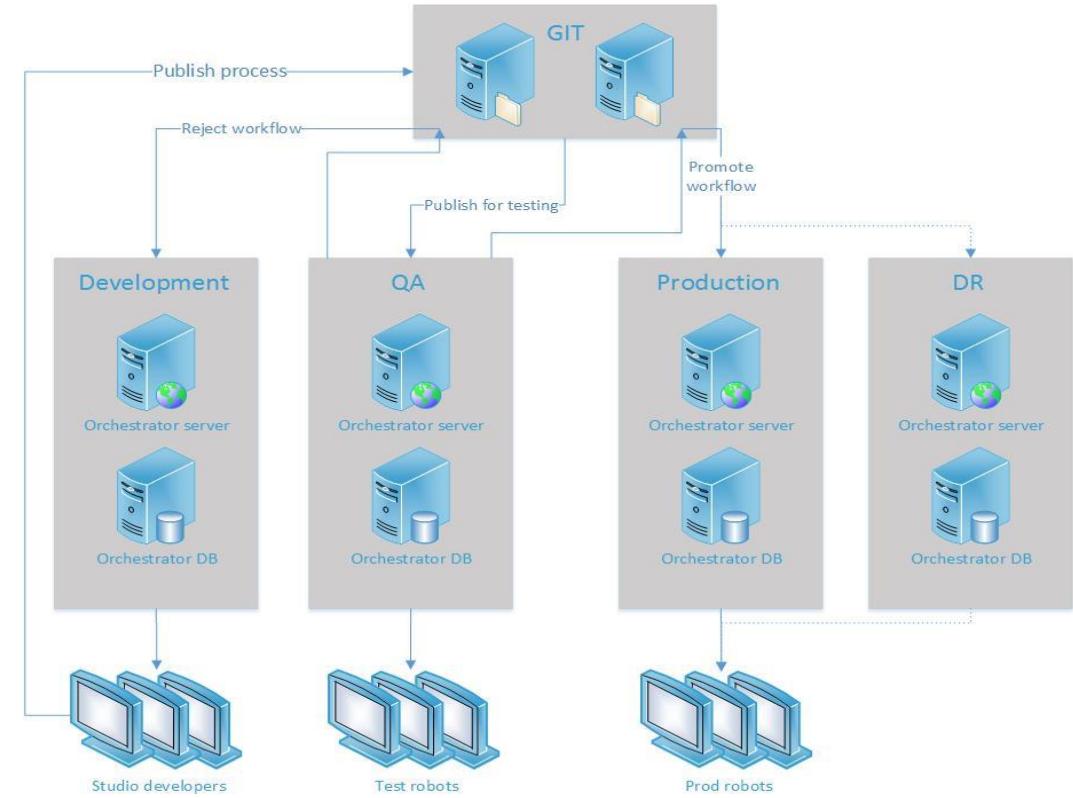
## Integration with GitHub example

### VERSION CONTROL PROCESS

1. The Developer creates a workflow in the development environment.
2. They publish the workflow in Git for deployment in the QA environment.
3. They test the Workflow in the Test/QA environment
4. If the test fails, the workflow is pushed back to development for fixes.
5. If the test passes, the workflow is pushed to Git for deployment in production.

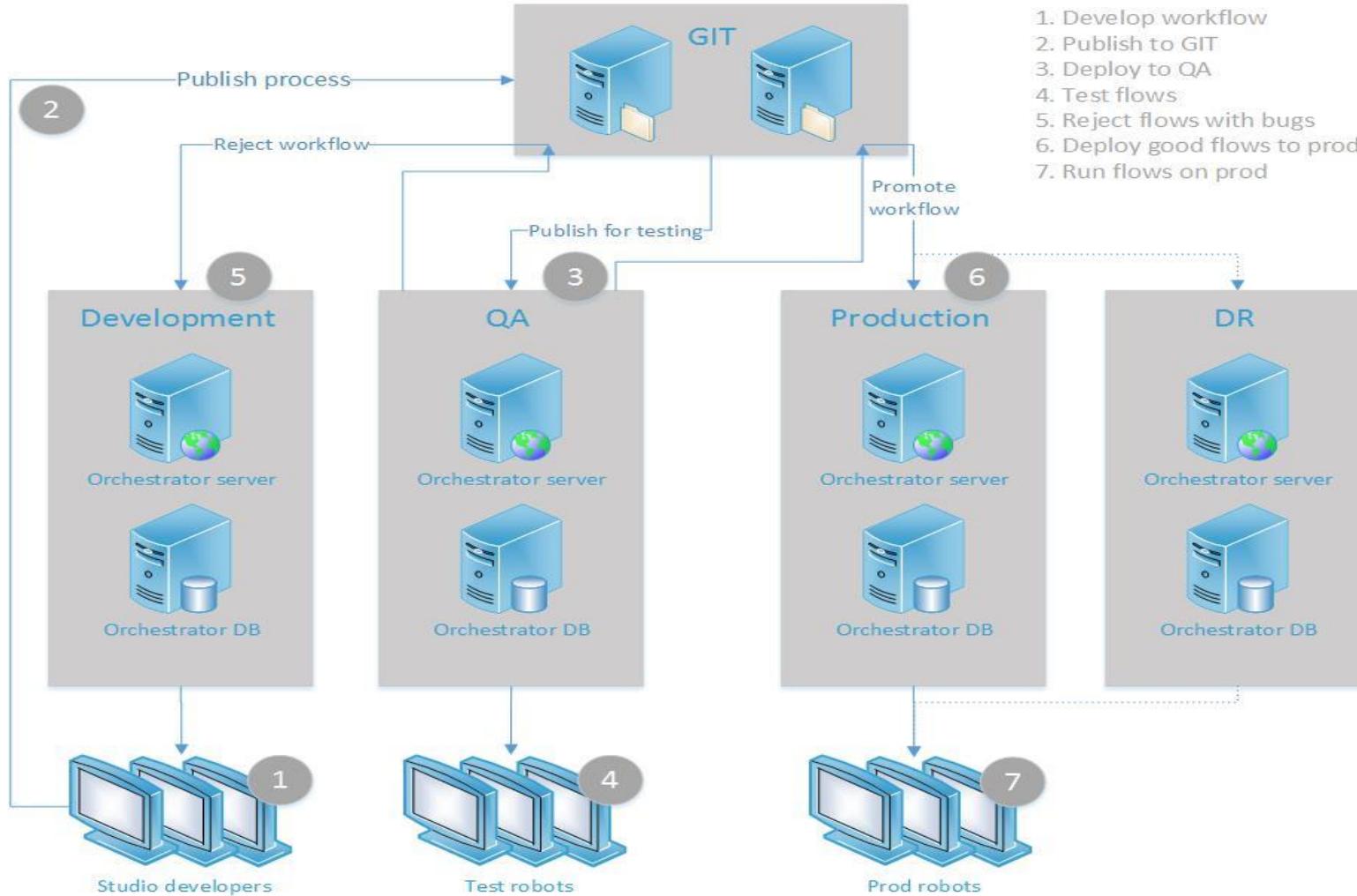
### BENEFITS

- Segregated by different roles and as many security policies as required.
- Version recovery is available if required.
- Contains a version management system (managed by IT).
- Secure that processes in QA and production cannot be changed at robot development level.
- A repository of reusable workflows.



# Your Journey to RPA

## From development to production



# Auditing the lifecycle of the workflows



## DESIGN

- A workflow design document will be produced by the RPA Business analyst.
- The document contains each step that the robot will execute.
- The document is used by the RPA developer to create the automation workflow.

## DEVELOPMENT

- The RPA developer will use UiPath studio to design workflows.
- The deliverables will be synchronized and versioned with a repository (TFS and SVN are supported).
- The versioning and logging will be handled by the repository.
- Once a workflow is published it will receive a version number (configurable) and a unique identifier based on timestamp.
- The try/catch paradigm will be used to handle exceptions.

## TESTING

- Review of the errors and exceptions will be done based on the Orchestrator logs.
- A release with bugs can be pushed back to development for fixing.
- The testing activity can be traced using the application logs.

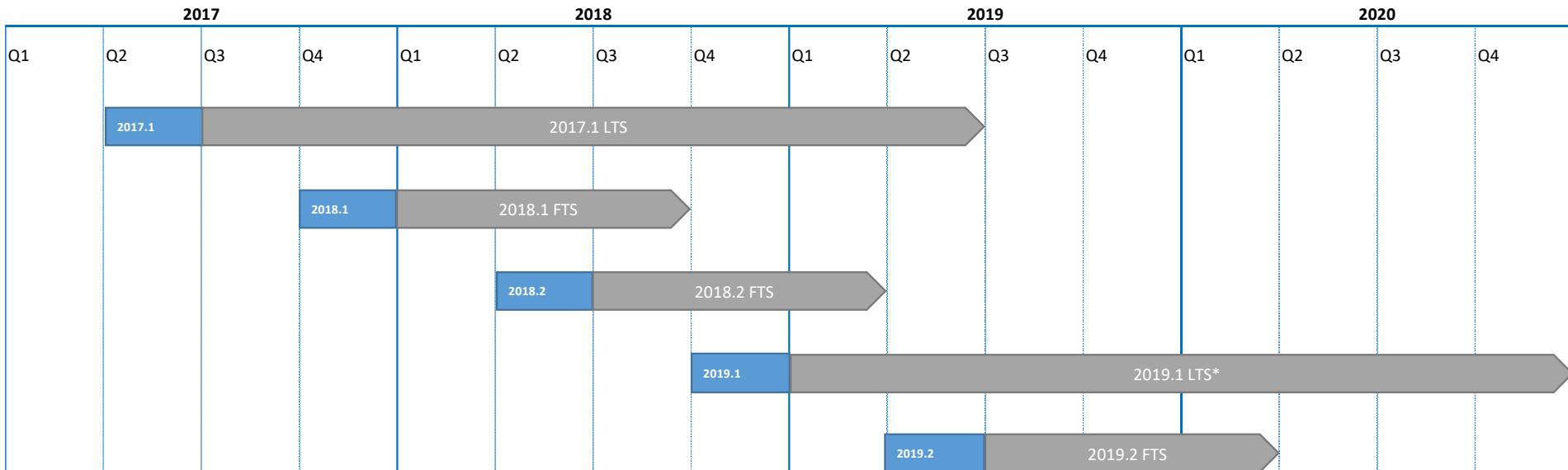
## PRODUCTION

- The versions of the workflows can be managed from the Orchestrator server.
- From the Orchestrator web interface, any published version can be promoted to be “in use”.
- Logs stored on the Orchestrator will be reviewed by the administrator.
- The logs can be stored into two databases, the SQL DB provided for the server and the NoSQL DB used for logging and reporting.
- Reports of data can be quickly created using ElasticSearch and Kibana.

*ALTHOUGH MOST ORGANIZATIONS USE AN INCREMENTAL APPROACH TO TESTING AND APPLYING RPA, A MORE STRATEGIC AND HOLISTIC PROGRAM WOULD PROVIDE INCREASED BENEFITS.*

# UiPath Release Cycle

## Version release and support model



Two major versions are released every year. Updates and new features are released every 6 months.

Every new release is accompanied by either LTS or FTS.

Long Term Support (LTS\*) is provided for stable versions, with a planned release every 1.5 years.

\*The LTS version is announced three months in advance of the new release and extends to 6 months following the latest version of LTS. Six months time of parallel support for LTS is provided, ensuring sufficient time to upgrade.

Fast Track support (FTS) is extended for three months after the newest release.

Monthly releases for bug fixes, feature improvements, incorporation of customer feedback.

# UiPath – Hardware and Software Requirements

## Orchestrator (Server)

This applies to a configuration where the Web Application and Services Server are installed on a machine, and SQL Server and ElasticSearch on another. It is recommended for a medium-scale deployment of robots (10-50).

### WEB APPLICATION AND SERVICES SERVER

	MINIMUM	RECOMMENDED
CPU	2 X 1.8Ghz cores	4 X 2.4Ghz cores
RAM	8GB	16GB
Disk Size	100GB	250GB
Operating System	<ul style="list-style-type: none"> <li>- Windows Server 2008 R2</li> <li>- Windows Server 2012 R2</li> <li>- Windows Server 2014</li> </ul>	

### SQL SERVER AND ELASTICSEARCH

	MINIMUM	RECOMMENDED
CPU	2 X 1.8Ghz cores	4 X 2.4Ghz cores
RAM	8GB	16GB
Disk Size	500GB	1TB
Operating System	<ul style="list-style-type: none"> <li>- Windows Server 2008 R2</li> <li>- Windows Server 2012 R2</li> <li>- Windows Server 2014</li> </ul>	
Relational Database	<ul style="list-style-type: none"> <li>- SQL Server 2008 R2 Standard Edition w/ Service Pack 3</li> <li>- SQL Server 2012 R2 Standard Edition</li> <li>- SQL Server 2014 Standard Edition</li> </ul>	



# UiPath – Hardware and Software Requirements

## Studio/Robot

### HARDWARE REQUIREMENTS

TYPE OF HARDWARE	MINIMUM	RECOMMENDED
CPU	1.4 GHz 32-bit (x86)	Dual Core 64-bit (x64)
RAM	4GB	4GB

### SOFTWARE REQUIREMENTS

UIPATH STUDIO	MINIMUM	RECOMMENDED
Operating System	Windows 7	Windows 7+
.NET Framework	4.5.2	4.6

### SETUP SIZE ON DISK\*

SETUP SIZE ON DISK*	ARCHIVED	INSTALLED
	70MB	180MB

### UIPATH ROBOT

UIPATH ROBOT	MINIMUM	RECOMMENDED
Operating System	Windows 7	Windows 7+
.NET Framework	4.5.2	4.6

\* For both UiPath Studio and UiPath Robot (one single installer).



# UiPath – Support & Maintenance

UiPath provides support & maintenance for all its licensed software products, as part of the UiPath License agreement, at no additional charge.

## UiPath Support

### Prioritization of requests

UiPath follows ITIL methodology for ticket prioritization.

Impact urgency	1- Highy	2 - Medium	3 - Low
1 - High	1 - urgent	2 - High	3 - Normal
2 - Medium	2 - High	3 - Normal	4 - Low
3 - Low	3 - Normal	4 - Low	4 - Low

## UiPath Support SLA

### Customer Role

Priority	Response Time	Resolution Time
1 - Urgent	2 hours	1 Business Days
2 - High	4 hours	2 Business Days
3 - Normal	1 Business Day	4 Business Days
4 - Low	2 Business Days	10 Business Days

The customer is expected to train key customer personnel on the software and to assign such personnel to provide first-line support to the customer's internal users.

# UiPath – Support & Maintenance

## MAINTENANCE

Includes updates, support, and the right to receive any new updated version of the software as it is released by UiPath.

## SUPPORT

As an integral part of maintenance includes:

- Incident management
- Problem management
- Change management
- Q&A, how tos, workarounds
- Training calendars, e-newsletters, special events

### SUPPORT SCOPE & SERVICES:

- RPA code solution optimization
- Training of CoE resources
- L1 – L3 Product Support – ITIL process
- Updates, patches, hotfixes

### OUTSIDE SUPPORT SCOPE:

- Troubleshooting of RPA code generated by partner (partner will provide support)
- Windows OS or infrastructure support
- L1 End user support

### Support delivered from:

Bucharest - Romania &  
Bangalore - India

### Support channels:

Helpdesk portal,  
Online chat

### Support hours:

Monday to Friday  
10:00 – 20:00 CET  
+/- 1 h during DST

### Future approach:

Extended 24/5 day support  
From Q2/2017  
Bangalore delivery center



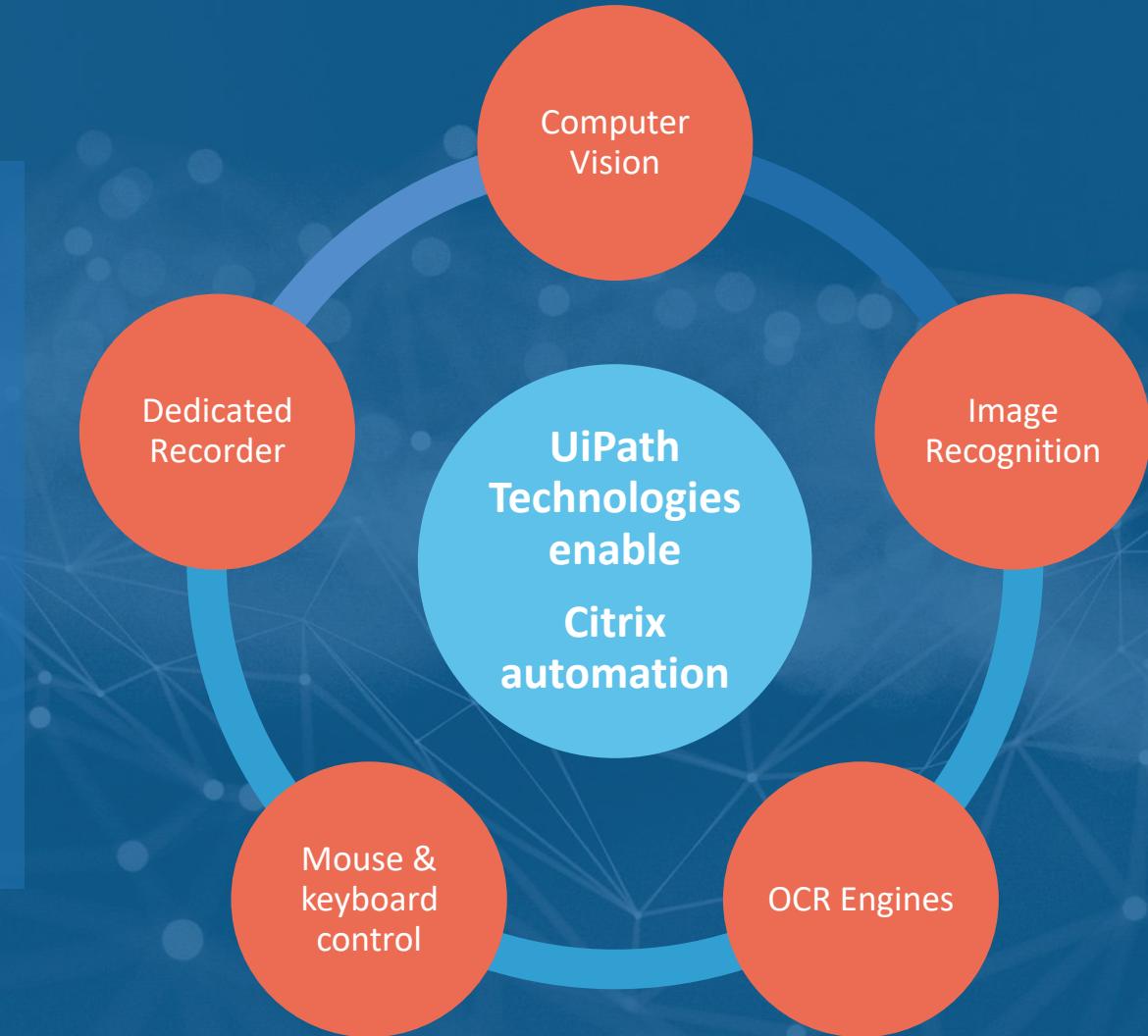
# Citrix Automation

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UiPath went to great lengths to make Citrix automation possible.

- Computer Vision: used in Citrix the technology is most valuable as it allows to identify elements with ease on Citrix UI and anchor fields on them while having superior accuracy.
- Image Recognition: UiPath features a powerful engine that is optimized to find images on screen in under 100 milliseconds.
- OCR (optical character recognition) for text recognition
- Use of mouse, keyboard, hotkeys and clipboard
- Dedicated integrated recorder enables easy & user friendly automation on Citrix





# THANK YOU!



# AUTOMATION HANDBOOK

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IMPLEMENTATION  
METHODOLOGY



# IMPLEMENTATION

## OUR APPROACH TO AUTOMATION

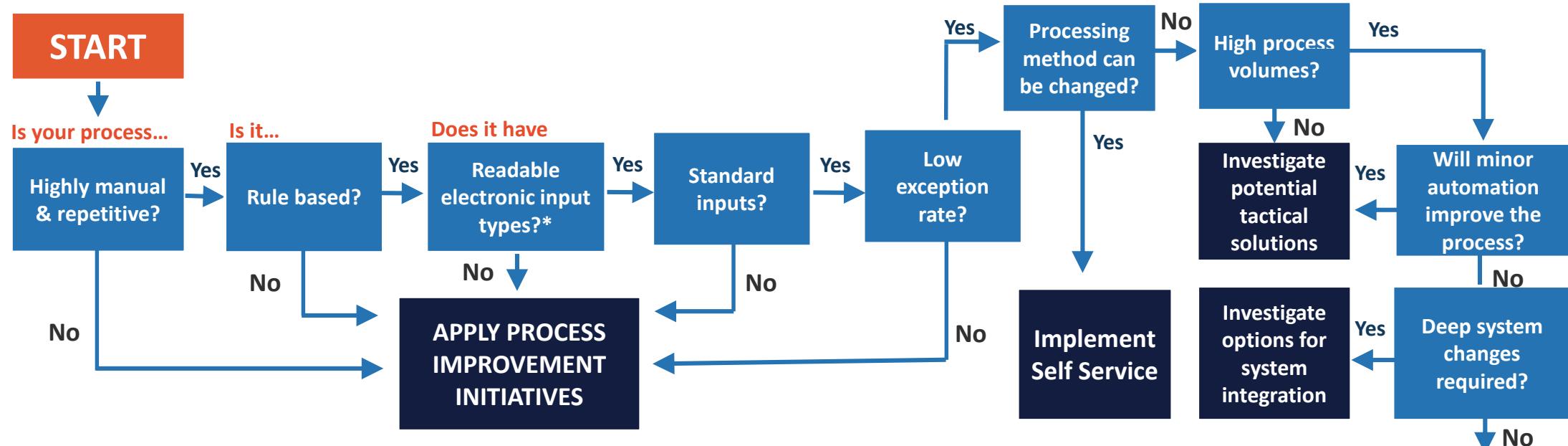
Where to start | Process selection



# What Process Should I Automate?

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## Guide to Choose the Best Candidate Processes for Automation



*Not all processes are fit for automation. In order to benefit from a rapid ROI, choose processes which passed through a transformation initiative using Lean Six Sigma methodology (which aims to standardize, control and streamline first).*

RPA

Process Characteristics	Process A	Process B	Process C
Highly Manual and Repetitive work	●	●	●
Rule Based Processes	●	●	●
Electronic Readable Input Types	●	●	●
Standard Input Types	●	●	●
Low Exceptions Rate	●	●	●
High Volume Transactions	●	●	●
System changes	●	●	●



Process A is the best fit for automation, followed by Process B, while Process C should be subject to a Lean Six Sigma transformation approach prior to considering automating it.

# What processes should I automate?

A guide to choose the processes best fit for automation



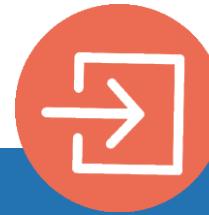
**Highly manual and  
repetitive processes**



**Rule based processes**



**Low exception rate**



**Processes with standard  
readable electronic  
Input type**



**High volumes**



**Changeable processing  
method or system  
change**



**Automation savings  
– in FTEs**



**Mature and stable  
processes**

# What processes should I automate?

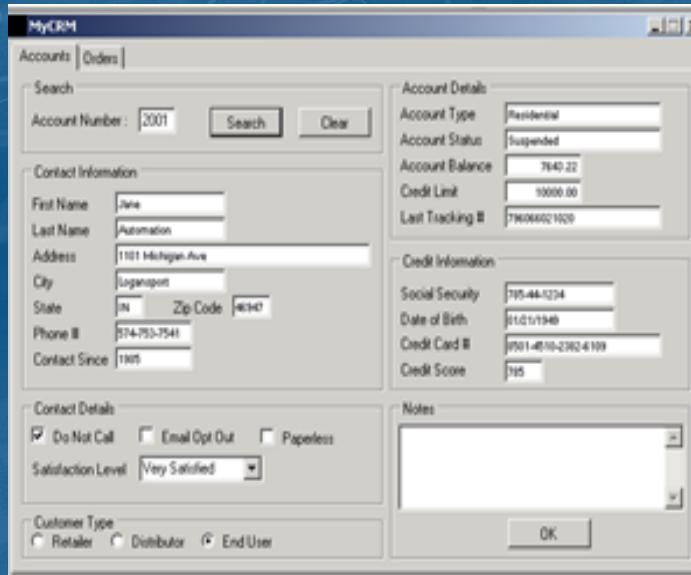
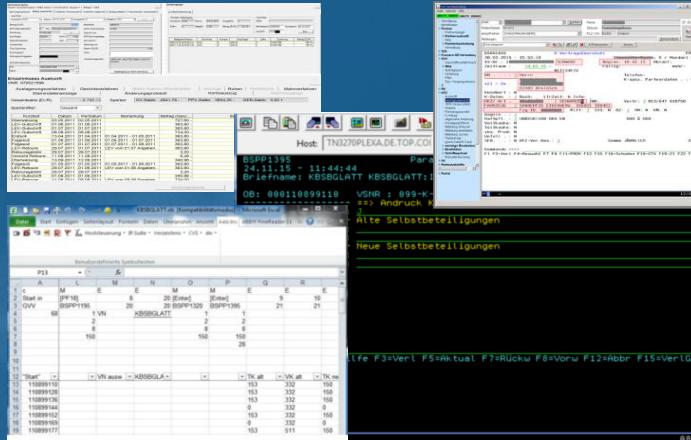
## A guide to choose the processes best fit for automation

	<b>HIGHLY MANUAL AND REPETITIVE PROCESSES</b>	High transaction volume processes, highly frequent processes running daily & weekly, instead of monthly or yearly which involve high manual work or work prone to human error.
	<b>RULE BASED PROCESSES</b>	Activities with clear processing instructions (template driven) with decision making based on standardized and predictive rules.
	<b>LOW EXCEPTION RATE</b>	Activities with low number of variation scenarios existing in the process leading to different handling procedures.
	<b>PROCESSES WITH STANDARD READABLE ELECTRONIC INPUT TYPE</b>	Processes triggered by standard and consistent inputs. These inputs should be in a readable input type like Excel, Word, email, xml, PPT, readable PDFs etc. Processes triggered by input types which are not readable like images scanned without OCR are not disposed to automation.
	<b>HIGH VOLUMES</b>	Processes with high transaction volumes (and high frequency).
	<b>CHANGEABLE PROCESSING METHOD OR SYSTEM CHANGE</b>	Processes for which the processing method cannot be changed due to various reasons and do not require a fundamental change in the underlying technical architecture of the current systems (e.g., new interface development or changes in configurations of existing systems to enable automation). We strongly recommend avoiding automation in processes for which changes are expected in the short/medium term.
	<b>AUTOMATION SAVINGS – IN FTEs</b>	Our recommendation is to automate only those processes which can provide a savings in terms of human work-effort of a minimum of 2 FTEs.
	<b>MATURE AND STABLE PROCESSES</b>	Processes that tend to be well documented, stable, & predictable with well known operational costs.

# Processes every company should automate

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UiPath



## HUMAN

- AHT - 7 mins / transaction
- Accuracy - 85%
- Operations - 6.5 hrs/day

## RPA

- AHT - 1-5 mins / transaction
- Accuracy - 100%
- Operations - 24 hrs/day
- Volume capacity increase/day

**RPA IS IDEAL FOR REPETITIVE, RULE-BASED ACTIVITIES WITH SIGNIFICANT HUMAN INTERACTION**

- Repetitive keyboard and mouse tasks
- Mass email generation, follow-ups, tracking, etc.
- Conversion of data formats, graphics, presentations
- Reading data, data entry, import/export information
- Database creations, retrievals, connections, queries
- Internet file transfers, reading/updating websites
- ERP transactions, image downloads, mass changes
- Process workflows, lists, trackers, and file storage
- Surveys, approvals, data validation
- Automatic PDF file reading, automatic form filling
- All types of periodic reporting, calculations, analysis

# Some of the common processes companies automate include

HR SERVICES	SUPPLY CHAIN	IT SERVICES	FINANCE & ACCOUNTING	CUSTOMER SERVICES
<ul style="list-style-type: none"> <li>- Payroll</li> <li>- Time &amp; attendance management</li> <li>- Onboarding &amp; offboarding</li> <li>- Benefits administration</li> <li>- Recruitment (back office)</li> <li>- Personnel administration</li> <li>- Education &amp; training</li> </ul>	<ul style="list-style-type: none"> <li>- Inventory management</li> <li>- Demand &amp; supply planning</li> <li>- Invoice &amp; contract management</li> <li>- Work order management</li> <li>- Returns processing</li> <li>- Freight management</li> </ul>	<ul style="list-style-type: none"> <li>- Software development</li> <li>- Server &amp; app monitoring</li> <li>- Routine Maintenance &amp; Monitoring</li> <li>- Batch processing</li> <li>- E-mail processing &amp; distribution</li> <li>- Password reset/unlock</li> <li>- Back up &amp; restoration</li> </ul>	<ul style="list-style-type: none"> <li>- P2P: Vendor master, Requisitions, PO creation &amp; management, Payment processing, Reporting, Invoicing</li> <li>- O2C: Quote management, Cash applications, Customer master, credit management</li> <li>- R2R: General / intercompany accounting, Bank reconciliations, Fixed assets, Close, Consolidations</li> <li>- Collections</li> </ul>	<ul style="list-style-type: none"> <li>- Customer inquiries</li> <li>- Order management</li> <li>- Customer account set up</li> <li>- Document processing</li> <li>- Duplicate system entry</li> </ul>

Opportunities to automate manual, repetitive tasks exist across all functions, end-to-end processes, business units of an organization



# IMPLEMENTATION

## OUR APPROACH TO AUTOMATION

### Implementation Methodology

UiPath

# UiPath operating model

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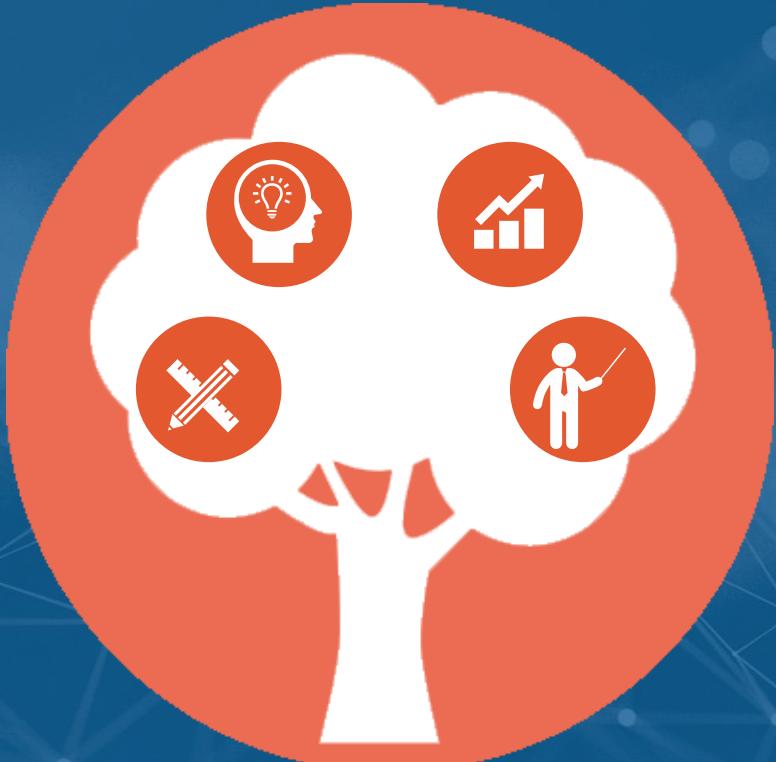


## ENABLE RPA CAPABILITY

Assist by enabling in-house RPA capability through design and training

## ENABLE RPA POC

Provide pre-sales support in deploying a Proof of Concept



## SUPPORT PILOT & RAMP UP RPA

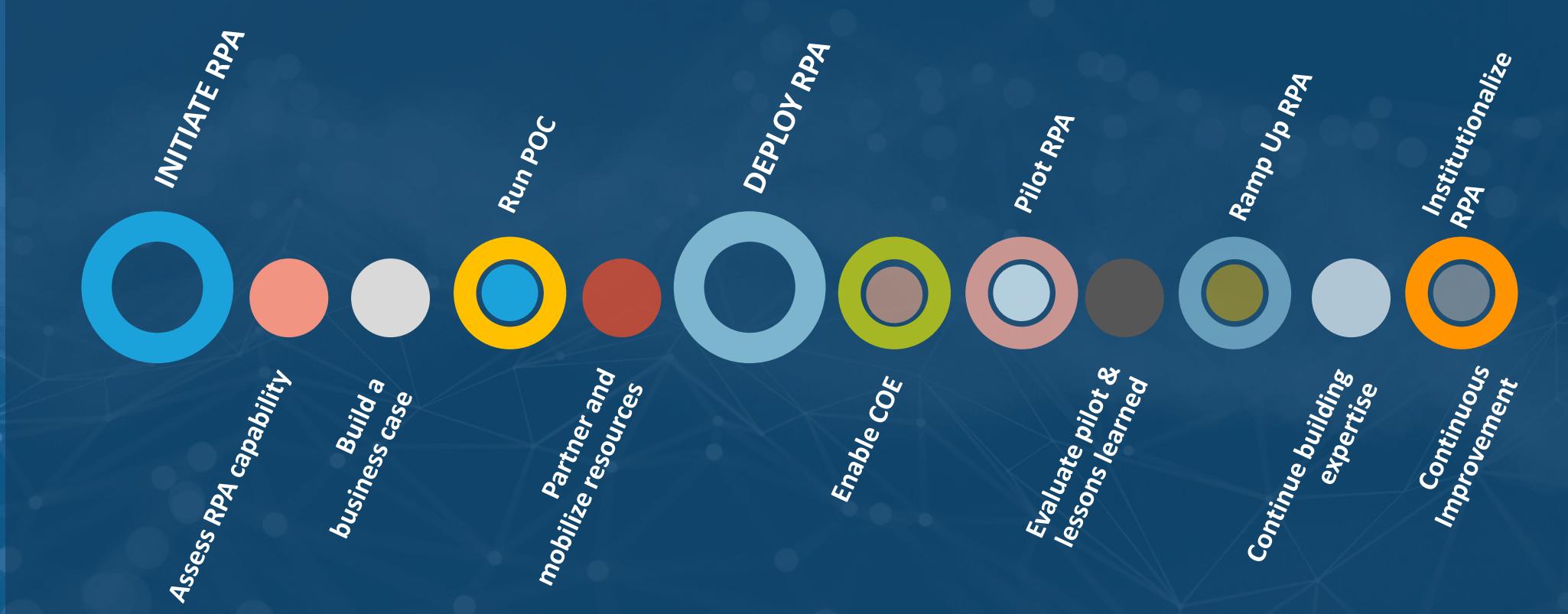
Assist in piloting and ramping up RPA within their organization.

## SUPPORT INSTITUTIONALIZED RPA

Provide continuous support to the COEs

# RPA journey roadmap

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**RPA IS NOT A PROJECT. ITS A JOURNEY!**

# Initiate RPA Journey

ASSESS RPA CAPABILITY	BUILD A BUSINESS CASE	DETERMINE OPERATING MODEL	RUN POC	PARTNER
<ul style="list-style-type: none"> <li>– Appoint an RPA Sponsor.</li> <li>– Engage Business Operations to document expected scope (high-level) and landscape for automation and to identify processes best fit for piloting automation.</li> <li>– Identify internal and external stakeholders who are expected to be impacted by automation.</li> <li>– Identify early risks and challenges for automation.</li> </ul>	<ul style="list-style-type: none"> <li>– Engage business operations in creating the RPA business case.</li> <li>– Engage IT in business case discussions.</li> <li>– Identify the Core Robotics Team.</li> <li>– Create an RPA Project Charter: What is RPA meant to solve, improve, alleviate? What are the benefits of RPA? How will RPA be deployed? What resources will be used? What is the impact of deploying RPA in the current organization?</li> <li>– Document risks and challenges for automation. Develop mitigation plans for each.</li> <li>– Identify and engage an RPA change management and communication team early on.</li> </ul>	<ul style="list-style-type: none"> <li>– Leverage the experience and lessons learned accumulated from large scale programs deployed in the company and determine the operating model best fit for your organization.</li> <li>– Determine the Core Robotics Team profile requirements and recruit.</li> <li>– Onboard IT.</li> <li>– Shape “Run” (monitor and control software robots) and “Build” (develop and train robots) operations. Following the “Delivery Team Handbook.”</li> <li>– Initiate RPA team onboarding.</li> <li>– Finalize stakeholder analysis and communication plans.</li> <li>– Implement governance.</li> </ul>	<ul style="list-style-type: none"> <li>– Source automation partners.</li> <li>– Shortlist partners best suited for your business needs.</li> <li>– Compare services offered and pricing models.</li> <li>– Determine selection method: Would a demo be sufficient or does a proof of concept (POC) need to be initiated?</li> <li>– Launch POCs with suppliers.</li> <li>– Evaluate, compare results and downselect an automation partner.</li> </ul>	<ul style="list-style-type: none"> <li>– Engage with the automation partner, agree on and build the roadmap for automation.</li> <li>– Determine RPA implementation approach: agree on the implementation stage, scope, deliverables, entry and exit criteria for each stage, ways of working, governance, stakeholder management approach, change and communication plan etc.</li> <li>– Finalize onboarding and training of remaining RPA team members.</li> <li>– Create a strategy for scalability.</li> <li>– Document a strategy for continuous improvement.</li> </ul>

# Deploy RPA



ENABLE COE	PILOT RPA	RAMP UP	INSTITUTIONALIZE
<ul style="list-style-type: none"> <li>- Initiate training for all core Robotics team roles.</li> <li>- For each trainee, identify personal RPA projects and ensure they are automated as part of the certification program.</li> <li>- Create a detailed job description for all roles and ensure all roles are included in all of the daily, weekly and monthly activities.</li> <li>- Determine, measure and monitor key performance indicators for the Robotics Operational teams.</li> <li>- Hold regular operational governance review calls including all relevant stakeholders: covered as part of the standard operating model.</li> </ul>	<ul style="list-style-type: none"> <li>- Agree with partner on processes in scope for pilot.</li> <li>- Create a detailed solution design document with "As Is" and "To Be" processes (including team charters, escalation matrix, governance models, etc.)</li> <li>- Document pilot requirements and constraints.</li> <li>- Define pilot exit success criteria.</li> <li>- Create cutover and handover plans.</li> <li>- Run agreed detailed test scripts and correct defects.</li> <li>- Hold go/no go readiness assessment meeting.</li> <li>- Monitor pilot performance.</li> <li>- Document lessons learned.</li> <li>- Define 30/60/90 days plan.</li> <li>- Prepare for ramp-up.</li> </ul>	<ul style="list-style-type: none"> <li>- Identify additional candidate processes to be automated across the organization.</li> <li>- Focus on optimizing management of the newly introduced virtual workforce.</li> <li>- Iterate the process of onboarding the new scope for automation.</li> <li>- Institutionalize an RPA governance board to manage the demand pipeline for automation, sustain and sponsor further RPA opportunities within the organization, showcase process automation successes to the broader organization, act as escalation point for emerging risks and issues etc.</li> <li>- Establish RPA best practices.</li> <li>- Continue growing the core Robotics team and focus on the continuous building of RPA expertise within the organization.</li> </ul>	<ul style="list-style-type: none"> <li>- Focus on achieving a fully balanced and efficient integration of both the human and virtual workforce within the organization to drive business growth.</li> <li>- Continue proclaiming RPA benefits through results from previous implementations and establish RPA as a core performance objective throughout all business lines.</li> <li>- Continuous improvement beyond deployment maximizes benefits: institutionalize a continuous improvement culture based on Lean Six Sigma methodology within the RPA function.</li> <li>- Implement disaster recovery and business continuity plans.</li> </ul>

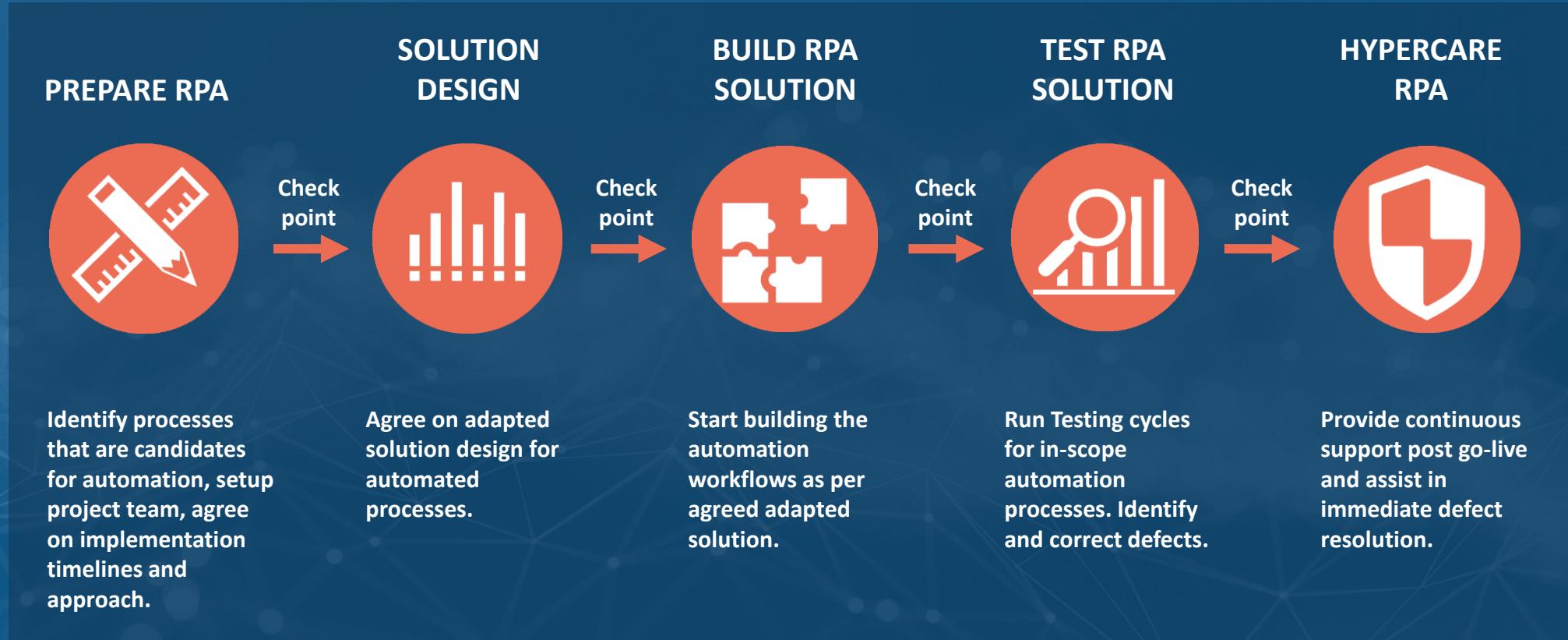


Although most organizations use an incremental approach to testing & applying RPA, a more **strategic** and **holistic** program would provide increased benefits.

# UiPath implementation methodology

## High-level overview

The Leading Enterprise RPA Platform



### WHAT DOES IT MEAN FOR OUR CUSTOMERS?

- Minimum disruption, expectations met.
- Complete transparency and control.
- Continuous Risk Mitigation at every Check Point (CP).
- Continuous support post project deployment.

### KEY PRINCIPLES OF OUR METHODOLOGY

- Being flexible in addressing customer requirements, i.e., a customized approach for every customer.
- Applying best practices and sharing experiences.
- Setting joint governance meetings and sign-offs.
- Mutually agreeing Check Point (CP) acceptance criteria.

# UiPath implementation methodology

## Deploy pilot RPA

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### PREPARE RPA

Check point



### SOLUTION DESIGN

Check point



### BUILD RPA SOLUTION

Check point



### TEST RPA SOLUTION

Check point



### HYPERCARE RPA



### STABILIZE

1-2 WEEKS

- Agree on the pilot process scope: identify processes best fit for automation.  
*[Optional: optimize processes prior to automation].*
- Document processes: create detailed process maps for processes to be piloted (with clear inputs, input requirements, output and output requirements for each step).
- Document pilot requirements and constraints.
- Define pilot entry and exit criteria.
- Prepare development and test environments.
- Communicate outputs to relevant stakeholders.
- Draft detailed handover plan to run team (robotics team operations)

1 WEEK

- Design detailed “to be” process maps.
- Create solution design document.
- Finalize the setup of the development environment.
- Define test scope: create test script scenarios.
- Build a detailed test plan. (Including test scope, testing approach and methodology, governance etc.)
- Perform stakeholder impact analysis.
- Communicate outputs to relevant stakeholders.
- Sign-off the solution design document.

2-3 WEEKS

- Develop workflows/train the robots.
- Amend and sign-off a detailed test plan.
- Finalize setup of test environment.
- Initiate cutover plan.
- Sign-off release note.
- Communicate outputs to relevant stakeholders.
- Create a draft disaster recovery plan.

2 WEEKS

- Initiate testing cycles:
- Run UAT and end-to-end testing (deployment of real life scenarios prior to go-live).
- Identify, report and correct defects.
- Document testing performance.
- Communicate outputs to relevant stakeholders.
- Sign-off testing phase.
- Complete cutover.
- Sign-off the disaster recovery plan.
- Sign-off the handover plan.
- Run a readiness assessment for pilot launch based on agreed pilot entry and exit criteria.

4 WEEKS

- Monitor pilot performance based on agreed exit criteria.
- Correct defects.
- Create 30, 60, & 90 day plans.
- Build a continuous improvement plan.
- Document lessons learned.

PILOT: ~6-10 weeks<sup>1</sup>

<sup>1)</sup> All above timelines are indicative, the duration depends highly on the complexity of the processes agreed to be in-scope for the POC, number of connectivity and security issues etc.

# Run implementations

## Deploy RPA – Ramp up and institutionalization

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### PREPARE RPA

- Agree on a high-level scope of work: agree on processes that are candidates for automation.
- Complete detailed “as is” documentation of the processes expected to be automated.
- Establish an RPA project team, governance & escalation model.
- Document project deployment dependencies and constraints.
- Document and agree on project entry and exit success criteria.
- Prepare development and test environments.
- Agree on high-level implementation plan and approach.
- Agree on the implementation of a charging model.
- Sign-off preparation of the RPA phase (CP1).

Check point



### SOLUTION DESIGN

- Design detailed “to be” process maps of the processes in scope for automation (key-stroke level)
- Create solution design document.
- Finalize set-up of development and test environments.
- Define test scope: create test script scenarios.
- Build a detailed test plan (including test scope, testing approach and methodology, governance etc.)
- Review plan and approach.
  - Review charging plan.
  - Document lessons learned.
- Launch voice of customer survey.
- Sign-off solution design phase (CP2).

Check point



### BUILD RPA SOLUTION

- Finalize development of workflows/train the robots.
  - Create release note.
  - Amend and sign-off detailed test plan.
  - Finalize set-up of test environment.
  - Initiate cutover plan.
  - Sign-off release note.
- Communicate outputs to relevant stakeholders.
- Review plan and approach.
  - Review charging plan.
  - Document lessons learned.
- Sign-off develop RPA phase (CP3).

Check point



### TEST RPA SOLUTION

- Initiate testing cycles:  
Run UAT and end-to-end testing (deployment of real-life scenarios prior to go-live).
- Identify, report and correct defects.  
Document testing performance.
- Communicate testing outputs to relevant stakeholders.
  - Complete cutover.
  - Sign-off handover plan.
- Run readiness assessment for project launch based on agreed project success criteria.
- Agree hypercare approach (support, timeline, exit success criteria)
  - Review plan and approach
    - Review charging plan.
  - Document lessons learned.
- Sign-off testing phase (CP4).

Check point



### HYPERCARE RPA

- Monitor project performance based on agreed hypercare exit success criteria.
- Correct post go-live defects.
- Document lessons learned.
- Launch voice of customer survey.
- Sign-off hypercare phase (CP5).



#### PREVENT

Embedded risk management methodology  
Clear hand offs and segregation of duties throughout project deployment  
UiPath support throughout the entire RPA journey

#### DETECT

Regular Checkpoint (CP) reviews  
Overall governance framework  
Voice of Customer surveys  
Clear escalation process

#### RESPOND

UiPath One Single Point of Contact for the entire RPA journey  
Scalable team based on customer needs  
Flexibility in addressing customer needs

# UiPath implementation methodology

## Deploy pilot RPA

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PREPARE RPA



SOLUTION DESIGN



BUILD RPA  
SOLUTION



TEST RPA  
SOLUTION



HYPERCARE  
RPA

Program manager

A

I

I

A

A

Project manager

R

R

I

I

I

IT Project manager

R

R

M

M

M

Process owner

M

A

R

A

A

Subject matter expert  
(SME)

R

M

R

M

M



Approver, sponsor or  
business leader whose  
approval is required.



Approver, sponsor or  
business leader whose  
approval is required.



Approver, sponsor or  
business leader whose  
approval is required.



Approver, sponsor or  
business leader whose  
approval is required.

# Implementation Phases

## Overview - I

The Leading Enterprise RPA Platform

	FEASIBILITY ASSESSMENT	ANALYSIS AND DESIGN	DEVELOPMENT	TEST	PRODUCTION
PHASE	Selection and assessment of the Org's business processes based on key RPA criteria, to determine process feasibility for automation. Identify and prioritize the processes in the pipeline based on the assessed scores and evaluate expected RPA benefits ( FTE, time efficiency, Compliance, Accuracy).	Deeper analysis of the selected processes for automation, to determine the TO Be solution, by assessing the AS IS (process before RPA) and the existing details. Calculation of the expected benefits.	Develop, test and release the production-ready processes, reliable and scalable. Create development process accompanying documentation.	Run business testing on the automated process to ensure the accurate behaviour of the robot. Test all the scenarios automated and identify any missed cases and expected action for each	Move, run and manage the automated processes into the production environment. Ensure sufficient KT to support and business teams about the robots and how to run them. Monitor, analyse, fix and improve the current automated processes. Measure benefits.
EXPECTED OUTCOME	Qualified pipeline of the automation processes.	Documented and approved process requirements (PDD) and solution design for the automated process build.	Production-ready automated process. Documentation for production and Knowledge Transfer to the RPA Support team for the automated processes.	Reliable automated process, tested and validated by the process owner to perform the process correctly based on the rules indicated.	Knowledge transfer to support team to monitor and manage the process, debug, escalate issues. Identify improvement requests for new releases.

# Implementation Phases

## Overview - II

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	FEASIBILITY ASSESSMENT	ANALYSIS AND DESIGN	DEVELOPMENT	TEST	PRODUCTION
PREREQUISITES	RPA Awareness sessions	<ul style="list-style-type: none"> <li>- Qualified and approved pipeline;</li> <li>- Feasibility Study File per process</li> </ul>	<ul style="list-style-type: none"> <li>- Signed off PDD &amp; Solution / Architecture Design</li> <li>- Development workstations &amp; Access to applications</li> <li>- Complete Infra setup (all environments)</li> </ul>	<ul style="list-style-type: none"> <li>- Test scripts/scenarios &amp; Test Data</li> <li>- Complete Setup of the Test environment</li> <li>- Tester availability to run tests and provide feedback</li> </ul>	<ul style="list-style-type: none"> <li>- Signoff from Business for UAT</li> <li>- Code review complete</li> <li>- Knowledge transfer to RPA support team</li> </ul>
STAGES	n/a	<ol style="list-style-type: none"> <li>1. Process Analysis</li> <li>2. Process Deep Dives</li> <li>3. Finalize TO BE Design</li> </ol>	<ol style="list-style-type: none"> <li>1. Development (including Code Review)</li> <li>2. SIT</li> </ol>	<ul style="list-style-type: none"> <li>- User Acceptance Testing (UAT)</li> </ul>	<ol style="list-style-type: none"> <li>1. MTP</li> <li>2. Warranty/Hypercare</li> <li>3. BAU &amp; CSI</li> </ol>
KEY DOCUMENTS	<p><a href="#">Feasibility study / Process assessment file</a></p> <p>Priority list of processes with classified impact (FTEs impact &amp; other anticipated benefits) and priority rank.</p>	<p>1. <a href="#">PDD</a> that includes:</p> <ul style="list-style-type: none"> <li>- AS IS process Map</li> <li>- List of all possible scenarios.</li> </ul> <p>Linear mapping of the process scenarios</p> <ul style="list-style-type: none"> <li>- Key stroke level screenshots</li> <li>- Selection of the scenarios that get automated</li> <li>- List of exceptions</li> <li>- Data for volumes and TAT KPIs</li> </ul> <p>2. Video recordings of the steps for each scenario (case by case)</p> <p>3. <a href="#">Process and robots architecture design (TSA)</a></p>	<p>1. Automated process documents:</p> <ul style="list-style-type: none"> <li>- <a href="#">Development Specifications Document(DSD)</a></li> <li>- <a href="#">Migration to Production (MTP checklist)</a></li> <li>- <a href="#">RPA Business Operations Handover Manual</a></li> <li>- List of scenarios that could not get automated along with RCA (PM)</li> </ul> <p>2. Program documents:</p> <ul style="list-style-type: none"> <li>- <a href="#">Change Management Framework</a></li> <li>- <a href="#">Testing approach</a></li> <li>- <a href="#">RPA Production Support model</a></li> </ul>	<ul style="list-style-type: none"> <li>- <a href="#">Test Scripts/ Scenarios</a></li> <li>- <a href="#">Centralized UAT results</a></li> <li>- <a href="#">Issue Tracker/ Defects log</a></li> <li>- Test approach (finalized prior to test start)</li> </ul>	<ol style="list-style-type: none"> <li>1. Agreed Dashboards &amp; Reports</li> <li>2. <a href="#">Benefits measurement list</a> (FTEs, TAT,AET, Accuracy%)</li> </ol>
REQUIRED SIGNOFFS	<p>MANDATORY: Project Manager, Business Analyst, Business Unit Leader/Process owner.</p> <p>OPTIONAL: Project Sponsor, Quality, Process Design,</p>	<p>MANDATORY: Process Owner, Developer, RPA Technical Solution Architect, IT owner, Business Analyst,</p> <p>OPTIONAL: Process Compliance &amp; Process Design team (if applicable)</p>	<p>MANDATORY:</p> <p>Process Owner UAT Signoff</p>	<ul style="list-style-type: none"> <li>- Process Owner UAT Signoff</li> <li>- Support team signoff for KT</li> </ul>	<p>Process Owner signoff for exiting the warranty period</p>

# Deliverables and ownership by phase



## PREPARE RPA

Processes list for automation
Process Owner
Lean Review & Base lining
Business Analyst
Pipeline Prioritization
Process Owner
Prepare Test Data and environment
Process Owner

Prioritized pipeline finalized business benefits
--



## SOLUTION DESIGN

PDD Creation and signoff*
Business Analyst+
High Level timeline
RPA Developer
Create Test Scripts
Business Analyst+
Security/Infra review
IT

Automation requirements
-------------------------



## BUILD RPA SOLUTION

Automate process
RPA Developer
Create DSD
RPA Developer
Technical Testing
RPA Developer
Maintain Reusable components library
RPA Developer + TSA

Automated processes



## TEST RPA SOLUTION

Perform UAT
Process Owner
Bug fixing
RPA Developer
Record Test results
Business Analyst
Signoff for Production
Process Owner
Communicate Change
Process Owner/PM

Release in production



## HYPERCARE RPA

Production monitoring
RPA Support
Create Case Studies
Business Analyst
Lessons Learned
COE+

Monitor and improve



## STABILIZE

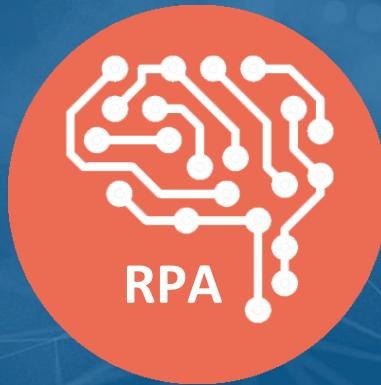
Performance assessment
Business Analyst
Benefits tracking
Process Owner
Change Management
COE+

Deliverable name
Owner

# Key features of a successful RPA implementation

The Leading Enterprise RPA Platform

UiPath



## CULTURAL ADOPTION

A culture of business innovation and technology accelerates adoption.

Key components for a rapid and successful RPA adoption are:

- An active executive-level RPA sponsor
- A strong & operationally efficient Robotics Operating Model
- Change Management teams

## IT ENGAGEMENT

- On-board the IT function early-on in the RPA journey to build strong governance.

- Meet the IT departments' requirements for security, scalability, auditability, business recovery and change management, thus ensuring their buy-in

## IN HOUSE RPA CAPABILITY

- RPA is not viewed as a tactical weapon, but as a strategic capability.
- Build internal RPA capability to evolve, leverage scale and increase business value.

# Key success factors for an effective RPA deployment

The Leading Enterprise RPA Platform



UiPath

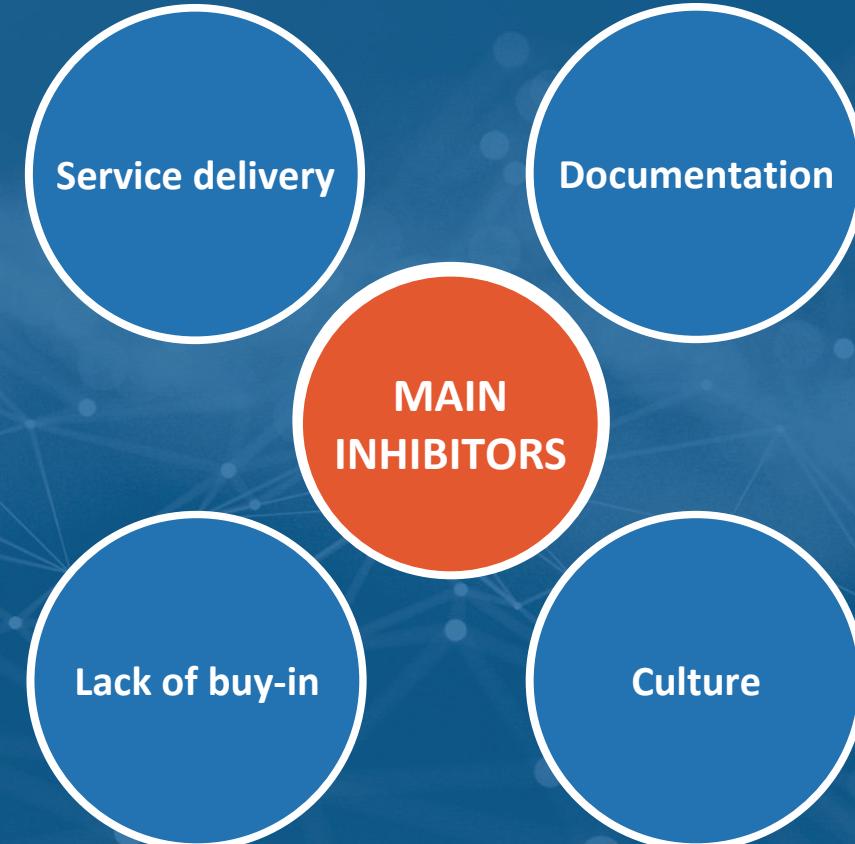
- The RPA journey starts with Lean Process Optimization
- Business Ownership of the solution including prioritization
- CoE guidelines for the assessment, design, development, and deployment of the robots.
- Central RPA Command Center for proactive monitoring.
- Dedicated regional RPA project execution and maintenance team.
- Shared and re-usable asset library
- Alignment of RPA deployment architecture across the regions and BUs.

# Main inhibitors of RPA Implementation

The Leading Enterprise RPA Platform



- Weak service delivery without performance management.
- Legacy delivery models and current service provider's resistance to change.



- Lack of support, and buy-in by stakeholders.
- Lack of automation technology knowledge.
- Automation perceived as de-personalizing the services.

- Not standardized & highly manual processes.
- Inadequate documentation regarding the handling of exceptions.

- Employee sensitivity and cultural specifics, such as resistance to change.
- Fear amongst employees that robots may eliminate the human workforce.

# Key Lessons Learned

The Leading Enterprise RPA Platform

## NEVER AUTOMATE A BROKEN PROCESS

Ensure the process is stable and mature before automation is applied.

## RPA SHOULD ALWAYS SIT IN THE BUSINESS

- RPA should be considered as an operational asset – always ran by Business stakeholders with support from IT, subject matter experts and process efficiency experts.
- Grow in house RPA capability by building Centre of Excellence made of a mixture of Operations and IT people.

## RPA IS NOT A PROJECT. RPA IS A JOURNEY

- Plan to build a sky scrapper not a bungalow.
- Build internal RPA capability to evolve, leverage scale and increase business value
  - Multi-skill the robots
- Don't be tempted of quick wins by deploying RPA in siloed units – fragmented and difficult to scale – always start as an Enterprise rollout.



## THE SUCCESS OF RPA DEPENDS OF AN INSTITUTIONALIZED SPONSOR

RPA needs an institutionalized Robotic Team led by a Sponsor - who initiates the idea of automation, underwrites resources and protects progress into business adoption and by an RPA Champion the RPA Evangelist in charge of the RPA successful deployment within the organization.

## BRING IT ONBOARD EARLY

- Bring on IT onboard early. RPA deployment has an impact on Infra, Security, Business Continuity and Disaster Recovery.
- Make sure your infrastructure grows together same pace with automation
- RPA must comply with the technology function's governance and architecture policies.

## COMMUNICATE, COMMUNICATE, COMMUNICATE!

- Pay careful attention to internal communications
- Engage a dedicated team of Change and Communication, in charge of raising awareness in the business of the benefits of automation and always keep the relevant stakeholders up to speed with the progress of the automation journey.

# Risks and mitigation during an RPA implementation

The Leading Enterprise RPA Platform



## RISKS

- Lack of internal sponsorship for RPA deployment.
- Lack of an active RPA deployment team dynamically engaged with all RPA stakeholders.
- Improper selection of automation opportunities.
- Inefficient and ineffective data collection.
- Weak setup of RPA service delivery.
- Technology limitations and data restrictions.
- Compliance risks.
- Ineffective communication plans and change management program.



## MITIGATION

- Active & committed executive RPA sponsorship.
- Effective program management and escalation.
- Robust opportunity identification and process selection methodology.
- Efficient, exhaustive and comprehensive data collection plans.
- Clear roles, responsibilities & SLAs for operating team.
- Technology due diligence and early IT onboarding.
- Business continuity planning.
- Mature, dynamic and engaged change management program and communication plan.

Implementation risks should be effectively managed during the due diligence of RPA opportunities and through the solution identification process as part of the overall risk management pillar of the RPA program deployment.



# IMPLEMENTATION

## CHANGE MANAGEMENT

RPA Change Management



# Mutidimensional Change facets of RPA



## 1. ORGANIZATIONAL

- Manage business reaction to a disruptive technology
- Champion and Sponsor advocacy for RPA
- Ensure buy-in from business and other functions
- RPA awareness sessions for correct understanding of the technology and its impact



## 2. OPERATING MODEL

- Identify and communicate new ways of operating (automated processes)
- Identify areas for change/ improvements opportunities to be run prior and post automation and the create action plan for each (Prep RPA).
- Change manager sends out communications to keep all stakeholders informed on the new operating model.



## 3. PROCESS

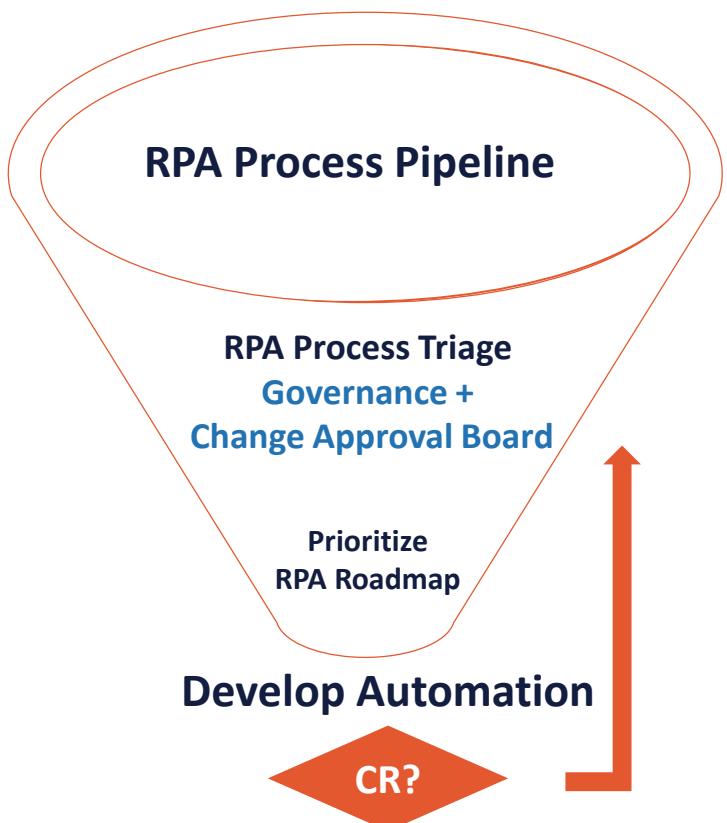
- Change Requests during development or testing, go through Change Approval Board to assess, prioritize and plan action
- Track changes, measure benefits in production
- Continuous Service Improvement follows normal automation flow to increase delivered benefits

# Change Approval Board

The RPA Change Management's objectives at project and process level are:

1. Supporting the processing of changes
2. Enabling traceability of changes
3. Determine impact and priority of implementing the change during the project phase.

For the RPA Change Management process, the Change Approval Board has an essential role in managing the change requests and business stakeholders' objectives.



## CHANGE APPROVAL BOARD (CAB)

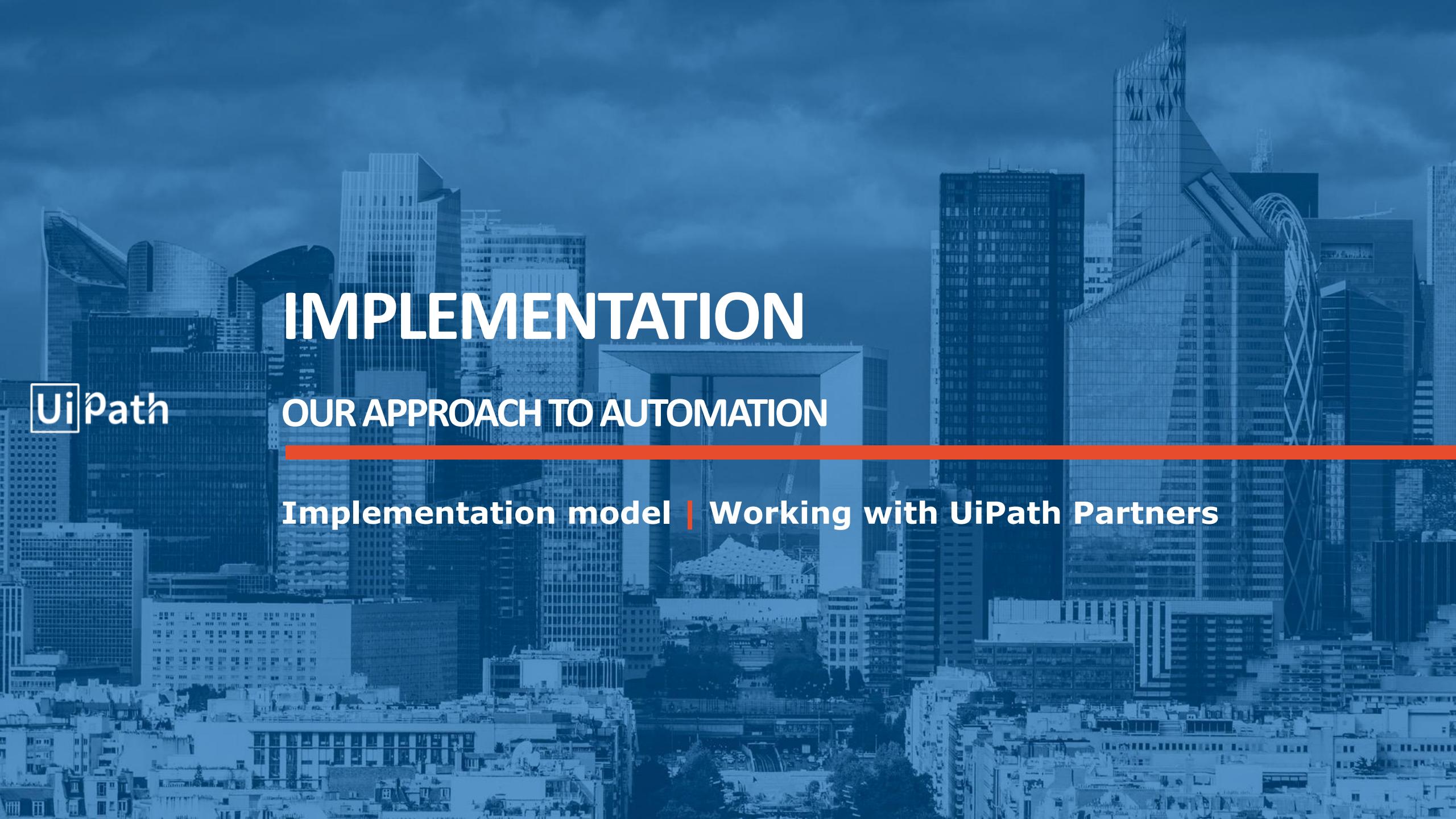
Meeting occurrences depends on the number and frequency of change requests.

Change request for processes in Development, Test and HyperCare are assessed and prioritized by CAB.

CAB assesses the Change Request's impact on the automation schedule, priorities planning, business process, RPA design.

Business Owner/ Operations will need to follow through the solution adopted by CAB.

CAB Membership: PMs, IT, Sol Arch, Support, BA, with participation of process owners or SME.



# IMPLEMENTATION

## OUR APPROACH TO AUTOMATION

Implementation model | Working with UiPath Partners



# A typical 3 step approach for the RPA Journey

The Leading Enterprise RPA Platform

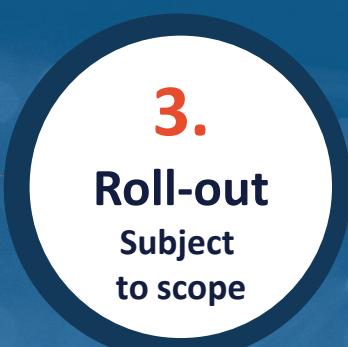
Together with our partners in BPO and RPA integration, we have developed a three-phase approach to support our customers in institutionalizing RPA within their organization.



**Proof of Concept:** A quick 30 day PoC on a selected process to validate the applicability of RPA/ IPA.



Piloting of additional processes with a parallel set-up of governance & roll-out planning.



Roll-out of the Robotics Factory for all relevant business processes and handover to the customer.

**PARTNERS**  
BPO/RPA  
Integrators

**RESPONSIBLE FOR:**  
- Business perspective  
- Project management support  
- COE enablement



**RESPONSIBLE FOR:**  
- Providing licenses  
- PoC implementation  
- L2 & 3 technical support & maintenance  
- Enablement of COE (Custom Expert trainings)

# Tripartite governance model

The Leading Enterprise RPA Platform

	1. PoC 3-6 weeks	2. Pilot 6-10 weeks	3. Roll-out RF <sup>1</sup> TBD
<b>STRATEGY AND GOVERNANCE</b>	<ul style="list-style-type: none"> <li>- Strategy for RPA</li> <li>- Design of high-level target picture for Robotics Factory</li> <li>- Develop governance and organization</li> <li>- Delivery model</li> </ul> 	<ul style="list-style-type: none"> <li>- Set-up internal governance: roles &amp; responsibilities</li> <li>- Business case and KPI definition for tracking business cases</li> </ul> 	<ul style="list-style-type: none"> <li>- (Ongoing) communication to top management level as well as to operational levels</li> <li>- (Ongoing) risk, issue and quality management</li> <li>- Establish demand management</li> <li>- Standardise identification process and establish review processes</li> </ul> 
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Driven by UI Path Partner



Driven by UiPath

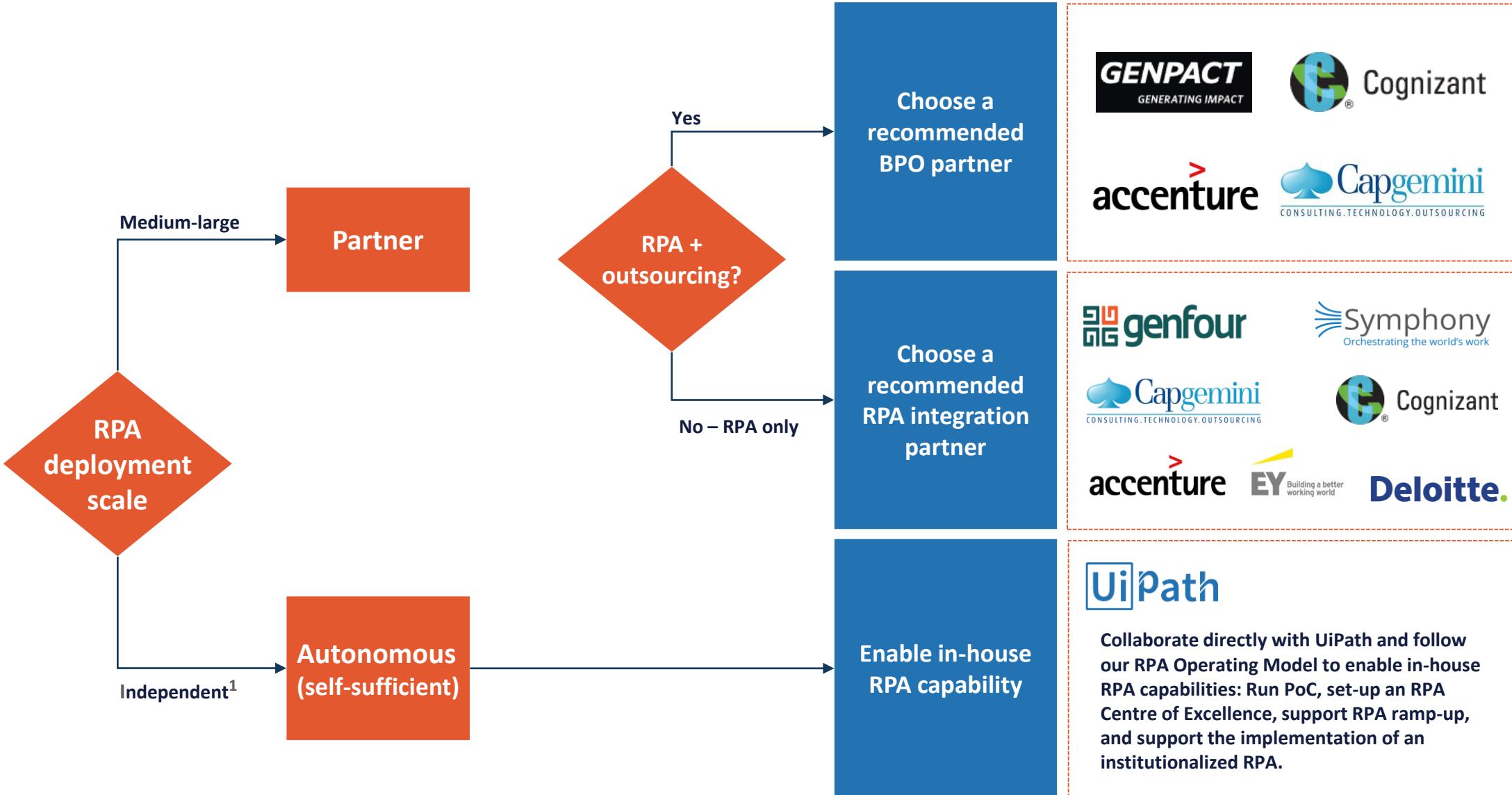


Driven by customer

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# RPA deployment options

The Leading Enterprise RPA Platform



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# Benefits of working with an RPA integrator

## Added value

GLOBAL FOOTPRINT	CONSULTANCY KNOWLEDGE	IMPLEMENTATION FRAMEWORK/PM	TECHNICAL KNOWLEDGE
<ul style="list-style-type: none"> <li>– Presence across <b>multiple geographies</b> contributes to building experience and know-how across business units and cultures.</li> <li>– The integrator can provide a “short-cut” to RPA knowledge and information that does not exist within client’s organization.</li> </ul>	<ul style="list-style-type: none"> <li>– Strategic services: experience in planning &amp; deploying RPA implementation and operating model.</li> <li>– Enables <b>faster project delivery</b>.</li> <li>Helps accelerate the learning process in building the client’s own internal capability, resources can be accessed for a specific amount of time.</li> <li>– Get from 0 to production faster using the right approach process discovery, architecture, design, build, testing, &amp; production managed by experienced resources.</li> <li>– Focus on the <b>transformation roadmap</b> and <b>business benefits</b>. Keeps your organization on the right path, mitigating risks &amp; challenges with better agility using lessons learned from multiple implementations.</li> </ul>	<ul style="list-style-type: none"> <li>– Benefit from a RPA <b>deployment framework</b> tested and constantly updated with lessons learned from multiple client implementations.</li> <li>– Facilitate, create and implement methodologies and systems that enhance efficiency and organization.</li> <li>– <b>Project management</b>. Experienced Digital PM knowledge manages all parties for a seamless implementation, avoids risks and common pitfalls.</li> <li>– <b>Governance</b> - help to set-up the RPA CoE and governance model. Ensure the right skill-set, processes and procedures are in place. Drive to steady state and handover to client’s management.</li> </ul>	<ul style="list-style-type: none"> <li>– Product: <b>access to resources</b> with experience in RPA development. Fast, accurate &amp; more importantly, easy to manage solutions due to high development standards and experience with <b>high complexity</b>.</li> <li>– <b>MIX OF ROLES</b>. Combine business process knowledge and RPA development skills.</li> <li>– Internal resources can be up-skilled in parallel.</li> </ul>

# Implementation scenarios

The Leading Enterprise RPA Platform



## DESCRIPTION

## ADVANTAGE

### TOOL-FOCUSSED RPA IMPLEMENTATION

The client buys just a license for an RPA tool. The provider can operate as technical support but the rest of the implementation is led by the client.

Implementation is conducted with light external support.

### ASSISTED RPA IMPLEMENTATION

A management consultancy partners with a software provider to be able to deliver a smooth RPA implementation and transition from both the business and the IT side.

Organizational transition and knowledge transfer is ensured. Success of the first implementation phase is secured during the project mode.

### RPA AS A SERVICE

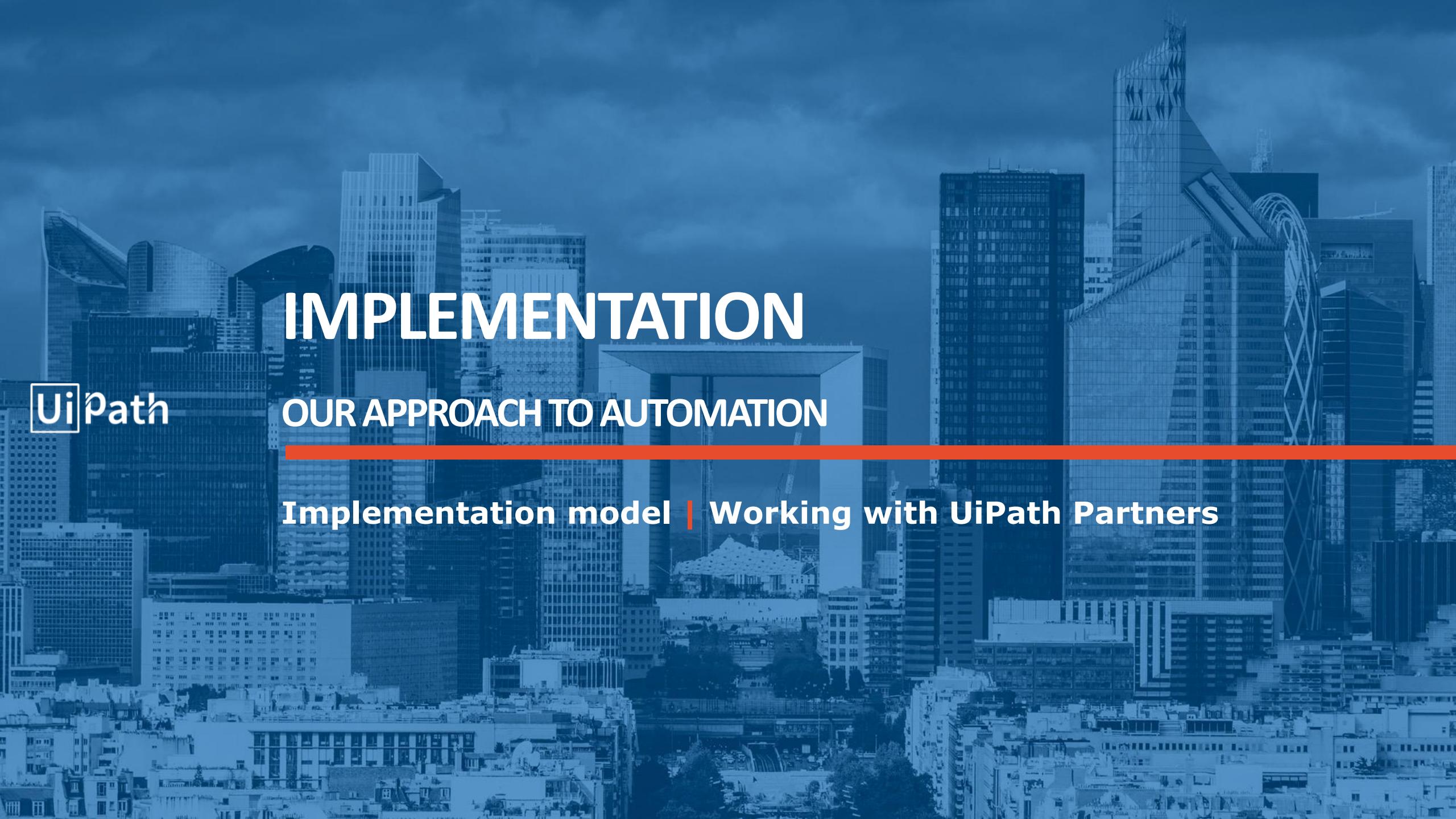
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# THANK YOU!



# IMPLEMENTATION

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Implementation model | Working with UiPath Partners



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The Leading Enterprise RPA Platform

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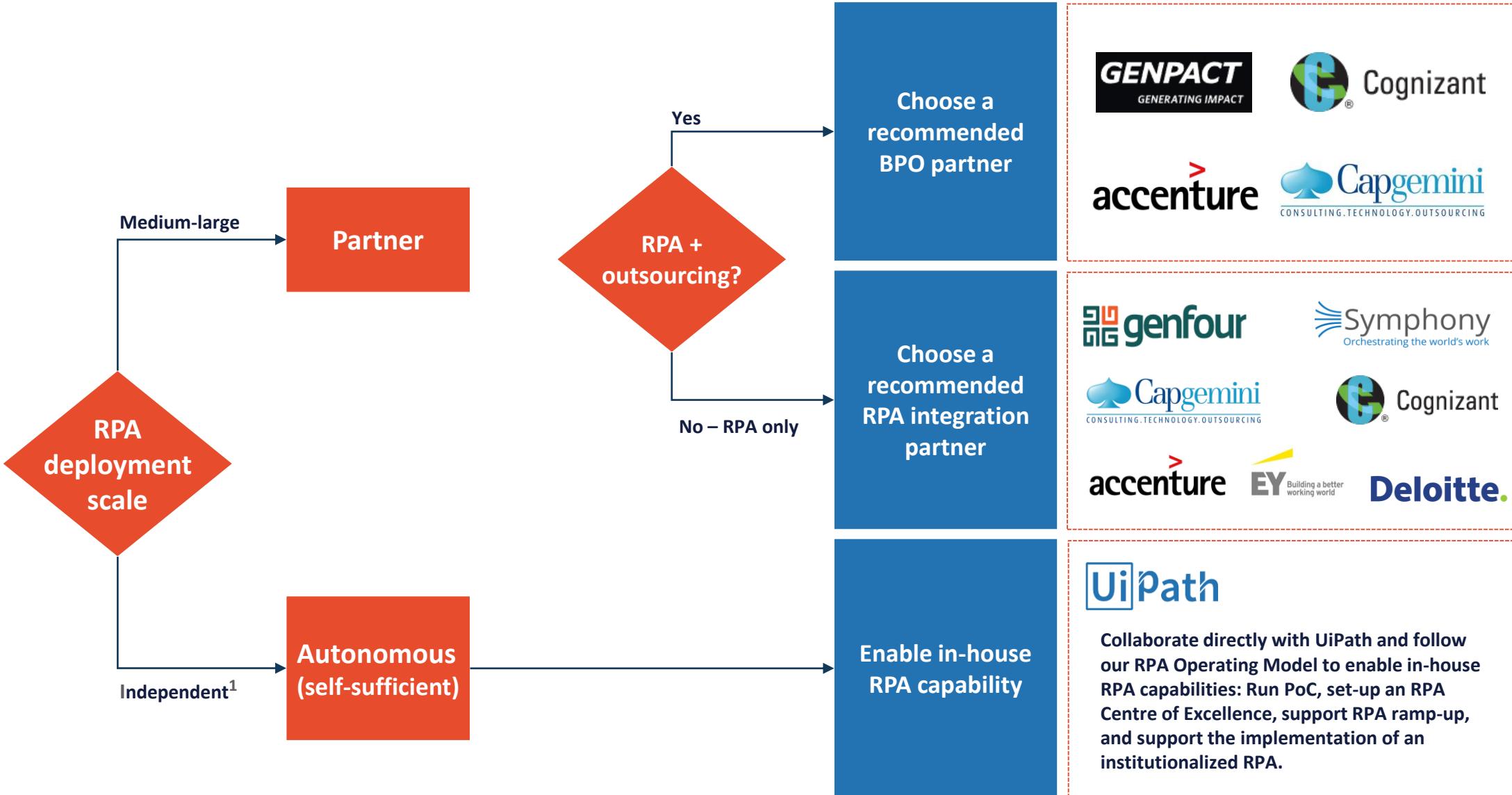


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# What do our customers need and how can our partners assist?

## What do customers need?

### CUSTOMERS WHO ARE PLANNING TO EMBARK ON THE RPA JOURNEY

- Education on RPA, benefits, and journey
- Assistance with POCs / pilots
- Enterprise scaling (see below)

### CUSTOMERS WHO NEED HELP SCALING UP AT THE ENTERPRISE LEVEL

- Definition of RPA strategy and roles of digital workforce
- Process scan, detailed process analysis, business case and RPA roadmap
- Center of Excellence design (centralized, decentralized, federated, or hybrid)
- Design of governance model with cross-functional collaboration from Business, IT, Security, HR
- Design of process intake and service delivery
- Automation development lifecycle definition
- RPA training and robot development
- Development of change management strategy and plan
- Implementation of COE

### CUSTOMERS WHO DID NOT ACHIEVE INITIAL RPA BENEFITS

- Assistance restarting the RPA initiative

## How partners can help

- Build scalable RPA solutions for clients
- Leverage their industry expertise to identify opportunity for automation
- Leverage their functional and cross-functional experience to identify automation opportunities
- Train their technical resources to assist customers with POCs, pilots, enterprise RPA development needs
- Take advantage of their experience with technology and operating model design to help clients with the design and implementation of Centers of Excellence
- Collaborate with functional and industry leaders within their organization to prove a fully end-to-end process view and enterprise transformation
- Assist clients with change and talent management throughout the journey
- Work with RPA vendors to get enabled on the RPA journey and technology

# UiPath will support customers through the partner lifecycle

The Leading Enterprise RPA Platform



## 1. RESEARCH

- Understand partner and customer needs
  - Develop leading RPA solutions
  - Provide information, free training and product trials on website
  - Organize partner / customer events

## 7. RENEW

- Review partner contracts and renegotiate if needed

## 6. DELIVER AND GROW

- Provide level 3 support
- Enable support through UiPath community forum
- Track partner performance and identify ways to continue enablement
  - Conduct partner reviews

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  - Provide information, free training and product trials on website
  - Organize partner / customer events

## 2. APPLY AND QUALIFY

- Conduct meetings with prospect partners
- Identify type of partnership(s)
- Provide application via partner portal
- Evaluate partner based on specific criteria

## 3. PARTNER

- Provide partnership contract template(s)
- Review and negotiate contract(s) with partner
- Sign partner contract(s)

## 4. LAUNCH PROGRAM

- Develop partner specific plan
- Provide self-learning training through Academy
- Provide additional training

## 5. SCALE UP

- Assist with COE, infrastructure, and level 1 and 2 support setup
- Provide implementation support for first 2 projects
- Share leading practices and provide new releases training
- Provide opportunity tracking and self-service through partner portal

# Our partner landscape includes 5 partner types and a company can assume the role of one or more partner types



## SERVICE PARTNERS

Offer consulting, RPA development and operational services



## RESELLER PARTNERS

Resell UiPath service only



## TECHNOLOGY PARTNERS

Offer software products that be used as add on or integration with UiPath products



## TRAINING PARTNERS

Offer RPA related training for UiPath products or feature official UiPath product certifications



## RESOURCE PARTNERS

Offer recruitment services for RPA talent

## PARTNER TIERS

Diamond Partner

Gold Partner

Silver Partner

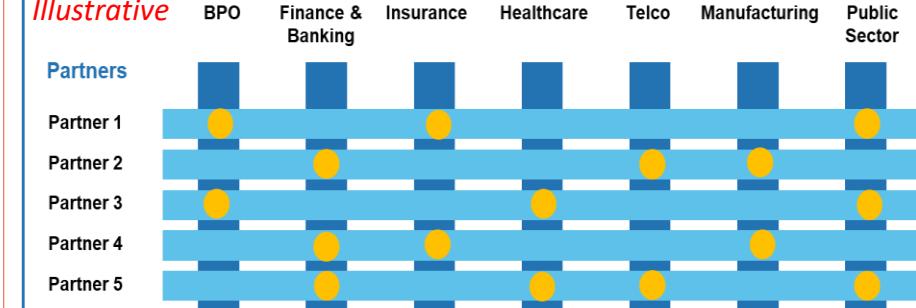
## PARTNER AGREEMENTS

Reseller Agreement

Partnering Agreement

## PARTNER PLAN WITH INDUSTRY AND MARKETING FOCUS

*Illustrative*



Conferences

Roundtables & Workshops

Webinars & Social Media

Thought Leadership

# MORE details

The Leading Enterprise RPA Platform

**More details about the Partner Strategy are available on the G drive in the  
UiPath Partner Program deck:**

[https://docs.google.com/presentation/d/1R5qsjlbR8FBX5xgcbeSvp\\_mcU6mi9MevDNdO\\_8Zugyk/edit#slide=id.p3](https://docs.google.com/presentation/d/1R5qsjlbR8FBX5xgcbeSvp_mcU6mi9MevDNdO_8Zugyk/edit#slide=id.p3)





# THANK YOU!



# AUTOMATION HANDBOOK

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ENABLING COE:  
COE ROLES

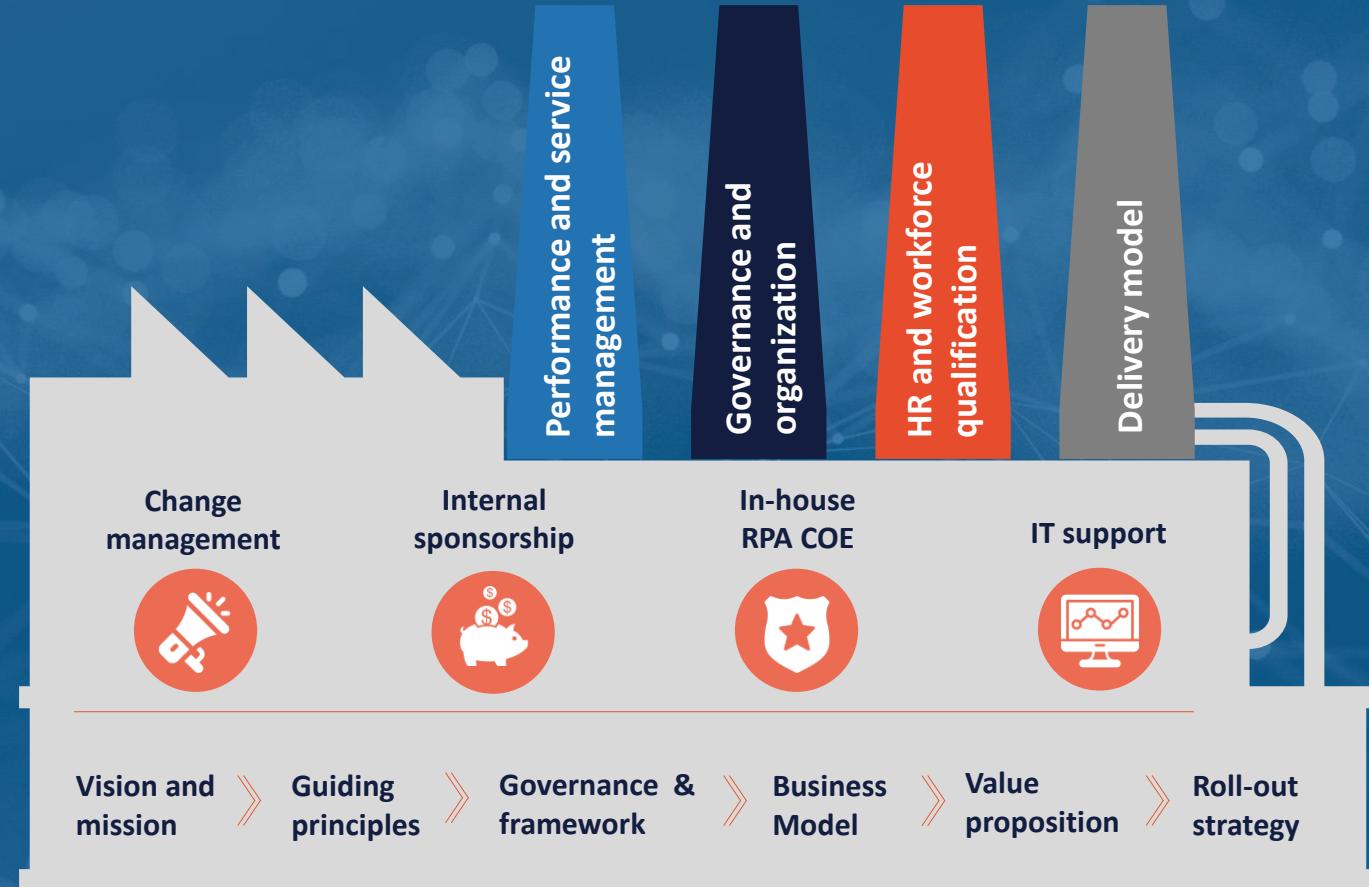
# ENABLE COE

RPA COE

Roles & COE Types



# Robotic operating team framework



## PERFORMANCE AND SERVICE MANAGEMENT

- Project progress and project success monitoring
- Use cases and activities tracking

## GOVERNANCE AND ORGANIZATION

- Roles and responsibilities
- Organization, governance and escalation model
- Framework policy (Mandate)

## HR AND WORKFORCE QUALIFICATION

- Workforce and recruiting strategy
- Role demand profiles
- Internal knowledge transfer

## DELIVERY MODEL

- Delivery guidelines
- Global centralized CoE vs. de-centralized model with experts in major hubs

# Enable RPA Centre of Excellence (COE)

The Leading Enterprise RPA Platform



## 1. GENERAL

- Centralized knowledge management
- Standardization of policies and procedures
- Centralized vendor relationship management and support
- Governance



## 2. FUNCTIONAL

- Specific RPA application functional knowledge
- Automation process expertise
- Support and coordination of RPA related metrics and scorecards



## 3. TECHNICAL

- Connectivity and infrastructure
- Robot configuration
- Robot maintenance & support
- Database maintenance and support
- Help desk support
- RPA technical support



## 4. PEOPLE

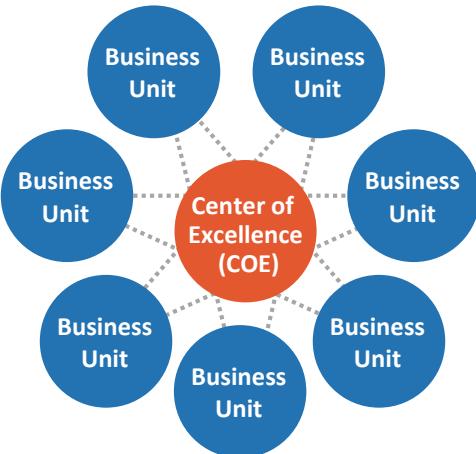
- Training and development
- Communication
- Change management

Creating a formal CoE is an important step towards ensuring an organization that strategically leverages its RPA potential

# RPA COE types

## CENTRALIZED

One RPA COE serving all Business Units.



### ADVANTAGES:

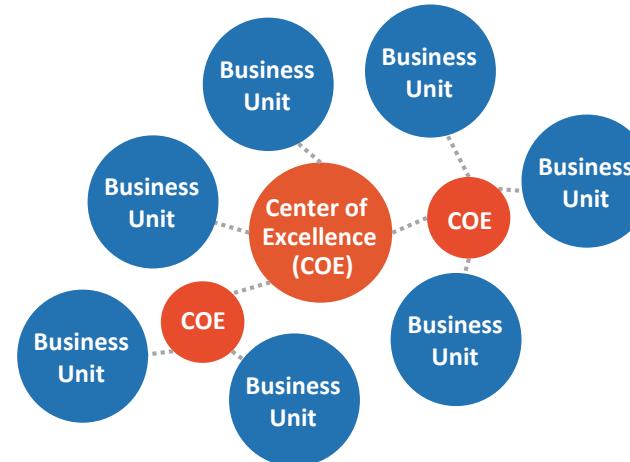
- Unified and centralized RPA IT support for all BUs
- Expertise, lessons learnt & best practices easier to disseminate
- Standardized RPA process

### DISADVANTAGES:

- Automation prioritization challenges
- Relies on distant communication

## HYBRID

One main RPA COE, linked to several smaller RPA COEs dedicated to business units



### ADVANTAGES:

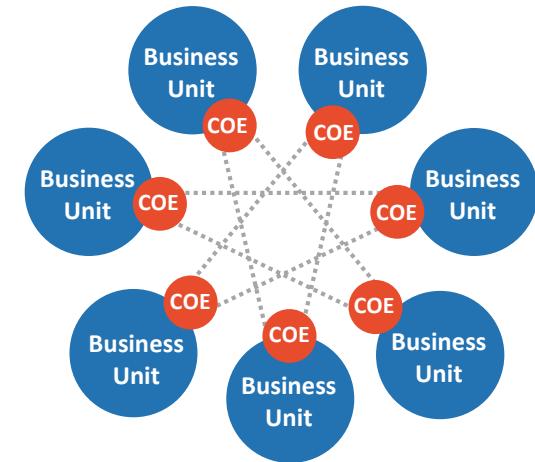
- The main COE handles the most complex projects while the smaller COEs cover the rest
- Decreased risk of prioritization challenges due to smaller and dedicated RPA COEs
- Higher process knowledge specific to business units concentrated in the smaller RPA COEs

### DISADVANTAGES:

- Discrepancy in know-how between main & smaller RPA COEs
- Potential incoherence in process methodologies

## FEDERATED

Independent RPA COEs within each business unit.



### ADVANTAGES:

- Each business unit drives and is fully in control of automation projects and their prioritization
- All RPA COEs are close to each business unit

### DISADVANTAGES:

- Regular exchange of best practice across different business units must be enforced
- High risk of incoherence in process methodologies
- Incoherent technical solutions may be applied
- Certain RPA roles will be duplicated

There are various models for COEs ranging from a centralized delivery model, to a model where the COE empowers other business units to build their own COEs within a framework set out by a central COE, or totally independent of each other.

# Building a robotic operating team

## SKILLS REQUIRED

- Business process reengineering
- Business change
- Operational skills
- Lean development
- IT development



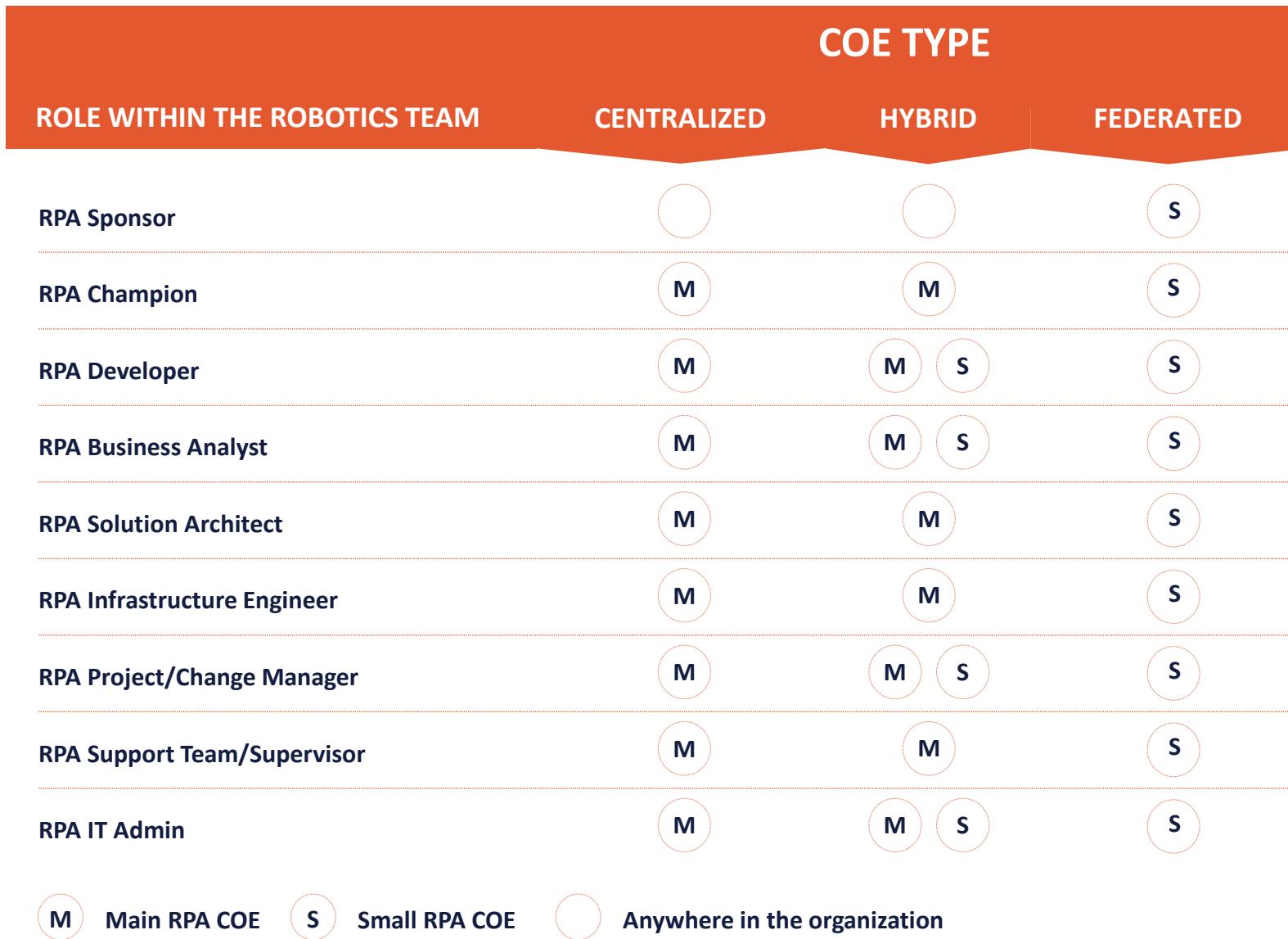
<span style="color: orange;">★</span> SPONSOR	Initiates the idea of automation, secures resources and protects progress.
<span style="color: orange;">★</span> CHAMPION	Instills the RPA vision and mission within the organization, head of operational management of the virtual workforce.
O INFRASTRUCTURE T ENGINEER	In charge of server installations and troubleshooting.
T SOLUTION ARCHITECT	In charge of defining the Architecture of the RPA solution. Guardian of the end to end performance of the agreed solution.
O T DEVELOPER	In charge of designing, developing, and testing the automation artifacts.
T PROJECT MANAGER	Forms the RPA team to build the setup and deliver the program across business units. Manages the RPA team and the business stakeholders to achieve the expected results.
T CHANGE MANAGER	In charge of creating a change and communication plan, which is aligned to the project deliverables, in order to ease RPA adoption within the company.
T BUSINESS ANALYST	Process Subject Matter experts located in Business Operations and is in charge of creating the process definitions and process maps used for automation.
O SUPERVISOR	Administers, orchestrates and controls the virtual workforce in the operational environment; is focused on continuously improving the robots' operational performance
O SERVICE SUPPORT	First-line support for the RPA solution deployed.

O RPA Operations

T RPA Transitions Team

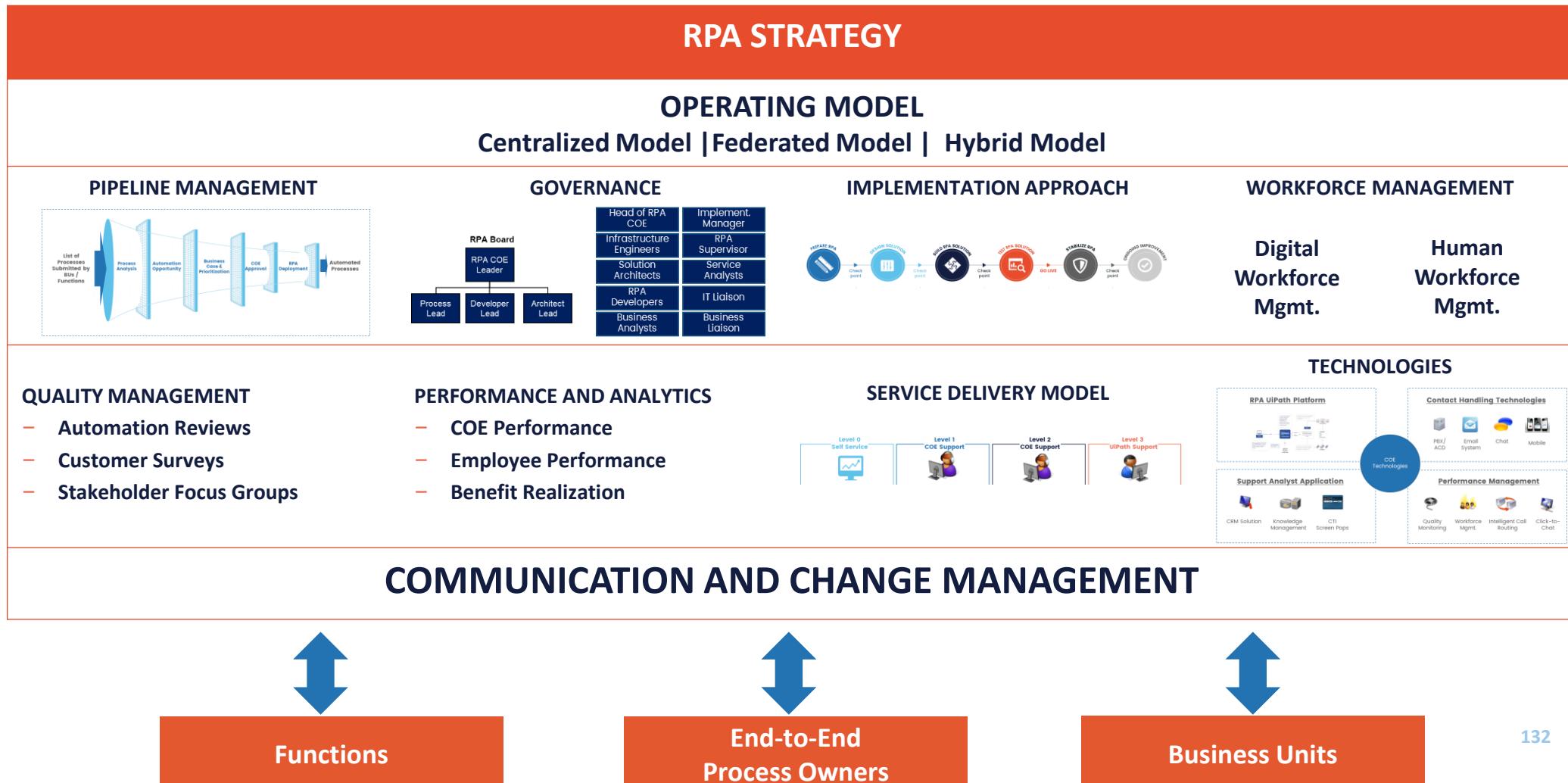
The Robotics Operating Team or Centre of RPA Excellence is fundamentally a cross-functional team with the clear objective of deploying the RPA automation on a global scale as quickly, as efficiently, and as safely as possible.

# Key RPA role distribution by RPA COE type



Focus on efficient and regular communication between the different RPA COEs to ensure sharing of best practices, deliverables, approach, and lessons learnt

# The framework outlines the key components for setting up a COE





# ALTERNATIVES

# Robotic Operating Team Framework

The Leading Enterprise RPA Platform

The strategy & governance model for the Robotics factory should be defined at an early stage to ensure quick run-up after the pilot phase



## PERFORMANCE AND SERVICE MANAGEMENT

- Project progress and project success monitoring
- Use cases and activities tracking

## GOVERNANCE AND ORGANIZATION

- Roles and responsibilities
- Organization, governance and escalation model
- Framework policy (Mandate)

## CHANGE AND COMMUNICATION



## HR AND WORKFORCE QUALIFICATION

- Workforce and recruiting strategy
- Role demand profiles
- Internal knowledge transfer

## DELIVERY MODEL

- Delivery guidelines
- Global centralized CoE vs. decentralized model with experts in major hubs

## INTERNAL SPONSORSHIP

## IN-HOUSE RPA COE

## IT SUPPORT

Vision and mission

Guiding principles

Governance and Framework

Business Model

Value proposition

Roll-out strategy

# Building a robotic operating team



## RPA SPONSOR

- Initiates the idea of automation, underwrites resources and protects progress into business adoption.

## RPA PROJECT MANAGER

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



## RPA INFRASTRUCTURE ENGINEER

- In charge of server installations and troubleshooting.



## RPA SOLUTION ARCHITECT

- In charge of defining the Architecture of the RPA solution. Guardian of the end to end performance of the agreed solution.



## RPA DEVELOPER

- In charge of designing, developing, and testing the automation artifacts.



## RPA SERVICE SUPPORT

- First-line support for the RPA solution deployed.



## RPA CHAMPION

- Instills the RPA vision and mission within the organization.
- Acts as an internal evangelist for RPA.
- In charge of ensuring a healthy automation pipeline.
- Head of operational management of the virtual workforce.



## RPA CHANGE MANAGER

- In charge of creating a change and communication plan, which is aligned to the project deliverables, in order to ease RPA adoption within the company.



## RPA BUSINESS ANALYST

- Process Subject Matter experts located in Business Operations.
- In charge of creating the process definitions and process maps used for automation.



## RPA SUPERVISOR

- Administers, orchestrates and controls the virtual workforce in the operational environment.
- Focused on continuously improving the robots' operational performance.



BUSINESS PROCESS REENGINEERING SKILLS | BUSINESS CHANGE SKILLS |  
OPERATIONAL SKILLS | IT DEVELOPMENT SKILLS | LEAN DEVELOPMENT SKILLS

The Robotics Operating Team or Centre of RPA Excellence is fundamentally a cross-functional team with the clear objective of deploying the RPA automation on a global scale as quickly, as efficiently, and as safely as possible.

O RPA Operations

T RPA Transitions Team

# Enable RPA Centre of Excellence (COE)



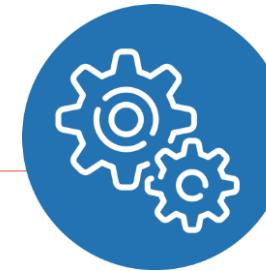
## GENERAL

- Centralized knowledge management
- Standardization of policies and procedures
- Centralized vendor relationship management and support
- Governance



## FUNCTIONAL

- Specific RPA application functional knowledge
- Automation process expertise
- Support and coordination of RPA related metrics and scorecards



## TECHNICAL

- Connectivity and infrastructure
- Robots configuration
- Robots maintenance and support
- Database maintenance and support
- Help desk support
- RPA technical support (performance, connectivity, etc.)



## PEOPLE

- Training and development
- Communication
- Change management

Creating a formal CoE is an important step towards ensuring an organization that strategically leverages its RPA potential

# RPA Developer

## ROLE DESCRIPTION

- The RPA Developer is part of both RPA Deployment Project team (Transitions) and future RPA Operations team.
- In charge of designing, developing, testing the automation workflows and supporting the implementation of the RPA solution. Works closely with the RPA Business Analyst in documenting / recording process details and with the engagement team in implementing / testing the solution (manage exceptions) as well as maintenance / change control of existing artefacts.

## RESPONSIBILITIES

- Timely delivery of the assigned automation (including reporting)
- Responsible for the quality of the assigned automation
- Reporting any changes to the workflow
- Updating the open defects in the defect log
- Responsible for providing periodic status on the progress of development
- First escalation point for any UAT issues
- Responsible for moving the workflow to UAT
- Responsible for creating the process documentation (DSD, MTP, HBO)
- First escalation point of contact for automation
- Responsible for peer code review
- Runs peer review. Fixes issues in development, UAT, Golden transactions
- Provides support to FLS for the processes during testing and warranty period
- Provides guidance and help with process design from automation perspective
- Responsible for estimating automation duration

## BACKGROUND AND SKILLSET

- Subject Matter Expert in the usage and functionality of the RPA software, openness to work on new technologies is mandatory.
- Should have excellent programming/software development background.
- Minimum experience of 3-4 years in .Net, or VB/VBA, and PowerShell is a strong plus.
- Basic knowledge of HTML, Javascript (or any scripting language) and dealing with SQL databases are a plus.
- Excellent, proactive problem solver, strong analytical skills with the ability to analyse complex requirements and define technical/functional advanced solutions. Should have excellent communication skills in both written & verbal English (and have worked in global/multicultural environment).
- Basic to average understanding of the business processes to be automated can increase efficiency.
- Previous experience in application or implementation support domain is a plus
- Previous experience working with RPA tools is a plus
- Excellent communication skills- should be able to explain the technical aspects to the business people and relevant stakeholders
- Should be good at maintaining documentation, code migration between environments and bug fixing

## TRAINING ROADMAP

- Basic RPA Developer
- Advanced RPA developer
- Robotic Framework + Reporting



# RPA Solution Architect

## ROLE DESCRIPTION

- The RPA Solution Architect translates the requirements captured by the functional analysts, creating the architecture and design artefacts. In RPA, the Solution architect is not only in charge of the overall technical solution, but also leads the development effort and ensures the quality of the deliverables. Although the Solution architect seldom writes code himself, is leading the team and performing frequent code review sessions.

## RESPONSIBILITIES

- In charge of the workflow technical solutions
- In small projects the RPA Architect will play the role of the Implementation technical lead
- Owner of the Development Specification Document
- Senior technical position
- Does code review to the team
- In charge of the workflow solution
- Occasionally plays the role of RPA developer – writes RPA code
- Does the business analysis approval if pipeline already defined by the client and customer already provides business analysts
- Reports the progress to the project team
- Guardian of best practices for the automation with our tool.
- Create, update and maintain knowledge base
- Proactive in solving problems for the development team

## BACKGROUND AND SKILLSET

### Senior RPA developer

- Experienced in assessing a broad range of information solutions and products particularly in Infrastructure design, ERP, CRM, Network, Security.
- Ideally formal qualification in Enterprise Architecture (e.g. TOGAF) or formal qualifications in technology.
- Minimum 5 years experience in programming (VB, C#, .NET, C++ etc.) is a must.
- Working knowledge of infrastructure including servers, storage, firewalls, load balancers, routers, etc.
- Ability to develop solution architecture designs.
- Strategic business acumen and understanding of organization strategy and ability to design information systems to deliver that strategy.
- Self-starter with the ability to appropriately prioritize and plan complex work in a rapidly changing environment.
- Strong conceptual and analytical skills, demonstrating outside-the-box problem solving skills, results oriented.
- Team player with experience in leading and collaborating cross-team to ensure successful delivery of solution.

## TRAINING ROADMAP

- Basic RPA Developer
- Advanced RPA developer
- Robotic Framework + Reporting
- Solution architect training
- (Optional for lead) Infrastructure engineer
- (Optional for lead) Business analyst

# RPA Business Analyst



## ROLE DESCRIPTION

- The Business analyst is part of the RPA Deployment Project team
  - In charge of requirements gathering and creating the process definitions used for automation after assessing optimization areas
- Works with the customer teams on the detailed AS IS / TO BE process mapping, involves IT and RPA teams where required to further identify and quantify RPA opportunities and prepares documentation for handing over to the RPA development teams.
- Gets involved from the Deal-Shaping-Phase to the Transition and is able to think out-of-the-box and propose process / toolset improvement approaches
  - Specialize in the detail documentation and requirement discussion with clients/internal clients and engagements throughout the implementation.

## RESPONSIBILITIES

- Qualify and quantify RPA opportunities
- Knowledge handover for process to RPA DEV team
- Validation point for change requests
- In charge of collecting test data and test cases
- Acts as a bridge between the technical teams and the business SME
- Create detailed process description (after optimizations) and walkthrough that can be directly used for artefact development
- Record Benefits Quantification post RPA deployment in conjunction with Business Intelligence teams

## BACKGROUND AND SKILLSET

- Minimum 2 years experience as a Business Analyst or Process Owner
- Strong analytical mind. Basic understanding of the RPA software capabilities used for automation
- Strong knowledge of RPA limits and constraints. Strong process mapping background
- Good understanding of IT as well as Operations. Bridges the gap between the two
- Lean Six Sigma certification is a plus
- Profound understanding of RPA Deployment Methodology and opportunity identification / process optimization is required.

## TRAINING ROADMAP

- Basic RPA Developer (optional)
- RPA Business analyst

# RPA Infrastructure engineer

## ROLE DESCRIPTION

- The RPA Infrastructure engineer is part of both RPA Deployment Project team (Transitions) and future RPA Operations team.
- In charge of the whole infrastructure, taking into account servers, databases, file shares, robot machines and application installation. The RPA infrastructure engineer ensures the RPA project has a strong operational base to run on.

## RESPONSIBILITIES

- Setting up the infrastructure
- Managing infra operations
- Installing updates for UiPath products, operating systems and other applications
- Creating new robots and associating them to different environments
- In charge of the data clean-up strategy
- Managing the application portfolio on the robot machines
- Administrator of all Orchestrator environments
- Security expert for the platform



## BACKGROUND AND SKILLSET

- Network security, management and operating systems – minimum 3 years.
- Good knowledge of security as it relates to cloud based infrastructure.
- Proven experience in creating Server Cluster Architectures (Failover Clusters, High Availability systems).
- Ability to work in a cloud based or hosting environment (Microsoft Azure Cloud is a plus).
- Knowledge of Microsoft Active Directory and SQL Server.
- Experience using automated monitoring tools.
- Knowledge of ITIL and industry best practices.
- Strong virtualization experience using Hyper-V, VMWare, Citrix XenApp/XenDesktop.
- Experience with incident ticketing systems, workstation management systems and desktop imaging.
- Fluent written and spoken English is mandatory, fluency in any other European languages is a plus.
- Previous experience working with RPA tools is a plus.

## TRAINING ROADMAP

- UiPath Infrastructure Engineer



# THANK YOU!



# Automation Handbook

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RPA DEVELOPMENT  
APPROACH



# INFRASTRUCTURE

# Six stages of an RPA project



ENABLE



DRIVE



DESIGN



BUILD



TEST



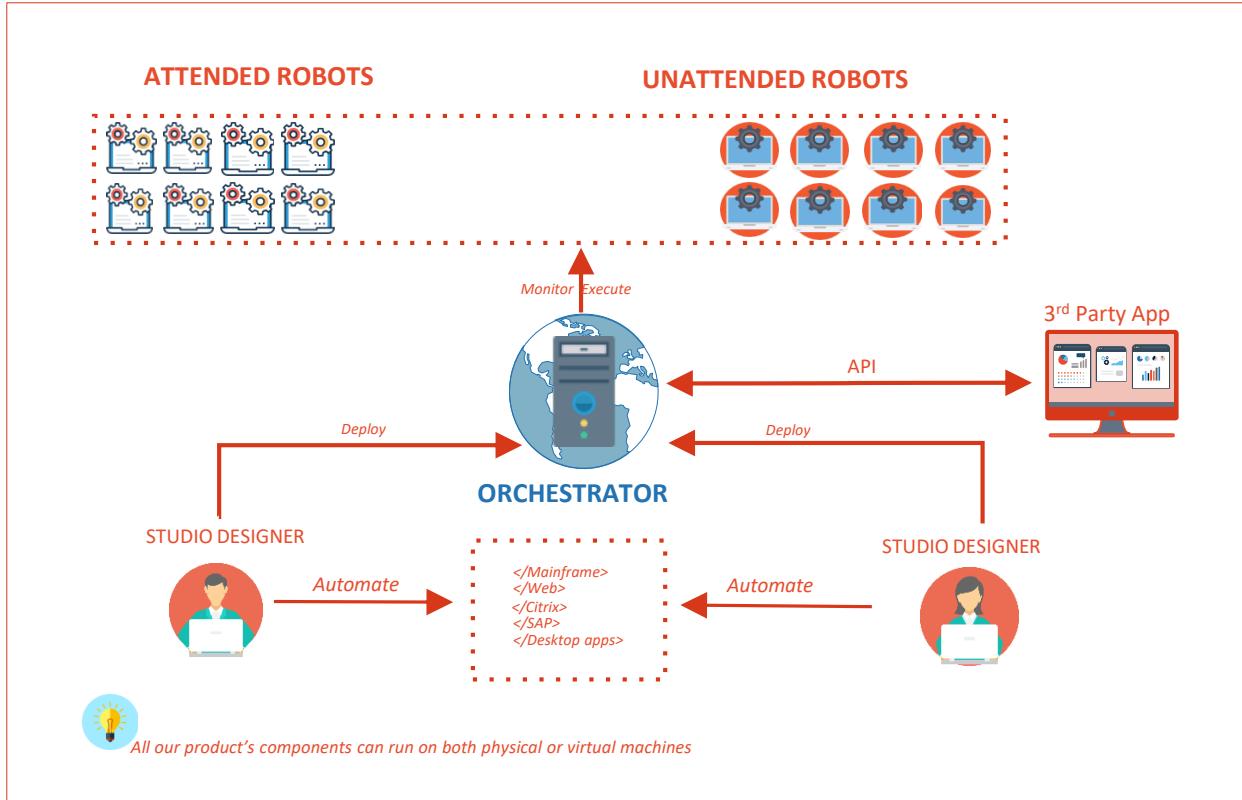
SUSTAIN



SET UP INFRASTRUCTURE	PROJECT GOVERNANCE	DESIGNING WORKFLOWS	DEVELOPING WORKFLOWS	QUALITY ASSURANCE	HYPERCARE PERIOD
<ul style="list-style-type: none"> <li>– Designing server architecture</li> <li>– Installation and configuration</li> <li>– Providing dev &amp; test environments</li> </ul>	<ul style="list-style-type: none"> <li>– Agree to the project development approach</li> <li>– Review the RPA best practices</li> </ul>	<ul style="list-style-type: none"> <li>– Fill in the Process Design Document for each automated workflow</li> <li>– Create test cases and test data</li> </ul>	<ul style="list-style-type: none"> <li>– Creating the deliverables</li> <li>– Creating the Design Solution Document</li> </ul>	<ul style="list-style-type: none"> <li>– Executing the test cases</li> <li>– Reporting the results</li> <li>– Go/No Go decision</li> </ul>	<ul style="list-style-type: none"> <li>– Workflow support</li> <li>– Changes and Improvements</li> </ul>

# UiPath high level architecture

The UiPath Orchestrator manages robots specifically developed for customer front and back office processes

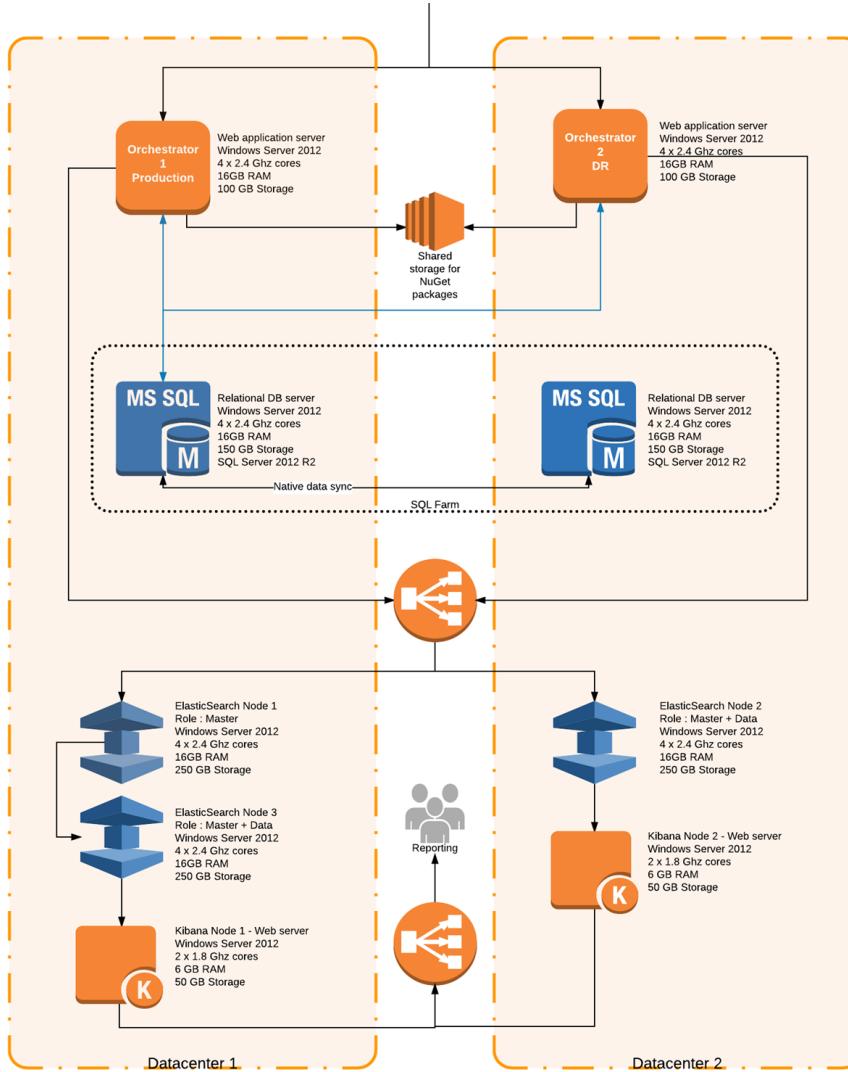


- 1. Attended Robot:** delivers low costs and higher performance with front office agent- supporting automation features.
- 2. Unattended Robot:** these robots utilize unattended automation to run high back office transaction volumes in batch mode.
- 3. UiPath Orchestrator:** Enterprise architecture server platform supporting: release management, centralized logging, reporting, auditing and monitoring tools, remote control, centralized scheduling, queue/robot workload management.  
Assets management.
- 4. UiPath Studio:** enables users to automate with highly intuitive tools (not code): process recorders; drag & drop widgets & best practices templates.



All our products and features reside within a platform architecture designed to provide strong security, enterprise grade compliance & robust governance.

# Typical architecture for disaster recovery



## PROPOSAL

The proposed architecture adheres to the high standards of the organization for a Mission Critical application.

The architecture layout that is according to the enterprise redundancy requirements, being based on two independent data centres.

The test environments is an 1:1 clone of the Production environment and can be used to replace Prod in critical situations.

The Development environment will have limited capabilities and will only be used for the developers, not for end-to-end testing.

### Detailed components:



Infrastructure Components



# PROJECT GOVERNANCE

# RPA Development approach



## DEVELOPMENT MANAGEMENT

The development strategy is a mix between Agile and Waterfall methodologies, fine tuned for the specifics of RPA development. The project phases will remain linear, nevertheless, we aim to preserve the benefits of an Agile approach.



## ENVIRONMENT SETUP

Decide on the split between the different robotic environments. The advantages offered by the different methods need to be weighted per each project.



## ROBOT AUTHENTICATION

Decide between using one generic account, multiple technical accounts and user accounts for the robots. Analyze the benefits of each approach for the automated applications.



## DEVELOPER COLLABORATION

Choose the developer collaboration method within the RPA team. Multiple technologies are supported, including TFS and SVN, which are natively integrated with UiPath Studio.



## REUSABLE COMPONENTS

Pick a strategy for reusing and distributing the developed components. Save time and effort by defining the reusability of components cross-department or cross-company.



## STORING CREDENTIALS

Select the best way of storing the credentials used for robot logging-in. Pick a centralized or local strategy based on the specifics of the automated process.



## NAMING STRATEGY

Adhere to the naming strategy standards suggested by our developers. Include internal best practices for consequent and reliable development.



PA Development approach

# Reusable components approach



## SHARED COMPONENTS PACKAGE

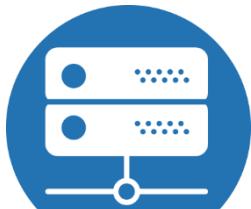
Create one package containing shared components and distribute it using the Orchestrator embedded provisioning mechanism (RECOMMENDED)

### PROS:

- Out of the box solution
- Guaranteed to work even without network connection (no downtime)

### CONS:

- More complex to implement than file storage solution



## FILE STORAGE

Use a file share location to store the reusable components and remotely invoke them

### PROS:

- Easiest to implement

### CONS:

- In case of network failure the robots will not be able to run
- The robots can run slower due to network latency



## CUSTOM PACKAGING METHOD

Use a third party solution to create packages provisioning also the reusable components.

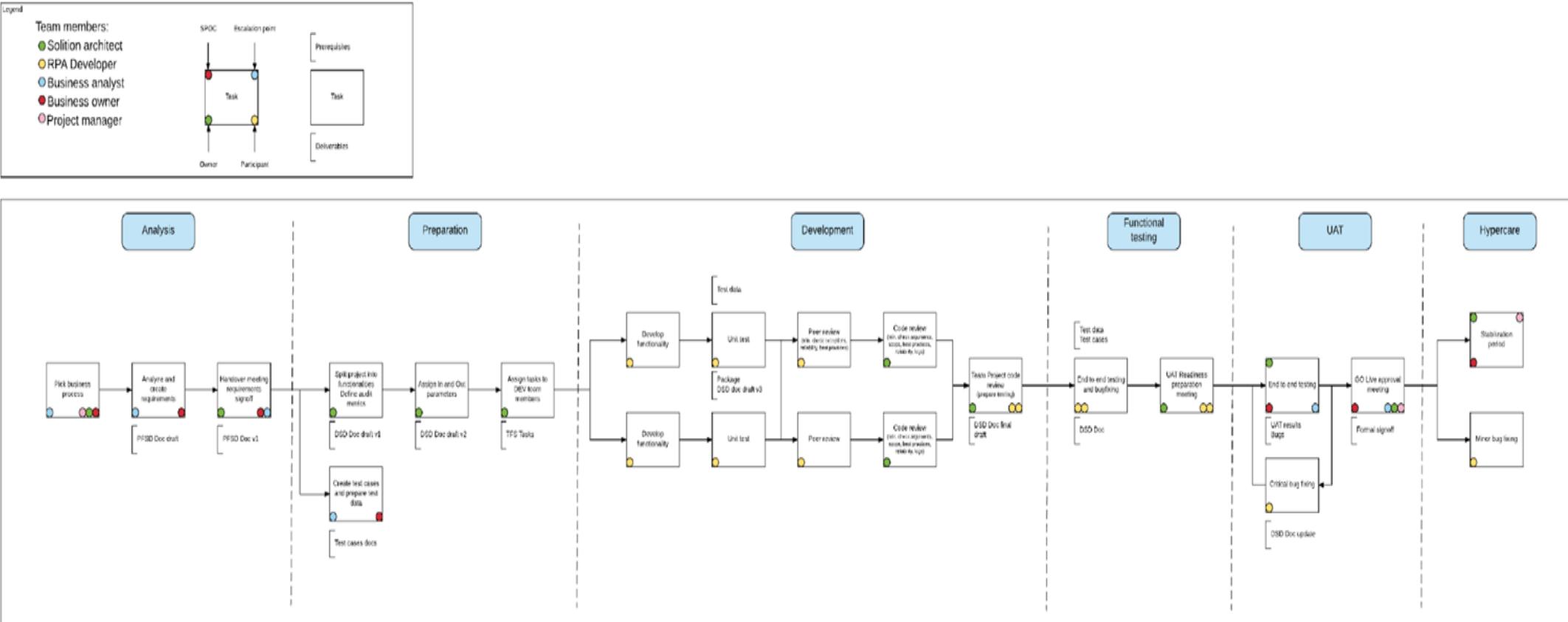
### PROS:

- An alternative to Shared Components approach

### CONS:

- Most complex approach, hardest to implement and maintain
- Dependent on third party components

# RPA Development stages



# Defining automation complexity

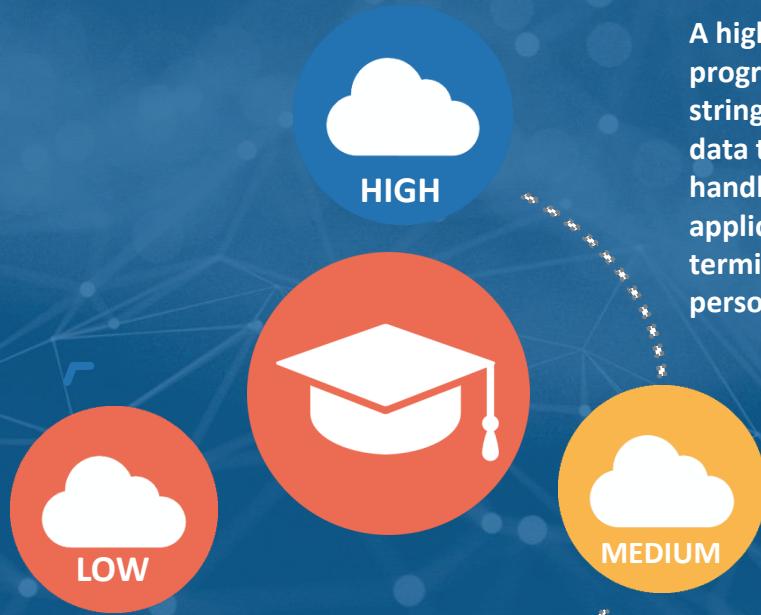
The Leading Enterprise RPA Platform

Complexity is not determined by the number of applications involved, the number of screens, or the number of fields that should be filled with data or read into variables, but by the expertise required!



## LOW COMPLEXITY

A low complexity automation project is in general, one that can be easily created with the recorder and requires small customizations thereafter. This includes desktop applications as well as web applications. It can include scraping (web scraping, screen scraping) and it generally takes 2-3 person-days (up to 5 days).



## HIGH COMPLEXITY

A high complexity project is one that requires programming skills (.NET programmability) in terms of string manipulation functions, working with arrays, data tables, collections, data formatting, exception handling; complex SAP applications, and/or complex applications running in a Citrix environment, and/or terminal emulators. Development time is around 25 person-days (up to 40 days).

## MEDIUM COMPLEXITY

A medium complexity automation project could be one that requires the transfer of data between applications or one that involves SAP or applications running in a Citrix environment. It takes around 8-10 person-days (up to 15 days) to develop.

# Tracking the progress

## Criterias for considering the development done for a process

- 1 Code produced (all 'to do' items in code completed)
- 2 Code commented, according to best practices, checked in and run against current version in source control
- 3 Peer reviewed (or produced with pair programming) and meeting development standards
- 4 Unit tests passed
- 5 Deployed to system test environment
- 6 Passed System integration tests and signed off as meeting requirements
- 7 SDD document filled in and approved
- 8 Relevant documentation/diagrams produced and/or updated



Scenario	No. of days	Time line (End date)	Owner	Status
Task1	3			
Task 1 Unit testing	5			
Task2	2			
Task 2 Unit testing	1			
Task 3	2			
Task 3 Unit testing	1			
Reporting dashboards	1			
Post code-review changes	2			
SDD fill in	1			
Migrate workflow to Test	1			
System integration testing	3			

# Designing Workflows

## Process design document

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# <Business Process Name>

## Process Design Document – (PDD)

### <Client Name>



# Developing Workflows

## Development specifications document

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<Process Name>  
Development Specifications Document – (DSD)  
<Company Name>





# QUALITY ASSURANCE

# Testing plan

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UiPath has developed a three phase approach for the testing process, making sure no critical bugs will reach the production environment. Paired with code review sessions and approval board meetings, the methodology ensures quality in deliverables.



## 1. Unit testing

Individual testing each functionality of the automation, made by developer & discussed in code review sessions.

## 2. Functional testing

End to end testing done by the development team on the QA environment, supervised by the solution architect.

## 3. User acceptance testing

End to end testing done by the product owner. Followed by the go-live meeting.

### AUTOMATED TESTING

UiPath developed a framework for automated testing, ensuring that each piece of the code gets tested with numerous use cases and data sets.



### MANUAL TESTING

Each code snippet is also manually tested and reviewed, to ensure that no possible scenario is left unchecked.

# Hypercare Period

## Handover after automation

DSD DOCUMENT	HANDOVER WORKSHOP	HYPERCARE PERIOD	SUPPORT STRATEGY
<ul style="list-style-type: none"><li>For each automated process, a Development Specifications Document will be created by the development team and approved by the Solution Architect.</li><li>The document will contain data relevant for the administration (runtime) and internal support teams, along with other relevant technical information.</li></ul>	<ul style="list-style-type: none"><li>A workshop between UiPath technical resources and Customer technical team will ensure a smooth transition of the process from the developers to the support team. The DSD document will be discussed and any further improvements or customizations will be addressed.</li></ul>	<ul style="list-style-type: none"><li>After the GoLive meeting, the new automation project will benefit from a Hypercare period, having the team dedicated to fast response times in case of any incidents. This ensures that for any potential issue, the support team will receive instant help directly from the people who developed the automation.</li></ul>	<ul style="list-style-type: none"><li>By using the support platform provided by UiPath, Zendesk, any issue will be addressed by a person with the right skillset in the shortest possible time. Every interaction will be logged for further reference, and the Customer will benefit from the embedded SLA system.</li></ul>



Implementing the 4 steps strategy for handover of the automated processes to the owners will provide a smooth transition from UiPath to the Customer.



# SUPPORT MODEL

# Support Model

## Support model proposal – Business & IT HD



SUPER USERS	SUPPORT LEVEL 1	SUPPORT LEVEL 2 (!)
<b>ACTIVITIES</b>		
<ul style="list-style-type: none"> <li>– Start process on demand</li> <li>– Review queue items (success, business errors, application errors)</li> <li>– Reprocess queue item</li> <li>– Mark queue item as manually processed</li> <li>– View Kibana reports</li> <li>– Change assets</li> <li>– Change passwords</li> </ul>	<ul style="list-style-type: none"> <li>– Business administrator roles +</li> <li>– Schedule process</li> <li>– Review logs</li> <li>– Monitor robots</li> <li>– Publish workflow in production</li> <li>– Reallocate robots</li> <li>– Configure Orchestrator envs</li> <li>– Create Assets and Queues</li> <li>– Create Orchestrator Users</li> <li>– Edit mapping table</li> </ul>	<ul style="list-style-type: none"> <li>– Create Kibana reports</li> <li>– Make small changes to the code</li> <li>– Review logs</li> <li>– Add custom log fields</li> <li>– Change workflow config file</li> </ul>
<b>ACCESS TO</b>		
<ul style="list-style-type: none"> <li>– Orchestrator &amp; Kibana</li> </ul>	<ul style="list-style-type: none"> <li>– Orchestrator &amp; Kibana</li> </ul>	<ul style="list-style-type: none"> <li>– Studio, Orchestrator &amp; Kibana</li> </ul>
<b>REQUIRED SKILLS</b>		
<ul style="list-style-type: none"> <li>– Business superuser – an expert of the business processes</li> <li>– Basic technical knowledge</li> <li>– Trained as a Business Administrator</li> </ul>	<ul style="list-style-type: none"> <li>– Good technical background</li> <li>– UiPath Basic Academy completed</li> <li>– Trained as a support specialist</li> </ul>	<ul style="list-style-type: none"> <li>– Developer background (.NET or VBA)</li> <li>– UiPath Advanced Academy completed</li> <li>– Trained as a developer</li> </ul>

# Support Model Roles And Skills



Business Administrator	Level 1 Support L1	Level 2 Support L2	Deep Support L4
<b>ROLES</b>			
<ul style="list-style-type: none"> <li>- Business superuser – an expert of the business processes</li> <li>- Basic technical knowledge</li> <li>- Trained by UiPath as a Business Administrator</li> </ul>	<ul style="list-style-type: none"> <li>- Business administrator roles +</li> <li>- Schedule process</li> <li>- Review logs</li> <li>- Monitor robots</li> <li>- Monitoring Queue Items</li> <li>- Monitor Jobs</li> </ul>	<ul style="list-style-type: none"> <li>- Business administrator roles +</li> <li>- Publish workflow in production(MTP)</li> <li>- Reallocate robots</li> <li>- Configure Orchestrator environments</li> <li>- Create Assets, Queues and Orchestrator Users</li> <li>- Edit mapping table</li> <li>- Analysis the root cause and update the handbooks.</li> </ul>	<ul style="list-style-type: none"> <li>- Create Kibana reports</li> <li>- Changes to the code (CMR)</li> <li>- Review logs</li> <li>- Add custom log fields</li> <li>- Change workflow config file</li> <li>- Vendor engagement</li> </ul>
<b>SKILLS REQUIRED</b>			
<ul style="list-style-type: none"> <li>- Start process on demand</li> <li>- Review queue items (success, business errors, application errors)</li> <li>- Reprocess queue item</li> <li>- Mark queue item as manually processed</li> <li>- View Kibana reports</li> <li>- Change assets</li> <li>- Change passwords</li> </ul>	<ul style="list-style-type: none"> <li>- Very good at browsing through the orchestrator application (Logs, queues, Jobs etc.)</li> <li>- Should be able to differentiate between errors and successful transactions and know when to escalate to L2</li> <li>- UiPath Basic and Orchestrator Academy completed</li> <li>- Trained by UiPath as a support specialist</li> </ul>	<ul style="list-style-type: none"> <li>- Basic technical and analytical background.</li> <li>- Should be able to analyse the log information, refer to Runbooks, diagnostic tasks and take relevant action</li> <li>- UiPath Basic and Orchestrator Academy completed</li> <li>- Trained by UiPath as a support specialist</li> </ul>	<ul style="list-style-type: none"> <li>- Developer background (.NET or VBA)</li> <li>- UiPath Advanced Academy completed</li> <li>- Trained by UiPath as a developer</li> </ul>



# THANK YOU!



# Lessons learned

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PROJECT EXPERIENCE

# Key Lessons Learned

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## RPA SHOULD ALWAYS SIT IN THE BUSINESS

- RPA should be considered as an operational asset – always ran by Business stakeholders with support from IT, subject matter experts and process efficiency experts.
- Grow in house RPA capability by building Centre of Excellence made of a mixture of Operations and IT people.

## RPA IS NOT A PROJECT. RPA IS A JOURNEY

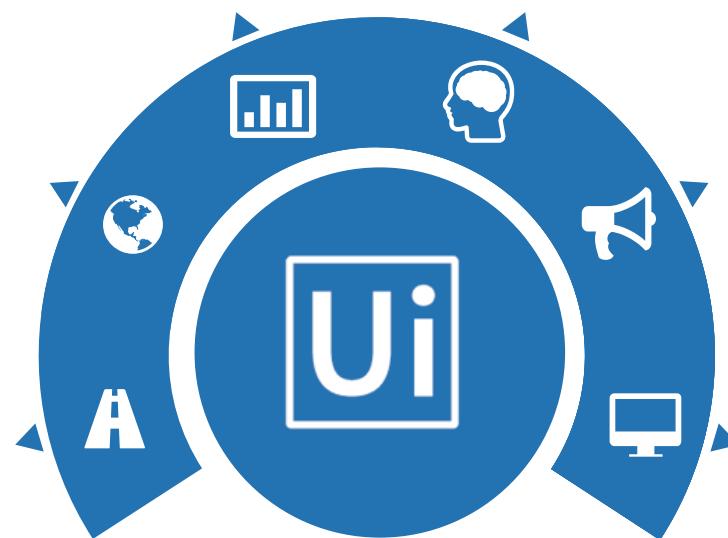
- Plan to build a sky scrapper not a bungalow.
- Build internal RPA capability to evolve, leverage scale and increase business value
- Multi-skill the robots
- Don't be tempted of quick wins by deploying RPA in siloed units – fragmented and difficult to scale – always start as an Enterprise rollout.

## NEVER AUTOMATE A BROKEN PROCESS

- Ensure the process is stable and mature before automation is applied.

## THE SUCCESS OF RPA DEPENDS OF AN INSTITUTIONALIZED SPONSOR

- RPA needs an institutionalized Robotic Team led by a Sponsor - who initiates the idea of automation, underwrites resources and protects progress into business adoption and by an RPA Champion the RPA Evangelist in charge of the RPA successful deployment within the organization.



## COMMUNICATE, COMMUNICATE, COMMUNICATE!

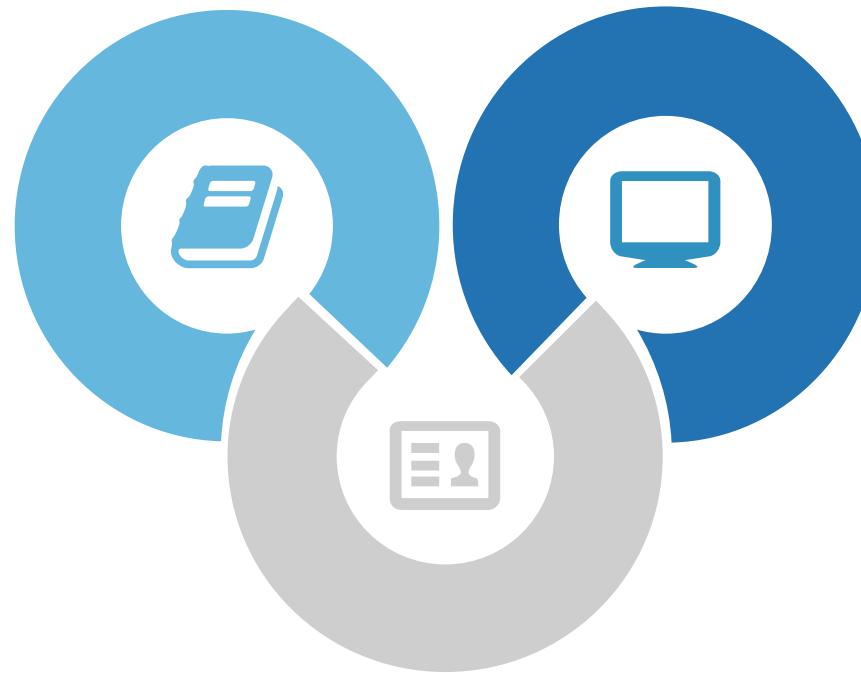
- Pay careful attention to internal communications
- Engage a dedicated team of Change and Communication, in charge of raising awareness in the business of the benefits of automation and always keep the relevant stakeholders up to speed with the progress of the automation journey.

## BRING IT ONBOARD EARLY

- Bring on IT onboard early. RPA deployment has an impact on Infra, Security, Business Continuity and Disaster Recovery.
- Make sure your infrastructure grows together same pace with automation
- RPA must comply with the technology function's governance and architecture policies.

# Key factors

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## PROCESS

Process design is the key to successful automation.

## TECHNOLOGY

Start with the BIG picture in mind.

## PEOPLE

Key roles and knowledge

# Process

## DEFINE SCOPE AND BUSINESS RULES

The process scope for automation must be well defined before the automation starts. The Start and End Point of the process to be automated and also the inputs and outputs have to be set and agreed up-front by the business owner (BA/SME/TL) and then passed on to the developer.

- A process may be partly or entirely automated, but this is subject to business decision and it is influenced by several factors, such as:
- Compliance requests (they determine what must remain in the human control of team members versus what should be automated),
- Local cultural constraints, simple business requirements or, rarely, technological constraints etc
- Activities under change in the next 6 months ( i.e a release announced)
- Templates/ processes not standardized
- Activities need human input, due to the complexity and human knowledge involved
- There is another automation in place

Mark what is in scope and out of scope for RPA from the beginning, log the reasons behind these decisions and continuously validate this classification during the documentation for any phase. The scope has to be clearly delimited!

For out of scope activities, identify dependencies on the automation at the process level:

- will it change the order of performing the steps?
- will the robot need to wait for that activity to be processed first?
- do the robot need to use the output of that manual activity

The above helps the developer evaluate the complexity of the process, time required to automate, map the proper design upfront and be able to estimate the percent complete at any stage during the development process.

## IMPACT

Not having a clear overview of the steps and business rules leads to incomplete design of the workflow automated in the absence of information. This is then subject to multiple change requests in order to adjust it.

Further this leads to: multiple delays that can demand an extension of the automation process time; delays to the project plan; unavailability of developers if this extends beyond the original plan; conflicting priorities of tasks as developers can get reallocated.

Outdated or too High Level documentation brings no value added. In such situations, the BA has to spend more time with the developer to explain the process, map the process steps and provide the business rules, exceptions and the expected answers for each, add corrections to the outdated info etc.



## EXTRA TIME REQUIRED FOR AUTOMATION=EXTRA COSTS

## MITIGATION

Clearly define the objective: The Scope and the process steps that the business team wants to automate need to be thoroughly documented before being passed to the RPA Developers.

The process steps should be defined by the process expert (BA, SME) and approved by the Process owner. A process diagram provides a high level understanding required to build the design, with clarity on the inputs and outputs and sequence of the process steps.

# Process



## WELL DOCUMENTED PROCESS

An E2E process diagram to highlight the logic sequence of the process steps is the ideal starting point for automation.

The automation scope has to be well communicated and documented (start and end point of what gets automated) for agreement of all key stakeholders, but especially for the BA and Developer.

The most relevant process details are provided by the person who executes it on a recurring basis. This person has the most up to date and accurate knowledge on how the process runs, its rules, its exceptions and how to treat each of them.

The right detailing of the process prevents misinterpretation of multiple process automations into a single one.



## BUSINESS EXCEPTIONS IDENTIFIED

**Business exception have to be considered upfront in a common team exercise and documented** (communicated) prior to the automation start. Added later in the process, these may trigger an avalanche of change requests that generate rework and add extra time to the automation process.

An action must be planned for every known business exception that was identified. The robot should perform the defined action if it encounters that particular exception.

Tips:

- 1) document the exceptions at step level (ie. Input | Process | Output | Exceptions)
- 2) Inventory the exceptions, identify the actions to be taken, if they can be performed by the robot or human and if it needs to repeat some previous steps
- 3) In case it needs to go to previous steps, rules need to be defined for the robot not to go to a continuous loop.



## BUSINESS RULES SET

All processes involve a set of business rules. These can be documented in a dedicated file and added to the PDD. Tips: numbering each rule (ex: Rule no 1, no2, etc) and referring to it in the steps where the rules apply ( see rule no 1)

**Adding new business rules later in the automation process generates change requests and it means that the developer has to change (add/ modify/ remove) steps in the workflow.** This leads to rework which is translated in extra time required to automate, in order to redesign the workflow, integrate new sequences. This increases the complexity, it adds up time to develop; possible chance for adding errors in the workflow, and very often it impacts the developer morale and the level of collaboration between RPA roles (often times it is frustrating for the developers to add changes that could have been incorporated from the beginning).

# People

## TEAM ALIGNMENT

It is important to prevent rework of the process due to different perspectives of team members over the automated processes steps and business rules. This can be prevented by having the PDD\* document up to date. Misalignments generate confusion and delays.

## INVOLVE ALL RELEVANT STAKEHOLDERS

Correct and complete identification of stakeholders is key in RPA projects as well. Involving Information Security and Compliance departments from the very beginning of assessing RPA technology is essential. All clarifications should be done before the project start, special industry and business specific policies can be accommodated in the solution. Starting the project without their Green Light can bounce back later in the game as a show stopper. Special requirements are more difficult to accommodate and that may require rework or substantial solution change. This can cause major delays to the project plan.

All the other impacted streams must be identified and consulted upfront.

A change Control board made out of a mixture of Key Process/Business Owners, RPA Executive and RPA Project Managers can help better manage prioritization of change requests pre and post Go live.

## TEAM CHART

A team chart with clarity of roles in the RPA project helps knowing to whom to address the questions according to the topic.



## PROCESS OWNERSHIP/AUTHORITY TO DECIDE

The process owner must be engaged in the RPA initiative and have the authority to decide about the actions to be taken or left out. This person needs to be available for analyzing and making decisions. In case of limited availability, this role can be performed by a mandated delegate.

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## PEOPLE AVAILABILITY

To stay on track with the automation plan, it is mandatory to have the right people available to perform key activities in the automation process and provide their feedback and confirmation to moving to the next phase. The people with the right roles must be available for RPA project and process kick off meetings, UATs, document signoffs, process and project decisions.

## CHANGE MANAGEMENT

Change management needs to be leveraged to manage people's perceptions and response to RPA and the change this brings in their way of working. Change management must ensure that the impacted teams are aware of the change, what are the differences and how to react to them: Imagine that a sales report is prepared daily by a sales support team member and then shared with several departments. In case of questions about its content, the colleagues can give that sales person a phone call to clarify. After the process is automated, the report gets generated automatically and emailed directly to everyone. In case of questions, the other departments can't call the sales support person anymore. How can questions be clarified in the future.

# Technology

## CLEAR LIST OF PREREQUISITES

Prerequisites have to be clearly communicated upfront. The Infrastructure requirements have to be clearly shared and ensure that they are well understood and acknowledged. The partner/ client have to provide the infrastructure setup (e.g. the Servers) on which UiPath team will install Orchestrator.

## EXCELLENT NETWORK CONNECTIVITY

While remote automation is possible and done almost as using a native environment, the speed of the automation is highly influenced by the connectivity performance. Multiple hops ((RDP, VDI, Automation over Skype meeting or GTM/GTT, especially in two hops connection (Skype meeting combined with VDI connection) can badly hamper the speed of automation process. Lag is expressed in delay on selecting the required elements on the screen, slow flipping between application screens, non responsive drag and drop of activities in the designer tool for the flowchart /sequence designer.

## MACHINE PERFORMANCE

Low computer capacity and performance affects the automation process. The computers used by developers as well as the machines where the robots are deployed must meet the minimum technical requirements specified.

## ACCESS TO BUSINESS APPLICATIONS

Direct access to applications on the developers machine is strongly recommended over automating remotely. Even if an RPA developer is automating processes across departments, it is recommended to define a way in which access to application is granted to him. Remote connection adds latency and slows down the progress. For external developers, client computers should be provided to UiPath team for automation, to ensure access to the client's network, environments & applications.

## APPLICATION AVAILABILITY AND DOWNTIME SCHEDULES

Readiness of application is important to meet the project plan. Key application downtimes must be foreseen and plan around it, otherwise unavailability of the applications may suspend and delay the automation process. If there are multiple projects in parallel on the same test environment, take into consideration even a separate test environment for RPA.

## COMPREHENSIVE DATA FILES FOR TESTS

Are essential during development and UAT. The absence of data file and /or insufficient data to cover for all the process scenarios stops extends the testing duration and generates delays. Without data the developer is unable to run the automation and validate the correct results of the process. As well as, it is important for the data files to include all possible scenarios, including (frequent) exceptions to allow full testing of the robot before release in production.

## TEST ENVIRONMENT AVAILABLE

Test environment of the applications should be available and should be an exact replica of the production system (frequent cases where the dev environment differs from pre-prod environment and production). Recent data need to be migrated in the test environment to support the ease of testing the automated features. This ensures risk-free automation and testing. Production can be used as an ultimate alternative, but it prevents comprehensive testing and posing actions and it carries risks.

## USER ACCOUNTS AND PROPER PERMISSIONS AVAILABLE

Access and correct permissions to the all the applications used in the process are an important prerequisite to automation start. Having them in hand ensures a more straightforward development, allowing to focus on the important aspects of business flow, rules and exceptions (add to the list of prerequisites).

# Start with the big picture

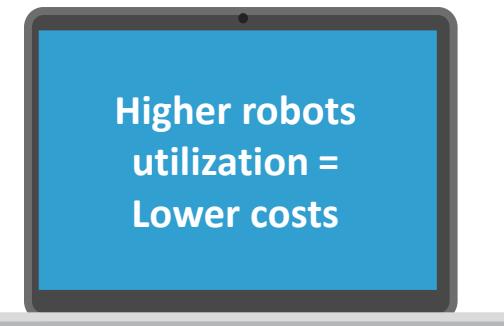
## The solution design should include:

- Reusable components and modular development
- An approach to leverage framework for similar processes and templates for developers to automate in a similar manner. This ensures consistency, increased productivity and stability of the product. Drives the way to a nimble support model.
- Implementing a mechanism to restart the robot if it fails at any step in the process, to prevent re-starting the robot manually. If the robot did fail, implement the logging functionality (screenshot is ideal), to allow identification of failure reasons (RCA).
- Insert retry functionality, case by case, to assist in error treatment. This is useful in treating application/ IT issues and exceptions such as connectivity error/ screen not loaded etc



## WITH OR WITHOUT ORCHESTRATOR?

1. Scheduling and running/ starting robots remotely.  
Without Orchestrator, each robot requires its own schedule. Multiple schedules are complex to create and maintain.
2. Tenants allow defining user privileges while Audit levels can be specific to each tenant.
3. Deployment and updating workflows can be done in minutes, while the manual work is time consuming and can take up to hours, depending on the number of production robots. This impacts operations in Business as Usual (BAU) as the robotic workforce requires updates & maintenance over time.



*Starting 5 robots and above  
Orchestrator adds consistent  
value to the solution:*

4. Robot utilization and work allocation: Get best value from using the robots by allocating as much work as possible, quickly and easily.
5. Logs are centralized easily in a common location.
6. Queues allow to synchronize and enable robot communication. Work allocation/work item distribution benefit so that the robots don't execute the same activity at the same time

# RPA Tips

## To run your RPA project



### DEFINE RPA PROJECT SCOPE

Identify: The Business area for RPA start and all the impacted streams and departments.

Start RPA implementation in departments where the processes are standardized.

Approach business gradually. Automate easy processes with straight forward rules and backlog. Collect the quick wins and promote that back to business stakeholders for their Buy in.

Process design is key to RPA deployment success. Combine Process automation with Lean Six Sigma to optimize the existing processes and get more positive impact from automation.



### DEVELOPMENT TALENT

Hire well – skilled professionals! Complex projects require people with technical & programming skills.

Using part time RPA developers doesn't help use RPA at its full potential.

Siloed RPA teams are caring risks. It may not grow enough RPA skills to use the tool to its full potential; not obtaining the expected result generates issues.

Ramp-up the knowledge requires in average 2 months of hands-on practice. After 2 months, automated processes can be released in prod.



### DEFINE ROLES AND RESPONSIBILITIES

Unclear RPA roles and responsibilities and ownership of environments leads to difficult communication and slows down the development process.

This leads back also to the involving IT early in the project.

Example:

- Setting up Orchestrator = IT
- Managing the Orchestrator platform= COE Admin (non-IT)
- Monitoring workflow and robots (xaml)=RPA supervisor (non-IT)
- Computer management - IT

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### INFOSEC AND COMPLIANCE

Involve Information Security and Compliance teams at the START of the project

Assessments are done jointly, risks are identified and mitigated accordingly, stakeholders are kept satisfied and RPA plan is build correctly and kept on Track.

The level of logging needs to be discussed and approved with Owned and InfoSec. Encrypting the logs is possible and a viable mitigant to risks.

The support model needs to follow compliance requests. Typical support requirements exist and are influenced by the client's industry. Compliance department has to provide its inputs early to allow correct design of the solution.\*



### INTERDEPENDENCIES

Check interdependencies between projects, if modifying an workflow affects others the inputs / outputs of the predecessor or successor. (all being part of the same automated process).

\*For example, in one particular case for a client in the medical insurance industry, UiPath support had to provided at the client's site , because of compliance regulations, the data, including logs, could not be taken outside US to other regions, not even through remote session.

# More Lessons Learned

BETTER PROCESS DESIGN  
=  
FASTER AUTOMATION

LESS TIME TO AUTOMATE  
=  
LOWER COSTS

1.

Create proper documentation of the process, process maps - high level and detailed for each section, sequential order of the steps, define inputs and outputs, document all business rules applied to the process

2.

Give the E2E understanding of the process, to prevent coding in silos. Recommendation: a RPA Solution Architect to ensure alignment of the solution across teams within the COE.

3.

Perform a pre-analysis of the list of applications used to perform the process work. More than 80% of the applications will be used across the entire scope submitted for automation. Automated components can be re-used and invoked across workflows.

4.

Be prepared for a process to be automated 100% or 50% - a mix of automation between and actions to be performed partly by robot, partly by humans.



# More Lessons Learned

## EXAMPLE

Certain applications cannot support multiple/concurrent instances or menus using the same user account. In one particular automated scenario, if multiple robots logged on at the same time using the same user account, the application may disconnect one of them, terminating the process.

## EXAMPLE

A business exception example comes from a bank during the implementation project, in the Credit Process automation. For processing credit requests, the majority of template formats were identified and tested, reflecting the employees profiles, while the rarely used templates for retired people were forgotten initially, and only identified latter as missing. This resulted in rework and rebuilding the automated workflow and updating the robots for what could have been captured from the first iteration.

## 5.

Business rules exceptions must be evaluated & identified upfront as they considerably influence the process development and increase its complexity. Process specialist - may be unaware about them, hence the business owner, Process SME or BA should be provided with a comprehensive process walkthrough to allow Q&A and facilitate quick clarifications.

## 6.

Build your KPIs to measure productivity and improvements. Defined reporting models (what to track) can impact workflow development. Analyze the processes and run an evaluation of the impact: cost & time.

## 7.

Exceptions can be classified and the robot's response to them can be predefined for each type of exceptions: a) Business exception and b) Application exception:  
b 1. Known exception and b 2. Unknown exceptions

## 8.

Identify & validate all used templates. Consider them in development phase

# More Lessons Learned

Areas of implementation for RPA - industry, department, process can be driven by specific policies

Over 80% of the corporate applications will be used across the entire RPA scope. Issues can be anticipated and managed centrally and consistently. Maintenance is easier. A change in one application can impact all processes using it.

Consider Citrix resolution for OCR reading (use branching/ resolution adaptable). Consider image position, image changes, background changes. Screen scraping in Citrix.\*

User access and user accounts creations (licenses, permissions, restrictions to create accounts for robots) are light prerequisites that have considerable impact on the automation schedule, if they are missing.

Establish a procedure for release management.  
Run Risk assessment on the process and impact analysis if it fails.



- Leverage best automation practices.
- Reuse libraries and elements.
- Use Naming convention and Date formats



- Agree Cutoff dates - align business and IT (if IT manages the app/orchestrator) to sync release of updates in workflow.
- Release in Production must have a reversible/ roll back approach defined (related to the level of logs).



- Test environment and prod environment similarity.
- Schedules and system downtimes.

# More Lessons Learned

1. Poor communication between departments
2. No test Environment nor available data in the test environment
3. Documentation is poorly prepared or incomplete
4. Security risk and issues are not handled in advance (deploy licenses, install robots on machines)
5. No admin rights available allowing deployment of the robots
6. Test environment is different from the production environment
7. Regional differences in applications (different steps for VPN/different steps in legislation/ country to country)
8. Other organizational projects using the resources for RPA





# Lessons learned

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UIPATH PROJECT

# Must Haves

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PROCESS  
FEASIBILITY  
ANALYSIS



CLEAR PROCESS  
SCOPE DEFINED



CHANGE  
MANAGEMENT



CLEAR SUPPORT  
MODEL



# Project Lessons Learned

**FEASIBILITY STUDY.** Run a preliminary analysis on the processes candidates for automation. That helps filter, prioritize and guides to start with the processes that present high automation percentage and good ROI opportunity and highlight the ones that should first undergo process improvements.  
Helps collect & quantify benefits.

**PROCESS ANALYSIS.** Do a linear analysis of the business process to reveal the end to end process steps of the standard or ideal case. Afterwards map all the other possible scenarios and exceptions to the process steps. This activity must be done before the automation start to facilitate correct design.

**STANDARDIZE AND OPTIMIZE.** After the AS IS documentation, identify what are the process wastes and problems, identify and correct the causes, stabilize the business rules/templates when case and then document the TO BE process by optimizing the process using Lean Six Sigma principles (other than the automation itself). Fix and optimize the process before automation! Don't automate a broken process !!!

**DIVIDE AND AUTOMATE.** Break down the large business process into sub processes or activities and analyse each from input perspective, rules, exceptions, volumes and efficiency. Start the automation per sub process or major activity.

**KEY ROLES: PROCESS SME AND BUSINESS ANALYST.** The Process SME presents the AS IS process, but the Business Analysts role is essential to build the bridge between the business process and development logic, as the two look at things from different perspectives. Development requires step by step mapping to train the robot. It requires simple, straightforward rules, with logic.

**TOUCH BASE WITH DEVELOPMENT PROGRESS.** Organize recurring short meetings between the business process team and developer to facilitate conversation, clarify questions, remove road blocks and help everyone familiarized with the robot's way of working.

**CHANGE MANAGEMENT.** Is important for tracking and agreeing the requirements that show up along the automation process. New or scenarios that were missed out, improvements ideas can be incorporated but with an accurate evaluation of the timelines impact. The new requirements that come along the way can be added to the next releases.

**MONTH END.** Month end closing, quarter end closing and other business-related phases need to be taken in consideration in the development plan. During month end the business owner or process SME have limited availability for explaining the process or even testing.

**APPLICATIONS AND ACCESSES.** The correct application versions, user accesses and profiles must be mapped for the developers training the robot. They are essential in being prepared before the automation start to avoid any delays in the automation timeline. Application test environments are essential

**TEST SCENARIOS AND TEST DATA** are essential in building and running the robots. Test data must be prepared to cover all the business scenarios required both in development and testing.

**HAND-OVER** all relevant documentation after GO-Live, being essential for support post-implementation. Update all documents if changes occurred after the initial sign-off of the documents (during dev, UAT, etc)



# More insights

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## FEASIBILITY STUDY

- Prevents working on processes that have very fragmented scope and low number of FTEs benefits associated with High development effort
- Considers future project activities, type of activities that will become obsolete versus new initiatives
- Analyzes the up stream and down stream effort and changes that intervene in the process, validations required and quality checks performed
- Analyzes the impact of the systems and applications used.
- Data availability of HC and volumes to be prepared and available, current and historic data.



## PROCESS SCOPE

- Linear process description is essential. Process explanations were not fully capture in the deep dives and several exceptions appeared later impacting the designs and development timeline.
- Process alignment should be done by the business team upfront to have an unitary view on the process steps and rules.
- Process deep dive sessions should be run face to face and SHADOWING, as much as possible. Developers should be involved in the process deep dive sessions.
- Process fragmentation and specific requirements by country lead to low levels of reusable components.
- Process Analysis helps identify and filter our the best candidates but also the processes that require optimization prior to development start



## ANALYSIS PHASE

- Business team and BAs to be get accustomed to identify all exceptions in the AS IS process mapping
- Meetings to be led with focused key stakeholders from the region instead of too large audience that can derail the conversation
- Processes alignment meeting to take place prior to the deep dive with UiPath
- Process reviews require more time
- Involve Compliance and key stakeholders early in the game to prevent delayed sign offs
- Process Definition Document (PDD) signoff takes longer than anticipated given the increase number of people required to sign



## TEST ENVIRONMENTS & DATA

- Application accesses must be obtained prior to development kick start
- Test environments for the systems are essential to enable developing and testing
- Test data and examples for all the scenarios needs to be prepared by the business team
- Test scenarios must cover all the possible cases to be tested
- Robots accounts or easy access for developers to the test machines is a must have to prevent delays in testing.



## PUT ON PRODUCTION & POST-IMPLEMENTATION

- Plan attentively the Go Live and necessary pre-requisites
- Test the automation on production environment and take a buffer period before Go-live
- Closely supervise the process in the first 2-3 weeks and be prepared for quick bug fixes
- Monitor the solution performance and success criteria as initially defined
- Handover the documentation and repository saving – and document all lessons learned, inclusively on the methodology and templates
- Constant improvement: look at the out of scope activities and identify measures to be automated

“

The best preparation for tomorrow  
is doing your best today.



H. JACKSON BROWN JR.



The background of the slide shows a group of people in an office environment. Several individuals are seated at desks, working on computers. One person in the foreground is clearly visible, focused on their screen. The scene is lit with a blue tint, creating a professional and modern atmosphere.

**UiPath**

# UiPath Academy Training Approach

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The Leading Enterprise RPA Platform



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- Business Analyst Training
- RPA Developer Training
- Infrastructure Engineer Training

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- Technical courses

## 3. TRAINING AGENDA AND ROLES

# 1. Introduction

The UiPath Training Formula aims to enable the key roles within an RPA Center of Excellence through a combination of self-led and instructor-led trainings.

## RPA AWARENESS MODULE

Non-technical roles, process owners, business representatives

## BUSINESS ANALYST MODULE

Business analysts, process SMEs

## RPA DEVELOPER MODULES

RPA developers, solution architects

## INFRASTRUCTURE ENGINEER MODULE

Network admins, infrastructure engineers, solution architects

This session provides attendees with a good understanding of RPA as an industry, as well as the benefits and opportunities it offers. The course covers an overview on UiPath as a company and provides insights about the product main features and key differentiators.

This session provides essential knowledge required for assessing automation opportunities, evaluating the impact and the RPA benefits, gathering business requirements and preparing the process definition for handover to development.

These trainings provide a detailed view on the main product features and functionalities, types of automation and automation challenges (Foundation), as well as essential best practices for RPA development (Advanced). By the end of this training attendees will have acquired a deep understanding on building robust, scalable automations.

This training provides attendees with a deep understanding of the architectural setup of the product, deployment prerequisites, hardware and software requirements, as well as security guidelines.

The Only Enterprise RPA Platform



## 2. Training Summary

## 2. Non-technical courses

	RPA AWARENESS SESSION	RPA BUSINESS ANALYST TRAINING
Training Type	Instructor-led	Instructor-led
Location	Online/Onsite	1 day (online and onsite) 2 days (optional) - onsite
Training duration	4h	1 day/2 day (optional)
Prerequisites	None	None
Audience	Process Owners, business representatives	Business Analysts, Process SMEs
Attendees	Maximum 15 persons	Maximum 15 persons
Pricing	\$600 (online) / \$1600 (onsite 1day)	\$1200 (online) / \$2650 (onsite 1day) / \$3000 (onsite 2days)
Certification	None	None

## 2. Technical courses

The Leading Enterprise RPA Platform

RPA Developer Modules				
Level 1 – Foundation Training	Level 2 – Orchestrator 2016.2 Training	Level 3 – Advanced Training	SAP Automation Training	RPA Infrastructure Engineer Training
Training Type	Self-led	Self-led	Self-led	Self-led
Location	Online	Online	Online	Online
Training duration	Self-paced AVG 40h	Self-paced AVG 4h	Self-paced	Self-paced AVG 3h
Prerequisites	None	RPA Developer Foundation Training completed	RPA Developer Foundation and Orchestrator 2016.2 Trainings completed	None
Audience	Only technical people with basic programming skills (.NET, C#, VB, etc.).	Only technical people with basic programming skills, infra engineers, network admins	Only technical people with basic programming skills (.NET, C#, VB, etc.).	Individuals working with SAP processes
Attendees	No limit	No limit	No limit	No limit
Pricing	Free of charge	Free of charge	Free of charge (self-led) / \$20.000 (onsite)	Free of charge
Certification	Diploma of completion	Diploma of completion	Diploma of completion/ eligible for advanced certification exam	Diploma of completion



### 3. Training agenda and roles

### 3. RPA Awareness Session

TRAINING AGENDA	
Duration	Topics
1.5h	<b>ABOUT RPA</b> <ul style="list-style-type: none"><li>1. What is RPA</li><li>2. What are the RPA Benefits</li><li>3. What processes to automate</li><li>4. Processes every company should automate</li><li>5. Key roles of the RPA COE</li></ul>
3.5h	<b>INTRODUCTION TO UiPath TOOL</b> <ul style="list-style-type: none"><li>1. Extended Demo on UiPath: Studio, Robot + Orchestrator</li><li>2. Intro module</li><li>3. Difference between Attended and Unattended robots</li><li>4. Key Features Studio/Robot and Orchestrator</li><li>5. Key Security Features</li><li>6. Hardware and Software Requirements (Studio/Robot and Orchestrator)</li></ul>

### 3. Understanding the Business Analyst role

The Business Analyst works on the detailed As Is and To Be process mapping, involves IT and RPA teams where required to further identify and quantify RPA opportunities and prepares documentation for handing over to the RPA development teams.

The recommended background and skill set for an RPA Business Analyst are described below. Adding the UiPath-tailored training on top of that will fully enable this role for taking on the key responsibilities which are part of their day-to-day activity.



### 3. Understanding the Business Analyst role

TRAINING AGENDA	
Duration	Topics
1.5h	<b>ABOUT RPA</b> 1. What is RPA 2. What are the RPA Benefits 3. What processes to automate  <b>4. Processes every company should automate</b> <b>5. Key roles of the RPA COE</b>
3.5h	<b>INTRODUCTION TO UiPath TOOL</b> 1. Extended Demo on UiPath: Studio, Robot + Orchestrator 2. Intro module 3. Difference between Attended and Unattended robots  <b>4. Key Features Studio/Robot and Orchestrator</b> <b>5. Key Security Features</b> <b>6. Hardware and Software Requirements (Studio/Robot and Orchestrator)</b>
2h	<b>PROJECT ORGANIZATION AND BEST AUTOMATION PRACTICES</b> Introductory session on Project organization guidelines and best automation practices
3h	<b>PROCESS ASSESSMENT WORKSHOP</b> Workshop reviewing business processes prone for automation and providing real time process assessments
1.5h	<b>PROCESS DESIGN DOCUMENT</b> Session on introducing the usage of the Process Design Document

### 3. Understanding the RPA Developer role

The RPA Developer is in charge of designing, developing, testing the automation workflows and supporting the implementation of the RPA solution. The RPA Developer works closely with the RPA Business Analyst in documenting / recording process details and with the engagement team in implementing / testing the solution (manage exceptions) as well as maintenance / change control of existing artefacts.

The recommended background and skill set for an RPA Developer are described below. Adding the UiPath-tailored training on top of that will fully enable this role for taking on the key responsibilities which are part of their day-to-day activity.

#### BACKGROUND AND SKILL SET

- Excellent programming/software development background.
- Minimum experience of 3-4 years in .NET, or VB/VBA, and PowerShell is a strong plus.
- Subject Matter Expert in the usage and functionality of the RPA software, openness to work on modern technologies is mandatory.
- Knowledge of HTML, JavaScript (or any scripting language) and dealing with SQL databases are a plus.
- Strong analytical skills with the ability to analyze complex requirements and define technical/functional advanced solutions.
- Previous experience working with RPA tools is a plus
- Excellent communication skills

#### KEY RESPONSIBILITIES

- Timely delivery of the assigned automation (including reporting), estimation of duration
- Responsible for the quality of the assigned automation
- Reporting any changes to the workflow
- Updating the open defects in the defect log
- Provides periodic status on development progress
- First escalation point for any UAT issues
- Responsible for moving the workflow to UAT
- Responsible for creating the process documentation (DSD, MTP, HBO)
- Runs peer review. Fixes issues in development, UAT, Golden transactions
- Provides support to FLS for the processes during testing and warranty period

## TRAINING



# 3. RPA Developer Training



LEVEL 1 – FOUNDATION TRAINING	LEVEL 2 – ORCHESTRATOR 2016.2 TRAINING	LEVEL 3 – ADVANCED TRAINING	
<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Variables, Data Types and Control Flows</li> <li>3. Data Manipulation</li> <li>4. Recording</li> <li>5. Advanced UI Interaction</li> <li>6. Selectors</li> <li>7. Image and Text Automation</li> <li>8. Advanced Citrix Automation</li> <li>9. Excel and Data Tables</li> <li>10. PDF</li> <li>11. Email Automation</li> <li>12. Debugging and Exceptions Handling</li> <li>13. Project Organization</li> <li>14. Training Recap</li> <li>15. Foundation Training Final Test</li> </ol>	<ol style="list-style-type: none"> <li>1. Deployment of Robots</li> <li>2. Provisioning of Robots</li> <li>3. In-depth versioning</li> <li>4. Scheduling jobs</li> <li>5. Monitoring Robots</li> <li>6. Introducing Assets</li> <li>7. Orchestrator Queues</li> </ol>	<p><b>ONLINE</b></p> <ol style="list-style-type: none"> <li>1. UiPath Enterprise Framework video</li> <li>2. UiPath Enterprise Framework process example</li> <li>3. Practical exercise WI5</li> <li>4. Practical exercise WI4</li> </ol>	<p><b>ONSITE</b></p> <ol style="list-style-type: none"> <li>1. Intro</li> <li>2. Data Types, Excel, Selectors, Citrix, Email</li> <li>3. Exceptions Handling</li> <li>4. UiPath Enterprise Framework</li> <li>5. Practical exercise WI5</li> <li>6. Practical exercise WI4</li> </ol>

# RPA Developer Training and Certification

## 1. ONLINE LEARNING PATH



## 2. ONSITE LEARNING PATH

(only the Advanced Training is conducted onsite)



## 3. COMBO LEARNING PATH

(the Advanced Training is completed online before onsite delivery)



## 3. Understanding the Infrastructure Engineer role

The Infrastructure Engineer is in charge of the whole infrastructure including servers, databases, file shares, robot machines and application installation. The Infrastructure Engineer ensures the RPA project has a strong operational base to run on.

The recommended background and skill set for an RPA Infrastructure Engineer are described below. Adding the UiPath-tailored training on top of that will fully enable this role for taking on the key responsibilities which are part of their day-to-day activity.

BACKGROUND AND SKILL SET	TRAINING	KEY RESPONSIBILITIES
<ul style="list-style-type: none"><li>- Network protocols and network administration knowledge, network security - minimum 3 years.</li><li>- Good knowledge of security as it relates to cloud based infrastructure.</li><li>- Proven experience in creating Server Cluster Architectures (Failover Clusters, High Availability systems).</li><li>- Knowledge of Microsoft Active Directory and SQL Server.</li><li>- Ability to work in a cloud based or hosting environment (Microsoft Azure Cloud is a plus).</li><li>- Experience using automated monitoring tools (SCOM, SCCM, Nagios)</li><li>- Knowledge of ITIL and industry best practices</li><li>- Strong virtualization experience using Hyper-V, VMWare, Citrix XenApp/XenDesktop.</li><li>- Experience with Web Server technologies, especially IIS.</li><li>- Experience with workstation management systems and desktop imaging.</li></ul>		<ul style="list-style-type: none"><li>- Setting up the infrastructure</li><li>- Managing infra operations</li><li>- Installing updates for UiPath products, operating systems and other applications</li><li>- Creating new robots and associating them to different environments</li><li>- In charge of the data clean-up strategy</li><li>- Managing the application portfolio on the robot machines</li><li>- Administrator of all Orchestrator environments</li><li>- Security expert for the platform</li></ul>

# 3. Infrastructure Engineer Training



TRAINING AGENDA		
DURATION	TOPICS	
0.5h	<b>UiPath ARCHITECTURE AND INFRASTRUCTURE OPTIONS</b> <ul style="list-style-type: none"> <li>1. UiPath High level Architecture</li> <li>2. Physical deployment Options</li> <li>3. Infrastructure requirements (H/W and S/W)</li> </ul>	
1h	<b>ADMINISTRATIVE FEATURES IN ORCHESTRATOR'S WEB INTERFACE</b> <ul style="list-style-type: none"> <li>1. Orchestrator User Interface and components</li> <li>2. Dashboard</li> <li>3. Users and Roles</li> <li>4. Managing and deploying processes</li> <li>5. Configuration of Assets</li> <li>6. Alerts and Notifications</li> <li>7. Audits and Logs</li> <li>8. Settings, Administration and Configuration</li> <li>9. Troubleshooting</li> </ul>	
0.5h	<b>INTRODUCTION TO ELASTICSEARCH AND KIBANA</b> <ul style="list-style-type: none"> <li>1. What are ElasticSearch and Kibana</li> <li>2. Kibana Interface overview, Discover Page, Visualize</li> <li>3. Kibana Dashboard</li> <li>4. Kibana Settings</li> <li>5. Elasticsearch maintenance and High Availability</li> </ul>	
0.5h	<b>EDITABLE WEB. CONFIG PARAMETERS</b> <ul style="list-style-type: none"> <li>1. Configuring Nlog targets</li> <li>2. Queues related parameters</li> <li>3. Enabling Alerts</li> <li>4. Enabling Windows Authentication</li> <li>5. Multi tenancy</li> <li>6. Load Balancer options</li> </ul>	
0.5h	<b>SECURITY GUIDELINES AND CONSIDERATIONS</b> <ul style="list-style-type: none"> <li>1. Security Configuration features</li> <li>2. Identity, Authentication and Authorization capabilities</li> <li>3. Logging and additional security capabilities</li> <li>4. Security considerations – cloud based or on-premises</li> <li>5. Security Risks</li> </ul>	



# THANK YOU!



# RPA Developer Advanced Training

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PREREQUISITES

The UiPath RPA Developer Advanced Training is a technical training addressed to participants with programming background. The attendees should have the technical skills and knowledge to qualify for a future RPA Developer, RPA Service Support or Solution Architect role.



The training relies on a hands-on approach, with a mix of theory and a simulation of real life project automations. By the end of this module, each participant will have automated a project under the supervision of an UiPath RPA Expert.

# Training Prerequisites



Complete the online UiPath RPA Developer Foundation Learning Plan - UiPath Foundation Training and UiPath Orchestrator 2016.2 Module minimum 2 weeks prior to the planned on site training date.



All candidates should have enough rights on the computers they use during the training sessions, as the UiPath Trainer may request them to install different third party minimal applications for training purposes



UiPath domain should be whitelisted to allow candidates to download any attachments received as in some cases the Trainer may send training materials via email.



The RPA Developer Advanced Training is a full 5-days onsite training therefore all attendees are expected to block the entire week accordingly.

# Technical Prerequisites



UiPath reserves the right to accept candidates in the onsite RPA Developer Advanced Training sessions only if they have completed the Foundation Learning Plan.

Candidates should use their company email addresses to enroll and complete the online trainings.

Each attendee must have UiPath Studio (trial or licensed version) installed throughout the training. The installation package is available [here](#).

# Next Steps



Send the List of Trainees to the Training Coordinator

List of Trainees



Confirm all participants have access/permissions to download and install minimal applications and send confirmation to RPA Trainer.

Access & Permissions



UiPath Studio



Confirm UiPath Studio has been successfully installed on the machines of all training participants send confirmation to RPA Trainer.

Address of the training location for the UiPath Trainer (businesspark/building/floor access/Internet access)

Training location



# RPA Developer Trainings

## LEVEL 1 – FOUNDATION TRAINING

1. Introduction
2. Variables, Data Types and Control Flows
3. Data Manipulation
4. Recording
5. Advanced UI Interaction
6. Selectors
7. Image and Text Automation
8. Advanced Citrix Automation
9. Excel and Data Tables
10. PDF
11. Email Automation
12. Debugging and Exceptions Handling
13. Project Organization
14. Training Recap
15. Foundation Training Final Test

## LEVEL 3 – ADVANCED TRAINING

### ONSITE

1. Intro, Recap (Data Types, Excel, Selectors, Citrix, Email)
2. Exceptions Handling & UiPath Enterprise Framework
3. Practical exercise WI5
4. Practical exercise WI4
5. Practical exercises WI4, Q&A Session





# THANK YOU!



**UiPath**

# UiPath Academy Certifications & Diplomas

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# 1. Academy's Certifications



## Level 1 – Foundation Diploma

Basic Knowledge of UiPath components

The Diploma is attesting the successful completion of the online UiPath Foundation. The RPA Developer Foundation Diploma acknowledges that the graduate has attained basic knowledge about the UiPath components, features, and technology, is familiar with UiPath methods of automating business processes and is qualified for enrolling in the RPA Developer Advanced Training.

## Level 2 - UiPath Orchestrator 2016.2 Training Diploma

Monitoring and management of UiPath Robots' automation activity

The Diploma is attesting the successful completion of the online Orchestrator 2016.2 Module. During the Training, the candidate goes through theoretical concepts and practical knowledge, ensured by rich documentation, a comprehensive video tutorial, hands-on exercises and smart quizzes.

## RPA Developer SAP Automation Training Diploma

SAP-driven processes

The Diploma is attesting the successful completion of the online SAP Module. During the training, the candidate covers theoretical concepts as well as hands-on exercises and quizzes, this training provides strong knowledge and guidelines to automate SAP-driven processes.

## Advanced Certification Program

In-depth knowledge about the UiPath

This includes 2 level certification program for Advanced users, followed by a Certificate attesting that the graduate has attained in-depth knowledge about the UiPath components, features, and technology, has successfully automated a real life project based on UiPath best practices and automation principles, and is now qualified to fulfill any of the key an RPA Center of Excellence.

## 2. Prerequisites

RPA Developer Certificates & Diplomas					
	Level 1 - Foundation Diploma	Level 2 - Orchestrator 2016.2 Diploma	SAP Automation Diploma	Level 3 - Advanced Diploma	RPA Developer Advanced Certificate
Document Type	Diploma	Diploma	Diploma	Diploma	Certificate
Location	Online	Online	Online	Online	Online
Training duration	Self-paced AVG 1h	Self-paced AVG 1h	Self-paced	Self-paced	Theoretical 1h 30 min/ Practical 3h
Prerequisites	Min. 70% score at the UiPath Foundation Training final Quiz	Min. 70% score at Orchestrator 2016.2 Training final Quiz	Min. 70% score at SAP Automation Training final Quiz	Min. 70% score at Advanced Training final Quiz	Advanced Training – Min. 70% score for both steps
Audience	Only technical people with basic programming skills (.NET, C#, VB, etc).	Only technical people with basic programming skills, infra engineers, network admins	N/A	Candidates with strong programming skills	Enterprise users; Candidates with strong programming skills
Attendees	No limit	No limit	No limit	No limit	3-5 enrolled by training coordinator
Pricing	Free of charge	Free of charge	Free of charge	Free of charge	850 USD/person 800 EUR/person
Validity	Lifetime	Lifetime	Lifetime	Lifetime	1 year 205

### 3. Advanced Certification 2 Level Examination

The Certificate is attesting that the graduate has attained in-depth knowledge about the UiPath components, features, and technology, has successfully automated a real life project based on UiPath best practices and automation principles, and is now qualified to fulfill any of the key roles in an RPA Center of Excellence.

#### THEORETICAL EXAM

The Theoretical exam consists of a 45 questions quiz designed to walk you through the mix of knowledge between the basics and advanced UiPath functions and capabilities. The Theoretical exam is a prerequisite for the Practical exam, the candidate having to score a minimum of 70% in order to qualify for the next phase.

**EXAM TYPE:** Online Quiz

**PREREQUISITES:** Advanced Training

**EXAM DURATION:** 1.30hrs

**ATTEMPTS:** 2

**INSTRUCTOR LEAD:** No

**ENROLLMENT:** Manual, done by the UiPath Academy Training Coordinator.

#### KEY RESPONSIBILITIES

The practical exam simulates a real life workflow construction how optimized it is. We are looking at general project organization, how to debug and build workflows, exception handling, all the way through the variable names. The candidates receive 1 subject including 3 exercises of different levels of complexity during the 3 hour, instructor lead exam. The candidate has to score a minimum of 70% in order to get certified.

**EXAM TYPE:** Live Session (Via GoToMeeting)

**PREREQUISITES:** Advanced Training; completion of theoretical exam

**EXAM DURATION:** 3hrs

**ATTEMPTS:** 2

**INSTRUCTOR LEAD:** Yes

**ENROLLMENT:** Manual, done by the UiPath Academy Training Coordinator.

## TRAINING





# THANK YOU!