

UiPath 2020.10 LTS Release Partner Technical Mastermind APAC + INDIA region

Session 2 of 6: AI Fabric & Document Understanding 20.10

28th Oct 2020



20.10 Partner Enablement Plan







In order to enable partner for the 20.10 release earlier than in previous release we are planning to conduct the following types of Sales and Technical enablement:

Sales Enablement
Partner Mastermind Webinar 14 th Oct 2020 ✓
Partner Sales QRTs 5 th Nov 2020
Global Partner Webinar 11 th Nov 2020

Technical Enablement
Technical Live Session 1.5-2 Hour Sessions for Each Product Family 27 th Oct – 12 th Nov 2020
Technical Self Learning in Partner Academy
Technical Documentation in Partner Portal



2020.10 Launch Partner Tech Mastermind Sessions

Phase	Webinar Topics	Date
 Testing	<p>Explore the enhancements to RPA Testing, Application Testing and Test Manager.</p> <ul style="list-style-type: none"> • Support for custom fields and attachments • Microsoft Azure DevOps connector • Xray connector for Jira • SAP Fiori support • Synthetic Test Data Generator Activity and more... 	<p>Register now</p> <p>27th October 2020 at 10:00 am IST/12:30 pm SGT</p>
 AI/ML	<p>Manage and Scale with AI.</p> <ul style="list-style-type: none"> • AIFabric (multi-node support with MS Azure AKS, Docker EE, Integration with Data Manager and more) • Document Understanding (UiPath Document OCR enhanced, automatic model retrain and more) 	<p>Register now</p> <p>28th October 2020 at 10:00 am IST/12:30 pm SGT</p>
 Cloud Services	<p>Start Instantly and Scale Faster with new and improved Automation Cloud, Insights and Orchestrator</p> <ul style="list-style-type: none"> • SOC 2 type 1 certification • Cloud Robots on Azure and AWS • Customer Table Monitoring and Management • Enhanced modern folder and more 	<p>Register now</p> <p>2nd November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Process Understanding	<p>Accelerate automation journey with Process Discovery with enhanced feature</p> <ul style="list-style-type: none"> • More deployment option (MSI) • Action Centre and Robot Integration • SAP Connectors and more 	<p>Register now</p> <p>3rd November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Apps	<p>Get introduced to the low code application builder</p> <ul style="list-style-type: none"> • App Studio • App Runtime user experience • Single click deployment and more 	<p>Register now</p> <p>9th November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Desktop Products	<p>Improve Productivity with smarter Robots for each persona. Deep dive into the enhanced feature of Studio Family and UiPath Assistance</p> <ul style="list-style-type: none"> • Modern UI Automation • Unified Recorder • Enhanced governance • Customised input arguments and more 	<p>Register now</p> <p>12th November 2020 at 10:00 am IST/12:30 pm SGT</p>

Main Speaker



Alexandru Luca
Solution Architect

Supported By



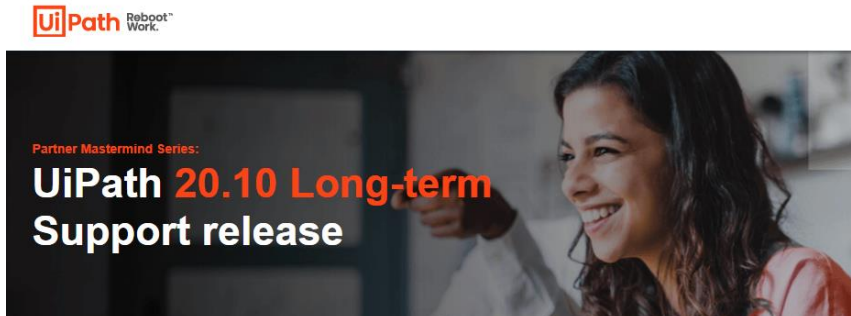
Sameena Tarannum
Senior RPA Developer

Quick Housekeeping notes

- Please enter your question in the Q&A box.
- We will address the questions along the way, at the end of the presentation or by follow up email.

FAQ: Is this webinar recorded?

Yes, this webinar is recorded and will be shared in Partner Portal or a dedicated webpage:



[APAC+INDIA Partner Tech Mastermind on 2020.10 LTS Release](#)

Q&A

You asked: 04:05 PM

How do you like Zoom so far?

Aidan Crosbie would like to answer this question live.

Please input your question...

☐ Send Anonymously

Send

Disclaimer

The following information is considered UiPath Internal and Business Partner only. For any additional materials, please contact your UiPath Partner Manager

Agenda

01 Use Case & Product Demo

02 AI Fabric

03 Document Understanding

04 Additional Resources

05 Q&A

1

Use-Case & Product Demo

2 AI Fabric

AI Fabric Agenda

- 01** What is AI Fabric?
- 02** “Automate More!” and Key Differentiators
- 03** ML Overview and UiPath Starter AI Models
- 04** AI Fabric and Other Products
- 05** New in 20.10 Enterprise Release
- 06** AI Fabric Flavors
- 07** Licensing & Pricing

AI Fabric Agenda

01

What is AI Fabric?

- Define AI Fabric

What is AI Fabric?

An integrated platform for ML model lifecycle management



How do I

DEPLOY

an ML model?



How do I

CONSUME

an ML model?



How do I

MANAGE

an ML model?



How do I

IMPROVE

an ML model?

AI Fabric Agenda

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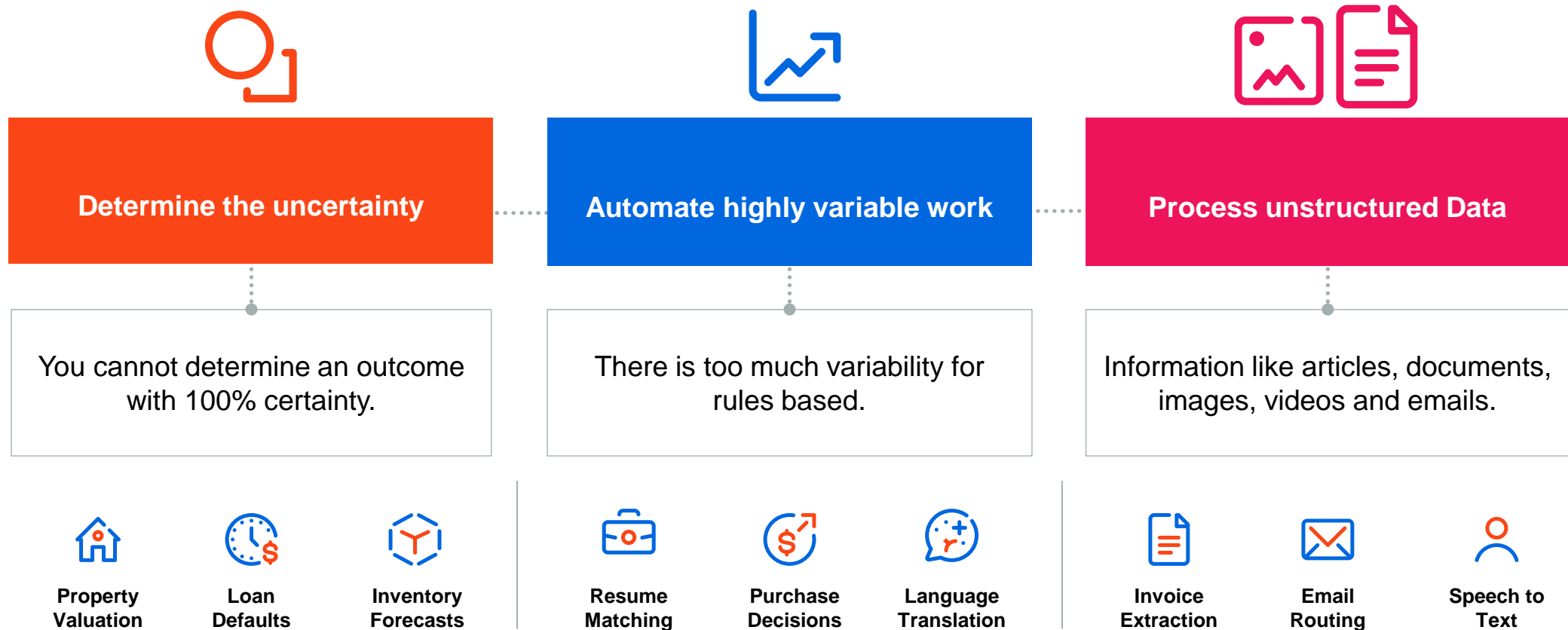
02

“Automate More!” and Key Differentiators

- Why you need AI in automation workflows
- What are the key differentiators

Why do you need AI in automation workflows?

Automate More!



AI Fabric Key Differentiators

Automate more

Bring your own
models

Models from
UiPath and
partners

Constantly
improve ML
models with
retraining

Multiple
deployment
options

Deep integration
with other
UiPath products

AI Fabric Agenda

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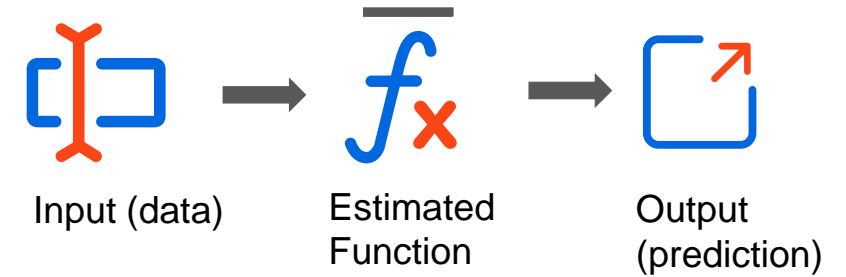
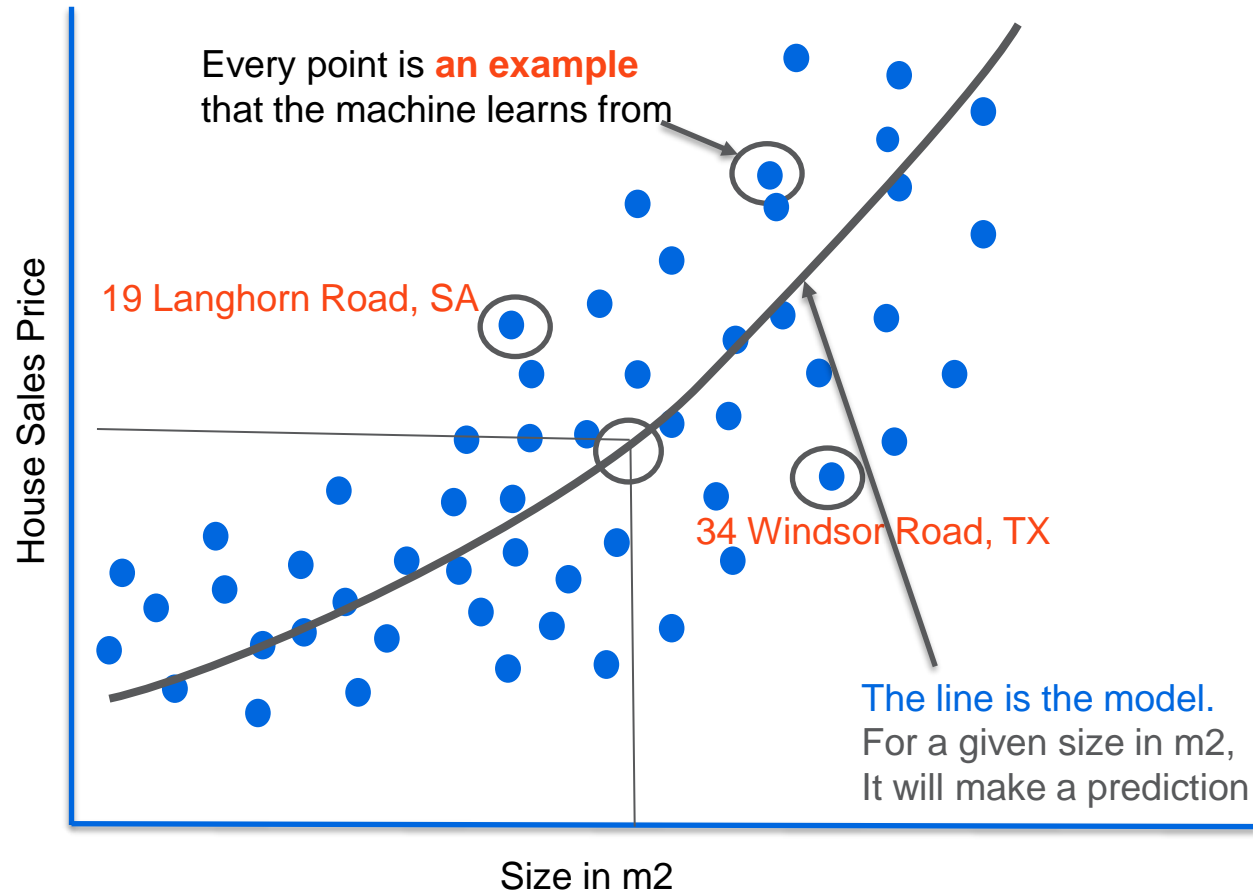
03

ML Overview and UiPath Starter AI Models

- How Machine Learning works
- What are the UiPath Starter AI models

How Machine Learning works?

Machine Learning refers to a set of approaches for estimating functions.



- Regardless of what function we choose, it will never fit the data perfectly.
- We won't have access to unlimited data or all the factors that influence the output (price).
- The goal is to minimize the errors that it makes.



UiPath Starter AI Models

UiPath Document Understanding

Invoices – Generic model,
India, Australia, Japan ★

Receipt ★

Generic Semi-
Structured Extraction ★

Purchase Orders ★

Utility bills ★

Language Analysis

Text Classification – ★
English, French

Language Detection

Named Entity
Recognition

Sentiment
Analysis

Language Comprehension

Question Answering

Semantic Similarity

Text Summarization

Open Source Others

Image Moderation

Object Detection ★

Language Translation
— English to French,
German, and Russian

Tabular Data ★

Out of the Box Models

What to expect from OOB models?

- OOB models can be UiPath proprietary (like the DU models) or Open Source pre-trained models coming from popular R&D teams (eg Facebook AI).
- They can be **Not Retractable** (deploy as ML Skill and use as they are, without possibility of improving the performance) or **Retractable** (use Pipelines to gather knowledge from your own dataset resulting into a custom ML Skill // have the feedback loop). The Retractable ones are marked with a star in the previous slide

What to expect when retraining a model?

- Whenever retraining a model (either through Full or Train Pipeline) the result will be a new ML Package version x.1 which contains additional information gathered from the respective dataset.
- It is suggested for deep learning architectures to retrain on bigger datasets and always retrain the base model with all data (this way, during the training the model can find better connections / patterns from all data)

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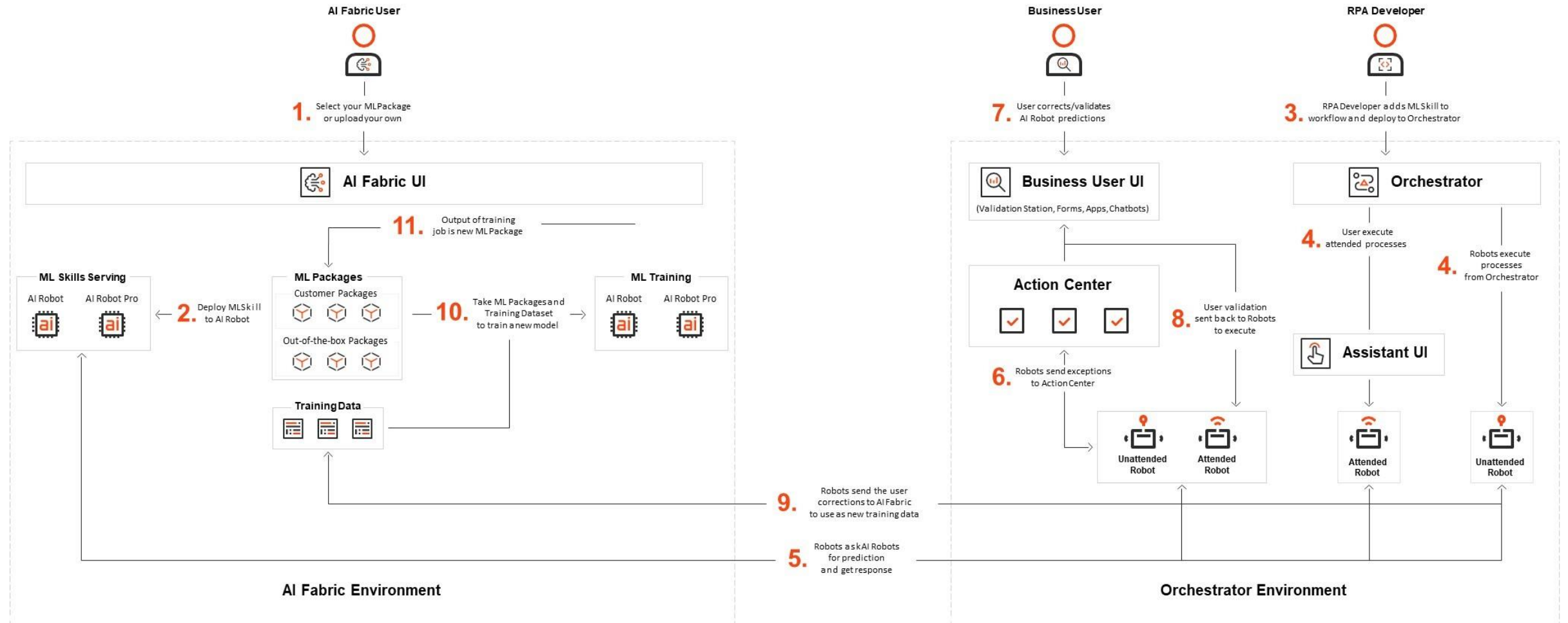
- How Machine Learning works
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AI Fabric and Other Products

- How AI Fabric interacts with other products

AI Fabric and Other UiPath Products



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New in 20.10 Enterprise Release

- What’s new in AI Fabric

New in 20.10 Enterprise Release

- AI Fabric On-premise:
 - Public endpoints for ML skills
 - Air-gapped installation (no internet access required)
 - Multi-node installation (Azure AKS, Docker Enterprise Edition, RedHat OpenShift - **preview**)
 - New OS support (Red Hat Enterprise Linux, CentOS)
 - Streamlined installation process
- Data Manager integration with AI Fabric (in preview)

Public Endpoints for ML skills

- ML Skills running on AI Robots can be utilized:
 - Directly – by robots connected to the Orchestrator instance
 - Via a public endpoint – by robots connected to other Orchestrator instances
- Available for AI Fabric on-premise
- Coming to AI Fabric cloud

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AI Fabric Flavors

- Discover the newest AI Fabric deployment options
- Differentiate between single-node and multi-node installation types

AI Fabric Flavours

In cloud

- Deploy, manage and improve ML models on UiPath Automation Cloud
- No infrastructure, no maintenance
- Uptime guarantee for enterprise version
- Frequent patches with new features and bug fixes, in accordance with the Cloud Platform release cadence

On-premise online

- Deploy, manage and improve ML models locally
- Customer-managed infrastructure
- Fully integrated with on-premise Orchestrator
- Patches released with much slower cadence
- Easy installation due to the automatic retrieval of installer & artifacts from the internet
- Easy management as updates to AIF and/or models can be automatically downloaded
- DU metering done in UiPath Cloud

On-premise air-gapped (new)

- Deploy, manage and improve ML models locally
- Customer-managed infrastructure
- Fully integrated with on-premise Orchestrator
- Patches released with much slower cadence
- All resources must be manually downloaded and then loaded in the node. Thus:
 - More difficult to install
 - More difficult to manage
- DU metering done in Orchestrator
- No internet access required

AI Fabric On-premise Installations

Supported Operating Systems:

- Ubuntu
- Red Hat Enterprise Linux **(new)**
- CentOS **(new)**

Single-node

- AI Fabric can be deployed on any physical or virtual machine
- AI Fabric installer includes the installation of Kubernetes on the machine
- It is recommended to install on a fresh cloud VM in:
 - Azure
 - AWS
 - GCP

Multi-node **(new)**

- AI Fabric is deployed on a Kubernetes cluster provided by the customer
- Supported providers are:
 - Azure Kubernetes Service
 - Docker Enterprise Edition
 - Red Hat OpenShift **(in preview)**
- Advantages:
 - High availability
 - Scaling with ease

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Licensing & Pricing

AI Fabric Licensing & Pricing

AI Fabric Cloud

- **AI Robot:**
 - Runs 2 ML skills or 1 training job at a time
- **AI Robot Pro:**
 - Runs 2 ML skills or 1 training job at a time with GPU available

AI Fabric On-premise

- **AI Robot:**
 - Runs 2 ML skills or 1 training job at a time
 - On-prem AI robots can utilize available GPUs; there's no need for a *pro* version

- AI Fabric environments (dev/test/production) are licensed in the same way.
- **Note:** Exporting and migrating models between AI Fabric instances is not yet supported
- **AI Robots** are required to use **Document Understanding** ML models. For information, please see slide [Document Understanding and AI Fabric Licensing Dependencies](#).
- The latest pricing and licensing information on AI Fabric can be found on the UiPath Partner Portal under the Licensing section

Document Understanding

Document Understanding Agenda

- 01** What is Document Understanding?
- 02** Context for Document Understanding
- 03** New in 20.10 Enterprise Release (Overview)
- 04** Architectural Updates
- 05** New Features (in Detail)
- 06** Minimum Version Requirements
- 07** Document Understanding Licensing & Consumption
- 08** DU Licensing Dependencies with Human-in-the-Loop and AI Fabric

Document Understanding Agenda

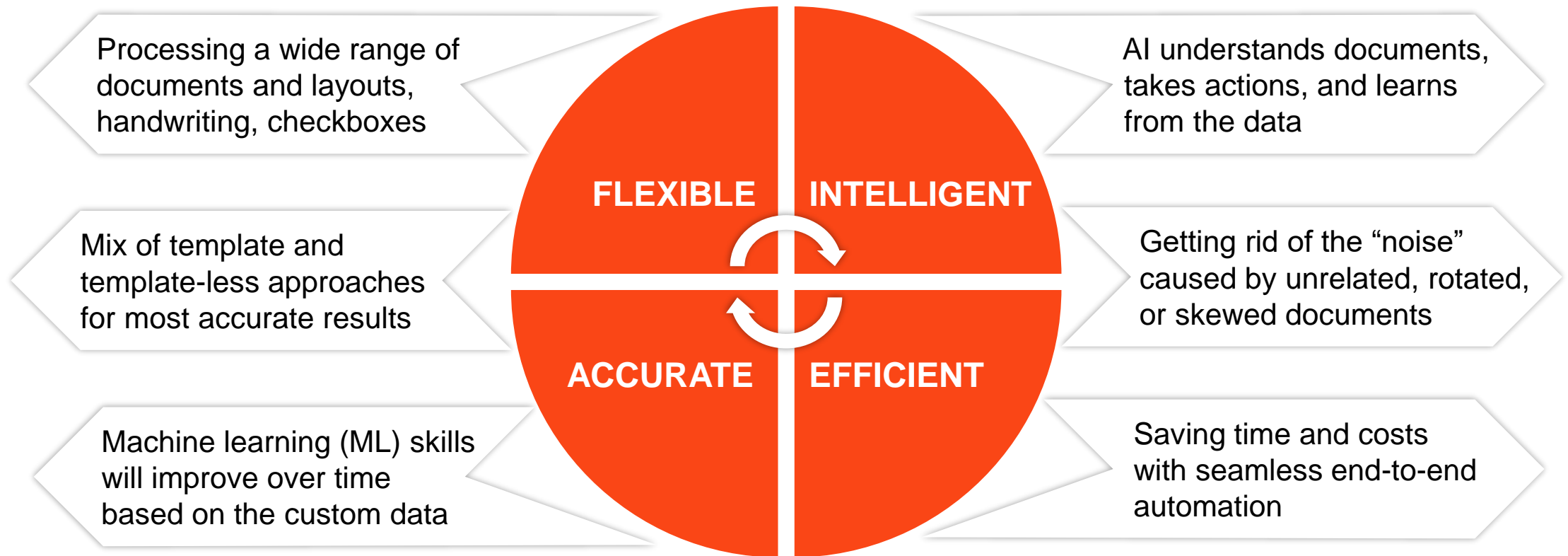
01

What is Document Understanding?

- Define Document Understanding
- Why Document Understanding is at the Core of RPA

What is Document Understanding?

The ability to **extract** and **interpret information** and **meaning** from a wide range of documents



Document Understanding Is at the Core of RPA



One of the main promises of RPA is **freeing up data trapped in documents**



There is no company in the world which does not **deal with documents**, especially in the industries like banking, finance, insurance, manufacturing, HR, public sector



Any selling process involves repetitive document processing (accounts payable & receiving, invoices and receipts, sales orders, shipment tracking)

Document Understanding Agenda

01

What is Document Understanding?

- Define Document Understanding
- Why DU is at the Core of RPA

02

Context for Document Understanding

- Business Process context
- Capabilities
- Strengths and Differentiators
- Managing clients' expectations and success criteria

Document Understanding in Business Processes

Document Understanding **on its own** is very rarely an end-to-end process. But instead, it is a key piece of collecting the necessary data within a larger workflow:

- Documents must be retrieved from one or more sources – eg: as email attachments, downloaded from a site, exported from an application, etc.
- Extracted data must be input into subsequent applications in order to properly utilize it

The image displays three distinct business forms used for document understanding:

- Form W-9 (IRS):** A Request for Taxpayer Identification Number and Certification form for Genesis Education Inc. It includes fields for name, address, and tax classification, with a signature of the authorized person.
- All India Institute of Medical Sciences Purchase Proposal Request Form:** A form for requesting a purchase proposal, including fields for item details, quantities, and prices, with a section for justification.
- Fiche signalétique de transfert d'un lot de (French):** A form for transferring a lot of goods, including fields for the lot number, date, and location, with a section for the transfer details.

Document Understanding Capabilities

One of our biggest differentiators between us and a company focused solely on Document Understanding are our **RPA capabilities and platform integrations**.

We can look beyond data extraction, and make sure we automate the **entire** process, all while being **technology agnostic**. Our platform allows you to pick the technologies that work best for you during each step of the process.

We can leverage all kinds of technologies because of our robust strategic partnerships.

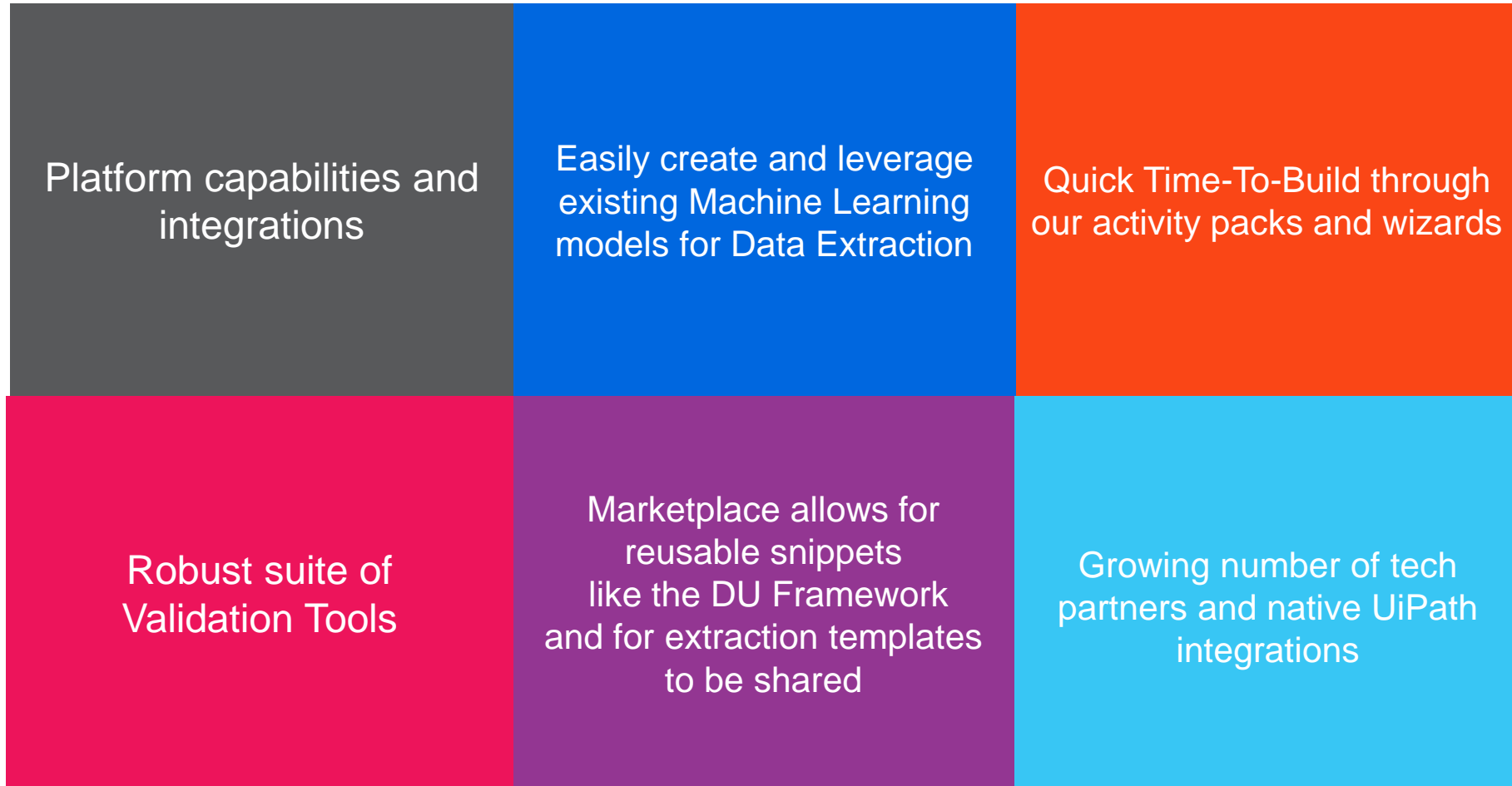
EXTRACTION

- **Hybrid extraction**
 - Same project can use templates and ML models
 - Multiple methods can be used to optimize results for large document sets
- **Handwriting capabilities**
- **Robust ML Extraction**
 - Custom model creation
 - Out of the box models
 - Retraining capabilities
- **Signature detection**
- **Checkboxes and Radio Buttons**

VALIDATION

- **BIG DIFFERENTIATOR**
 - We can leverage the full power of RPA to aid in all kinds of validation
 - Cross-referencing data
 - Compare data to API or database query results
 - Identifying multiple documents in an input file
- **Validation Station**
 - Speeds up exception handling time for humans
 - Retrain capabilities with 20.10 for ML Models
- **Action Center**
 - Validation Station integration
 - Email notifications
 - Form building capabilities

UiPath's DU Strengths & Differentiators



Managing Expectations and Success Criteria

The quickest way to have an unhappy customer when starting with DU is by neglecting to set and manage expectations.

Document Understanding is not magic. If done right, it can seem like it 😊.

Sample questions to ask to ensure a good understanding of the use case:

- Do they process enough documents to warrant the costs?
- Are their documents scanned or digital?
- Are handwriting capabilities required?
- Can you access the document in the form of a file, or does the document solely exist within one of their systems?
- Do they have certain document types that account for most of their document set?
- Is an ML or template approach appropriate? Or a hybrid?
- How many types/versions of documents are expected? How many languages? Can we get sufficient samples?

SUCCESS CRITERIA

Success criteria will vary from automation to automation.

- For example, a handwriting vs machine printed document is going to result in different “acceptable” accuracy levels
- A new ML model might have a lower extraction accuracy at first, but results will improve over time with proper retraining
- If your process is going to have 20 different templates, understanding the time that goes into building and maintaining those vs creating and training an ML model

A large part of successful implementations comes from truly understanding their document set and what solution fits their need and their FUTURE needs as well.

- A templated approach may work in the short term, but long term an ML model may be best.
- At face value, the documents may be able to be extracted, but the larger process could cause problems down the road. Analyze the whole process as well as their document set.

Choosing the Right Approach

Structured Documents

Structured documents generally focus on collecting information in a precise format. They are generally called forms and contain exclusively key-value pairs and tables.

Examples:

- Fixed-form documents (tax forms, government forms, etc.)
- Surveys

Recommended Approach:

- Regex Extractor
- Form Extractor
- Intelligent Form Extractor

Semi-Structured Documents

Semi-structured documents are documents that do not follow a strict format the way structured forms do and are not bound to specified data fields. They may contain paragraphs as well, but data is mainly to be found in key-value pairs.

Examples:

- Invoices
- Receipts
- Purchase Orders

Recommended Approach:

- Machine Learning Extractor

Unstructured Documents

Unstructured documents are documents in which the information isn't organized according to a clear, structured model. These files are all easily comprehensible by human beings, yet much more difficult for a robot. Some documents may contain key-value pairs and tables, but much of the data is unstructured "free text"

Examples:

- Contracts
- Annual Reports

Recommended Approach:

- Tech Partner integrations

Note: UiPath capabilities for tackling unstructured documents are on the roadmap for 2021

Document Understanding Agenda

01

What is Document Understanding?

02

Document Understanding in the Hyperautomation Context

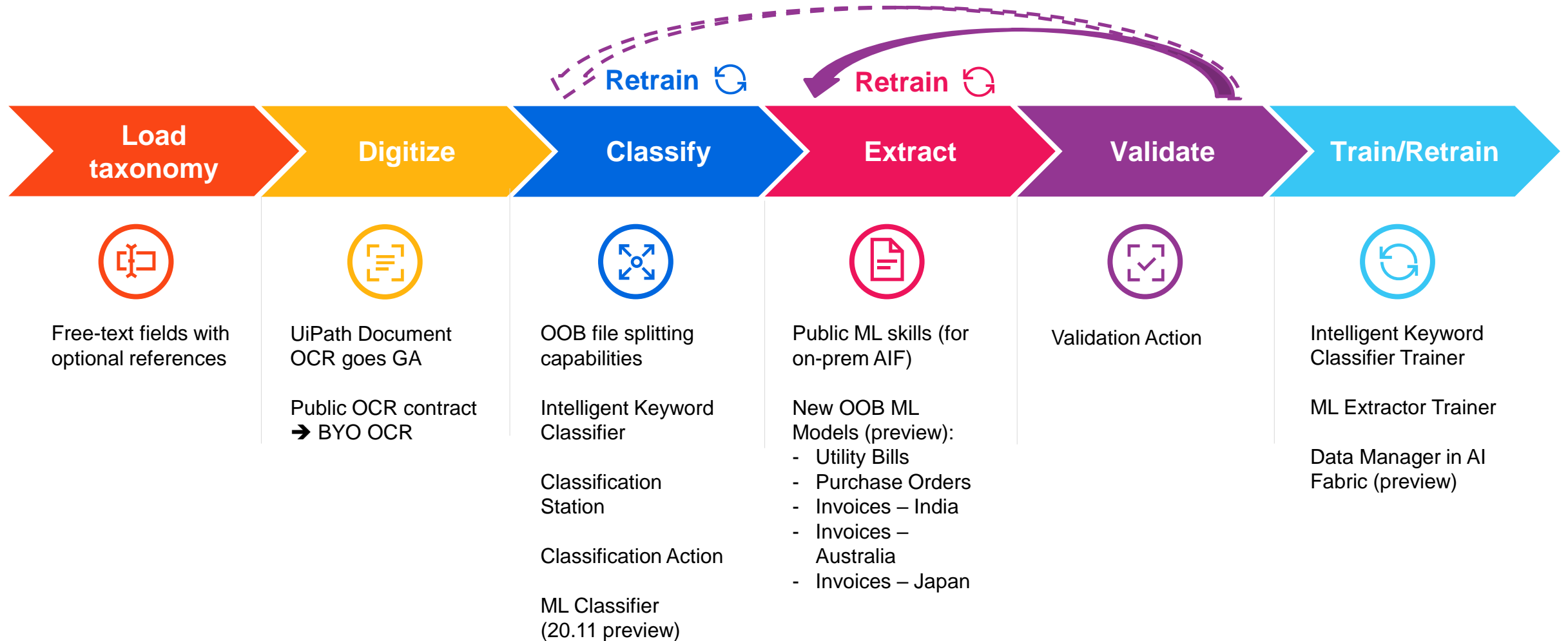
- Business Process context
- Capabilities
- Strengths and Differentiators
- Managing clients' expectations and success criteria

03

New in 20.10 Enterprise Release (Overview)

- Overview of the 20.10 new Document Understanding features
- Enterprise Release 20.10 additions (Document Understanding in Action Center, Architectural Updates, Data Manager, Japanese support)

New 20.10 Features in the Document Understanding Framework



Other additions in the 20.10 Enterprise Release



- Human-in-the-Loop (HitL) Classification and Validation integrated in Action Center
- DU Architectural updates:
 - Air-gapped on-premise option – no licensing/metering calls to UiPath Cloud Platform
 - Closing the training loop with the ML Extractor Trainer

Additional features in preview:

- Data Manager integration with AI Fabric
- Japanese support for ML extraction (cloud-only; used for **Invoices – Japan**)

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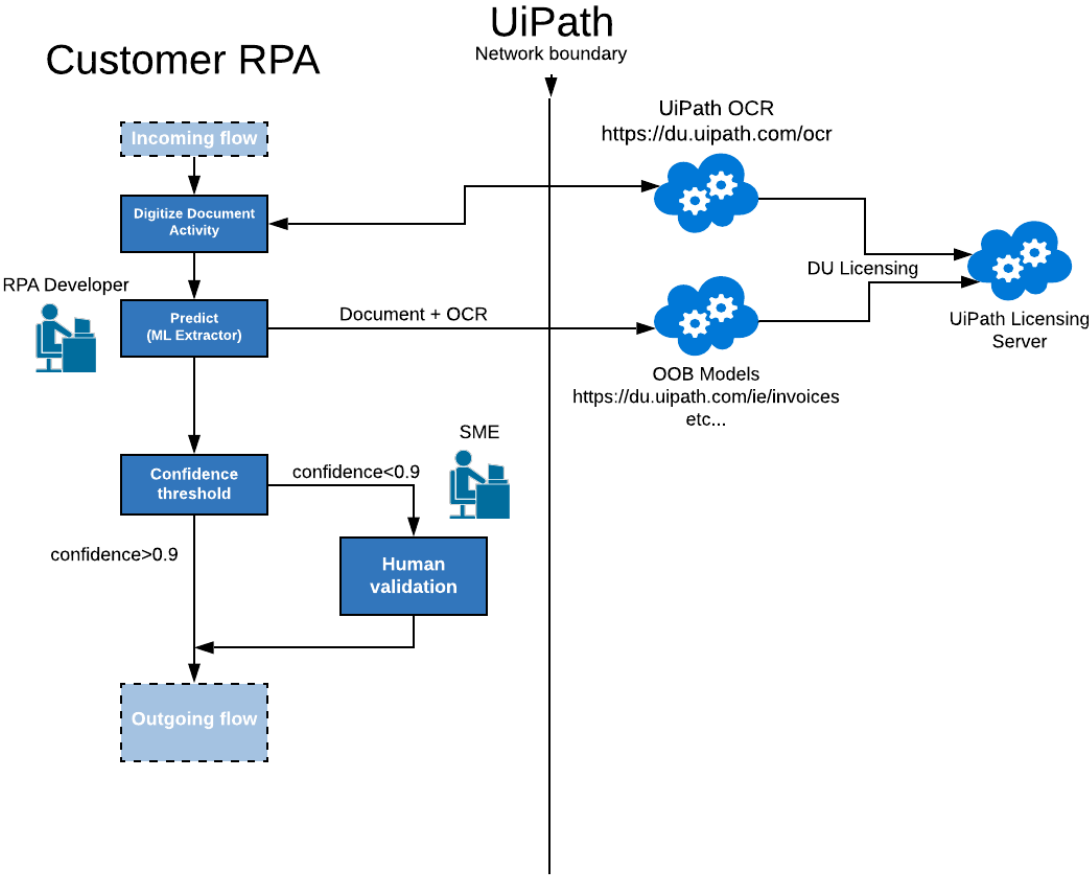
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Architectural Updates

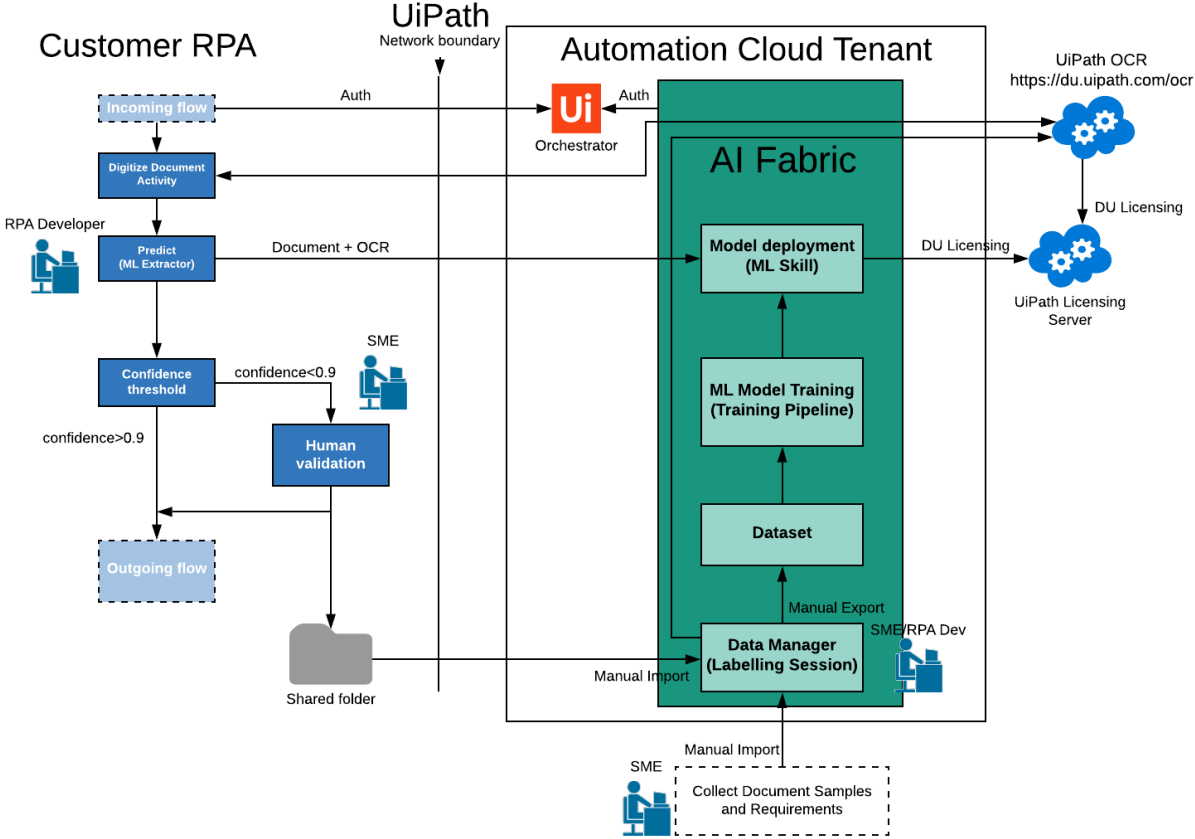
- Cloud
- On-Prem

DU Architecture & Metering – Cloud

DU 20.10 Public Service

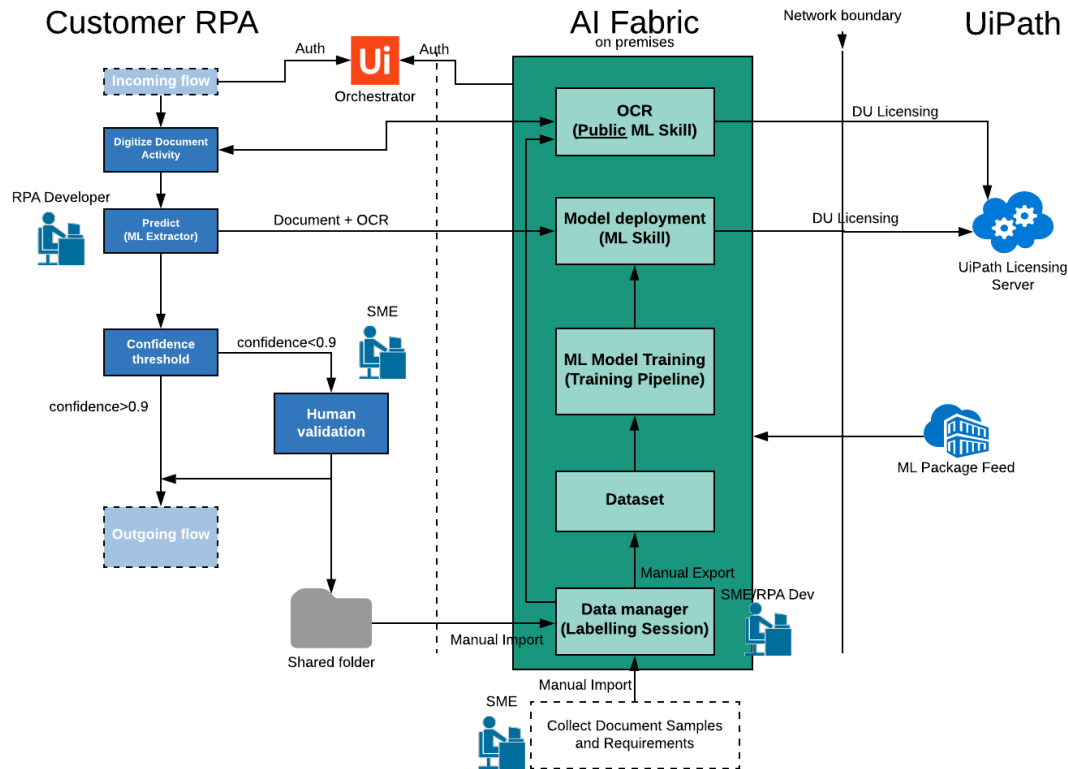


DU 20.10 Cloud

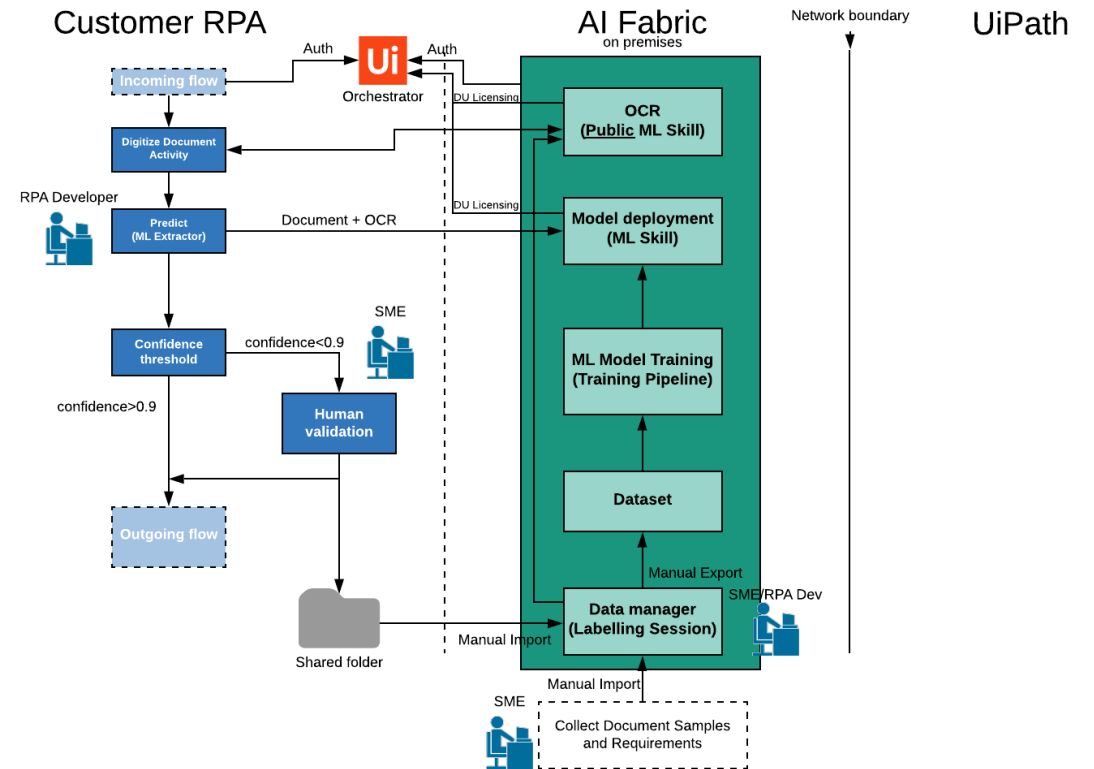


DU Architecture & Metering – On-prem

DU 20.10 On-Prem, Online



DU 20.10 On-Prem, Air-gapped



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Architectural Updates

- Cloud
- On-Prem

05

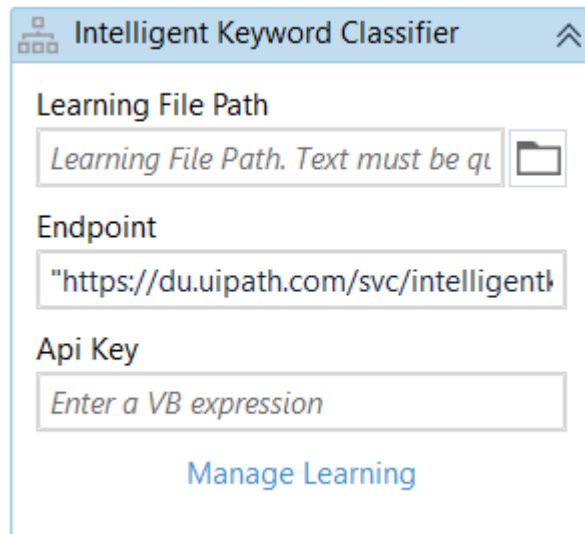
New Features (in Detail)

- Intelligent Keyword Classifier & Intelligent Keyword Classifier Trainer
- Machine Learning Classifier
- Classification Station
- Document Understanding in Action Center
- Machine Learning Extractor Trainer
- New Document Understanding ML Models

Intelligent Keyword Classifier & Trainer

Intelligent Keyword Classifier Activity

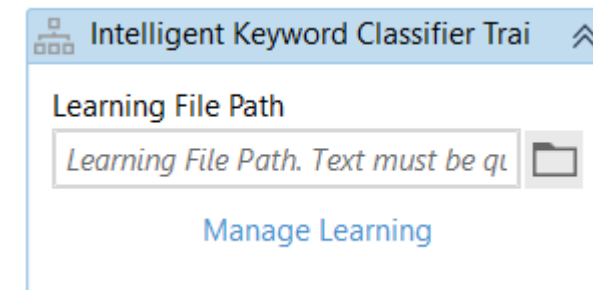
- Advanced classification logic, based on words vectors
- Detection of multiple documents within the same file



The screenshot shows the 'Intelligent Keyword Classifier' activity configuration window. It has a title bar with a folder icon and an expand/collapse arrow. The window contains three input fields: 'Learning File Path' with a placeholder 'Learning File Path. Text must be q...', 'Endpoint' with a placeholder 'https://du.uipath.com/svc/intelligent', and 'Api Key' with a placeholder 'Enter a VB expression'. Each field has a folder icon to its right. At the bottom, there is a blue button labeled 'Manage Learning'.

Intelligent Keyword Classifier Trainer Activity

- Enhances the training set used for classification
- Training helps improve classification results over time



The screenshot shows the 'Intelligent Keyword Classifier Trainer' activity configuration window. It has a title bar with a folder icon and an expand/collapse arrow. The window contains one input field: 'Learning File Path' with a placeholder 'Learning File Path. Text must be q...' and a folder icon to its right. Below the input field is a blue button labeled 'Manage Learning'.

Machine Learning Classifier (20.11 preview)

- The ML Classifier is a solution consisting of a trainable ML model in AI Fabric paired with a Studio activity
- The classifier will be able to identify all logical documents within an input file
- A comparison between the new Classifier capabilities is shown below:

Machine Learning Classifier

- Requires a bigger dataset for initial model training
- Time and effort required for initial document labeling
- ++ Provides a superior identification of diverse documents

Intelligent Keyword Classifier

- + Can be used with fewer sample documents
- + Simple initial training via the embedded wizard

Classification Station

Facilitates:

- Classification validation
- Manual classification
- Files can be “split” into different logical documents (if needed)

UiPath Classification Station "Invoice"

100% Invoice

100% -- Not Classified --

Company X

Delivery address
12, Nice Street
Dream City
Wonder State
USA

Billing address
12, Nice Street
Dream City
Wonder State
USA

Credit note no 123-ABC-0000-1234

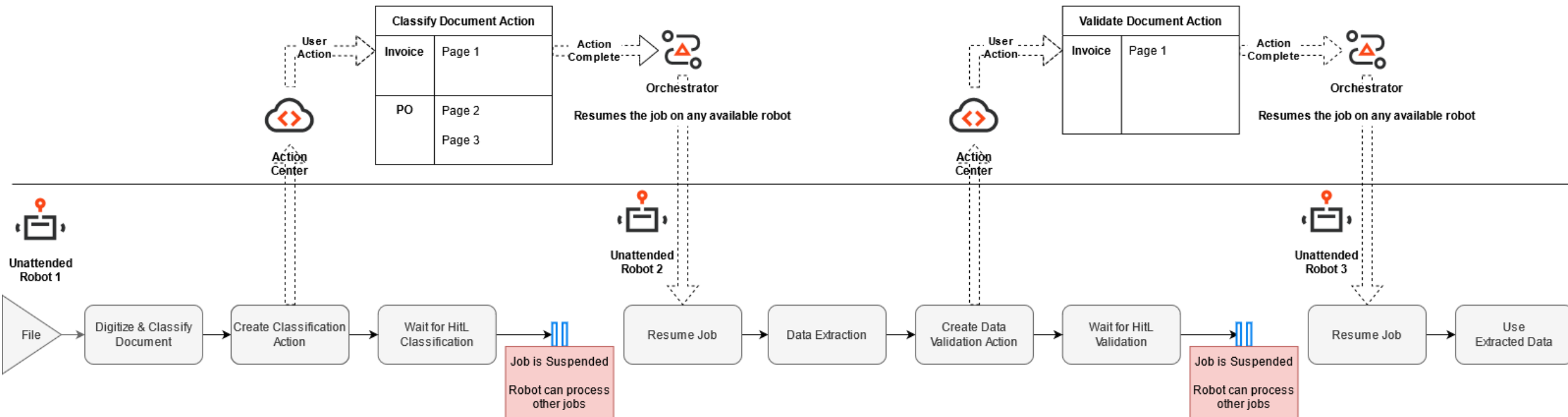
Date 22.03.2020
Customer 380513
Sales tax Export
Payment condition 30 days net
Due date 24.04.2020 \$ 29769.20

Reference	Designation	Unit	Qty	Net unit price	Total \$	Sales
Prod1	Desc12	Uni	5	700.00	3500.00	220
Prod2	Desc34	Uni	3	480.00	1440.00	220
Prod3	Desc56	Uni	1	120.00	120.00	220
Prod4	Desc78	Uni	10	200.00	2000.00	220
Prod5	Desc90	Uni	5	110.00	550.00	220
Prod6	Desc80	Uni	10	360.00	3600.00	220
Prod7	Desc70	Uni	10	630.00	6300.00	220
Prod8	Desc60	Uni	15	210.00	3150.00	220
Total			59		20660.00	

Discard changes Save

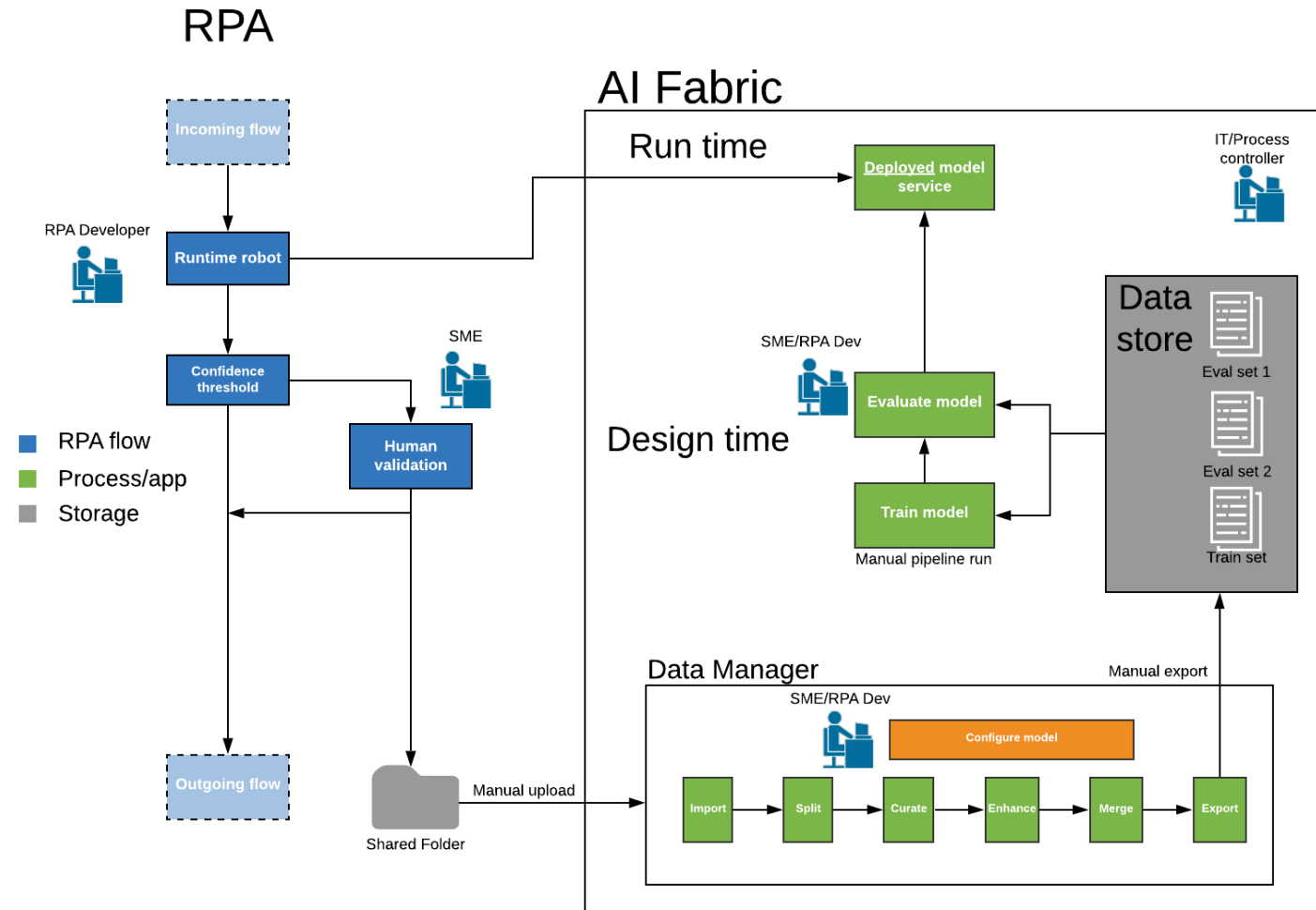
Document Understanding in Action Center

- Actions are tasks to be performed by users; user intervention is required before proceeding to the next processing step
- Classification Action & Validation Action introduce HitL for unattended robots
- Easy to scale as Robots are pooled
- Users don't wait for robots and robots don't wait for users:



Machine Learning Extractor Trainer Activity

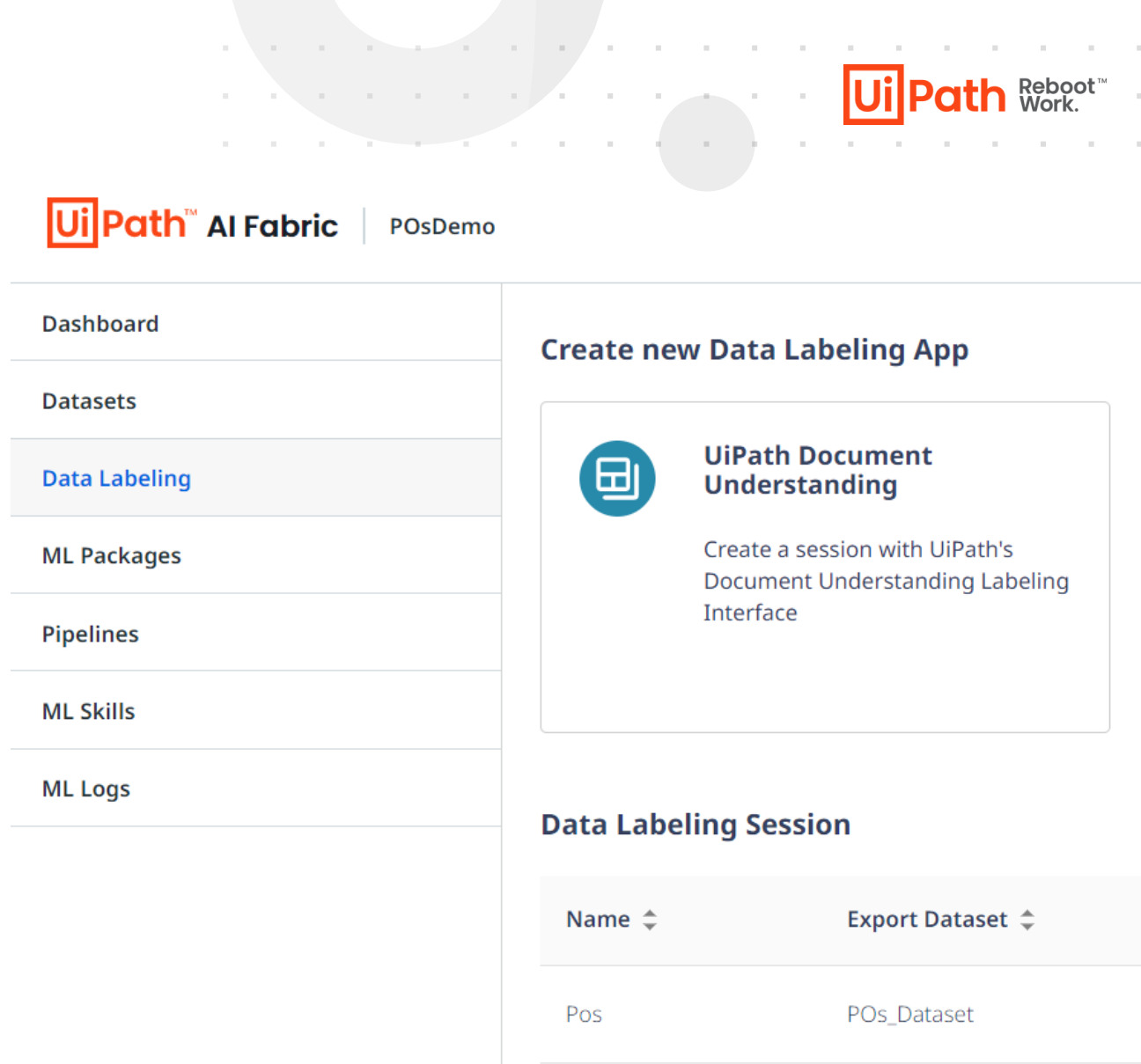
- Outputs human-validated data into a format that can be later imported into Data Manager
- Enables closing the loop: retraining of Document Understanding ML models with human-validated data
- Human-validated data can be manually fed back into the Data Manager to improve the training data set.



Data Manager Integration with AI Fabric (preview)

In Preview

- Data Manager is a web application that facilitates labelling documents in order to train/retrain Document Understanding ML models. It can:
 - Import documents
 - Create or import a labelling schema
 - Pre-label documents with an existing ML model
 - Label documents
 - Export documents as a dataset usable by pipelines within AI Fabric
- Embedded in AI Fabric starting with 20.10



The image shows a screenshot of the UiPath AI Fabric web application interface. At the top right, the UiPath logo and 'Reboot™ Work.' tagline are visible. Below the header, the page title 'UiPath™ AI Fabric | POsDemo' is displayed. On the left, a sidebar menu lists navigation options: Dashboard, Datasets, Data Labeling (highlighted in blue), ML Packages, Pipelines, ML Skills, and ML Logs. The main content area is titled 'Create new Data Labeling App' and features a card for 'UiPath Document Understanding'. This card includes a document icon and the text: 'Create a session with UiPath's Document Understanding Labeling Interface'. Below this, a section titled 'Data Labeling Session' contains a table with two columns: 'Name' and 'Export Dataset'. The table has one row with the values 'Pos' and 'POs_Dataset'.

Name	Export Dataset
Pos	POs_Dataset

New Document Understanding ML Models (preview)

UiPath Document Understanding launched 5 more ML Models in Preview on both Cloud and On Premises deployments.

- All models are retrainable, so their objective is two-fold.
First, you get new, Out-Of-the-Box, Document Understanding capability.

But perhaps more importantly, you get a leg-up for training a custom ML model for your specific use case, by using these models as Base Models in AI Fabric (both On Premises and in the Cloud).

- For an overview of all ML models and their capabilities, see the [Document Understanding documentation](#)
- New Document Understanding models and public endpoints:

Purchase Orders:	https://du.uipath.com/ie/purchase_orders
Utility Bills:	https://du.uipath.com/ie/utility_bills
Invoices India:	https://du.uipath.com/ie/invoices_india
Invoices Australia:	https://du.uipath.com/ie/invoices_au
Invoices Japan:	https://du.uipath.com/ie/invoices_japan

Document Understanding ML Models

UiPath™ AI Fabric

Dashboard

Datasets

Data Labeling

ML Packages


Pipelines


ML Skills


ML Logs


ML Packages / Out of the box Packages / UiPath Document Understanding


UiPath Document Understanding


**DocumentUnderstanding**
Machine Learning model for extracting commonly occurring data points from Semi-structured or Structured documents, including regular fields...


**Invoices**
Machine Learning model for extracting commonly occurring data points from Invoices, including header fields and line items. Please see more...


**InvoicesAustralia**
Machine Learning model(available in Preview) for extracting commonly occurring data points from Invoices from Australia, including header f...

**InvoicesIndia**
Machine Learning model(available in Preview) for extracting commonly occurring data points from Invoices from India, including header field...

**PurchaseOrders**
Machine Learning model(available in Preview) for extracting commonly occurring data points from Purchase Orders, including header fields an...

**Receipts**
Machine Learning model for extracting commonly occurring data points from Receipts, including header fields and line items. Please see more...

**UtilityBills**
Machine Learning model(available in Preview) for extracting commonly occurring data points from Utility Bills. Please see more details incl...

**InvoicesJapan**
InvoicesJapan

Purchase Order ML Model (preview)

- A **purchase order (PO)** is a commercial document and first official offer issued by a buyer to a seller indicating types, quantities, and agreed prices for products or services. Purchase orders can be an essential part of enterprise resource planning system orders.
- Our DU out of the box models now include pre-trained model for Purchase Orders. The ML model is trained to extract commonly occurring data points from Purchase Orders, including header fields and line items:
 - PO Number
 - Date
 - Client Name
 - Client Address
 - Vendor Name
 - Vendor Address
 - Shipping Name
 - Shipping Address
 - Billing Name
 - Billing Address
 - Payment Terms
 - Delivery By Date
 - Discount
 - Net Amount
 - Tax Amount
 - Tax Rate
 - Total Amount
 - Currency
 - Line Items
 - ✓ Line Number
 - ✓ Description
 - ✓ Product Code
 - ✓ Delivery Date
 - ✓ Unit of Measure
 - ✓ Unit Price,
 - ✓ Quantity,
 - ✓ Line Net Amount
 - ✓ Line Tax Rate,
 - ✓ Line Tax Amount
 - ✓ Line amount

Utility Bills ML Model (preview)

- A utility bill audit is a comprehensive review of an organization's utility invoices to include Electric, Gas, Water/Sewer and Waste invoices in order to track billing errors and evaluate rate plans
- Our DU out of the box models now include pre-trained model for Utility Bills. The ML model is trained to extract commonly occurring data points from utility bills:

- Billing Name
- Billing Address
- Vendor Name
- Vendor Address
- Account Number
- Invoice Number
- Total Amount
- Invoice Date
- Due Date
- Payment Address
- Service From Date
- Service To Date
- Payment Terms
- Previous Balance
- Document Type
(Invoice or Statement)

Invoices India ML Model (preview)

Challenges

About 90% of Indian invoices specific information, such as:

- GSTIN number
- CGST
- SGST
- IGST tax rates and values.

Retrained Invoices-India Model

- name
- vendor-addr
- billing-name
- billing-addr
- shipping-addr
- invoice-no
- payment-terms
- due-date
- po-no
- date
- net-amount
- tax
- total
- currency
- items
 - ✓ line-no
 - ✓ description
 - ✓ item-po-no
 - ✓ quantity
 - ✓ unit-price
 - ✓ line-amount
- supplier_gstin
- vendor_gstin
- sgst_percentage
- cgst_percentage
- sgst_total
- cgst_total
- igst_percentage
- igst_total

Invoices Australia ML Model (preview)

Challenges

Most of the Australian invoices contain specific Bank Information:

- Australian Business Number(ABN)
- Bank Account Name
- Bank Account Number
- BSB

Retrained Invoices-Australia Model

- name
- vendor-addr
- billing-name
- billing-addr
- shipping-addr
- invoice-no
- payment-terms
- due-date
- po-no
- date
- net-amount
- tax
- total
- currency
- items
 - ✓ line-no
 - ✓ description
 - ✓ item-po-no
 - ✓ quantity
 - ✓ unit-price
 - ✓ line-amount
- abn
- account-name
- account-number
- bsb

Invoices Japan ML Model (preview, cloud only)

Challenges

- Japanese support for ML Extraction
 - Cloud only – works solely with Google Cloud OCR
 - Retraining only with documents labelled in Data Manager
 - Cannot retrain with user-validated data (from Validation Station/Action)
- Japan-specific invoice columns

Retrained Invoices-Japan Model

- | | |
|---|--|
| <ul style="list-style-type: none">• name• vendor-addr• billing-name• billing-addr• shipping-addr• invoice-no• payment-terms• due-date• po-no• date• net-amount• tax• total• currency | <p>Items table:</p> <ul style="list-style-type: none">✓ line-no✓ description✓ item-po-no✓ quantity✓ unit-price✓ line-amount✓ line-net-amount✓ line-tax-amount✓ line-discount✓ part-no |
|---|--|

Document Understanding Agenda

01

What is Document Understanding?

02

Document Understanding in the Hyperautomation Context

03

New in 20.10 Enterprise Release (Overview)

04

Architectural Updates

05

New Features (in Detail)

- Intelligent Keyword Classifier & Intelligent Keyword Classifier Trainer
- Machine Learning Classifier
- Classification Station
- Document Understanding in Action Center
- Machine Learning Extractor Trainer
- New Document Understanding ML Models

06

Minimum Version Requirements

Minimum Version Requirements

- DU + AI Fabric **on-premise, online**: require **Orchestrator 20.4**
- DU + AI Fabric **on-premise, air-gapped**: require **Orchestrator 20.10**
- DU + Action Center:
 - DU actions are fully supported in **Orchestrator Actions** starting in **20.10**:
 - Document Validation Action requires Orchestrator 20.4
 - Document Classification action requires Orchestrator 20.10
 - DU actions are currently **not supported** in the new, revamped **Action Center** experience - scheduled for release by the end of Q4 2020, will require Orchestrator 20.10

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Document Understanding Licensing & Consumption

- Document Understanding Licensing
- Page Unit consumption by feature

Document Understanding Licensing

- Document Understanding SKUs consist of page units; SKUs are stackable
- No distinct licensing between different environments (dev/test/prod). Customers/partners must allocate & monitor usage
- Expiration of page units:
 - Upon full consumption **OR**
 - 12 months from the activation date **OR**
 - On Orchestrator renewal date (whichever comes first)
- Consequently, if the Orchestrator license is due for renewal in under 12 months, DU page units should be provisioned to only cover consumption until the renewal date!
- For a DU trial, customers should request an Enterprise Trial in the UiPath Cloud Platform

Page Unit Consumption by DU Features

Document Understanding features are charged based on usage – items below may be subject to change

Digitization	Classification	Extraction	Validation / Framework
3 rd party OCR engines Free	Keyword Classifier Free	RegEx extractor Free	Classification Station Free
UiPath Document OCR *	Intelligent Keyword Classifier	Form Extractor	Validation Station Free
	ML Classifier	Intelligent Form Extractor	Taxonomy Manager Free
	Classification Station Free	ML Extractor	Validation Action **
	Classification Action **		Data Manager Free

* UiPath Document OCR is **free to use with a valid Document Understanding license key**. So a license is required, but the OCR will not consume license pages

** Classification Action & Validation Action activities are free to use. **Action Center licenses are required** in order to allow users to perform the classification/validation actions.

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Document Understanding Licensing & Consumption

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DU Licensing Dependencies with Human-in-the-Loop and AI Fabric

- Document Understanding ⇔ Human-in-the-Loop Licensing Dependencies
- Document Understanding ⇔ AI Fabric Licensing Dependencies

Document Understanding and HitL Licensing Dependencies

HitL via Classification / Validation Station

- HitL tasks are completed on the machine running the job (attended mode)
- **Attended Licenses** are required for the robots running DU jobs

HitL via Action Center

- HitL tasks are completed in Action Center
- **Unattended Licenses** are required for the robots running DU jobs
- **Action Center Licenses** are required for the users performing the tasks

Document Understanding and AI Fabric Licensing Dependencies

- Document Understanding ML models are hosted in AI Fabric
- **AI Robots** are required in order to train/retrain DU ML models or run DU ML skills
- These are “regular” AI Robots, intended to be used for DU models ONLY
- Use of **non-DU Machine Learning** models requires the purchase of additional AI Robots!
- For AIF & DU on-prem: No action needed – AI Fabric installation script includes provisioning of AI Robots
- For AIF & DU cloud: **Make sure to include AI Robot licenses in order to enable ML training & serving!**
 - Check with the DU product team for available discounts or promo packs
- If customers use big datasets (over 500 pages) for training their DU models, it is required they use a GPU!
Note that:
 - For AI Fabric cloud, this translates into an **AI Robot PRO** license
 - For AI Fabric on-premise, the customer must provision the GPU(s)

Document Understanding Pricing

- Document Understanding pricing is subject to change with the 20.10 release.
- The latest licensing, pricing and consumption information on Document Understanding can be found on the UiPath Partner Portal, under the Licensing section

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Additional Resources







Additional Resources

- [UiPath's vision on AI & RPA](#)
- [UiPath's documentation page](#)
- AI Fabric:
 - [AI Fabric product page](#)
 - [AI Fabric documentation page](#)
 - [AI Fabric installation guide](#)
- Document Understanding:
 - [Document Understanding product page](#)
 - [Document Understanding ML models](#)
 - [Document Understanding Framework activities](#)
 - [Document Understanding ML activities](#)
 - [DocumentProcessing - Public Contract Pack](#)

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Q&A

2020.10 Launch Partner Tech Mastermind Sessions

Phase	Webinar Topics	Date
 Testing	<p>Explore the enhancements to RPA Testing, Application Testing and Test Manager.</p> <ul style="list-style-type: none"> • Support for custom fields and attachments • Microsoft Azure DevOps connector • Xray connector for Jira • SAP Fiori support • Synthetic Test Data Generator Activity and more... 	<p>Register now</p> <p>27th October 2020 at 10:00 am IST/12:30 pm SGT</p>
 AI/ML	<p>Manage and Scale with AI.</p> <ul style="list-style-type: none"> • AIFabric (multi-node support with MS Azure AKS, Docker EE, Integration with Data Manager and more) • Document Understanding (UiPath Document OCR enhanced, automatic model retrain and more) 	<p>Register now</p> <p>28th October 2020 at 10:00 am IST/12:30 pm SGT</p>
 Cloud Services	<p>Start Instantly and Scale Faster with new and improved Automation Cloud, Insights and Orchestrator</p> <ul style="list-style-type: none"> • SOC 2 type 1 certification • Cloud Robots on Azure and AWS • Customer Table Monitoring and Management • Enhanced modern folder and more 	<p>Register now</p> <p>2nd November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Process Understanding	<p>Accelerate automation journey with Process Discovery with enhanced feature</p> <ul style="list-style-type: none"> • More deployment option (MSI) • Action Centre and Robot Integration • SAP Connectors and more 	<p>Register now</p> <p>3rd November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Apps	<p>Get introduced to the low code application builder</p> <ul style="list-style-type: none"> • App Studio • App Runtime user experience • Single click deployment and more 	<p>Register now</p> <p>9th November 2020 at 10:00 am IST/12:30 pm SGT</p>
 Desktop Products	<p>Improve Productivity with smarter Robots for each persona. Deep dive into the enhanced feature of Studio Family and UiPath Assistance</p> <ul style="list-style-type: none"> • Modern UI Automation • Unified Recorder • Enhanced governance • Customised input arguments and more 	<p>Register now</p> <p>12th November 2020 at 10:00 am IST/12:30 pm SGT</p>