

NEAT EVALUATION FOR UIPATH:

Intelligent Automation Platforms

Market Segment: Overall

Introduction

This is a custom report for UiPath presenting the findings of the NelsonHall NEAT vendor evaluation for *Intelligent Automation Platforms* in the *Overall* market segment. It contains the NEAT graph of vendor performance, a summary vendor analysis of UiPath for intelligent automation platforms, and the latest market analysis summary for intelligent automation platforms.

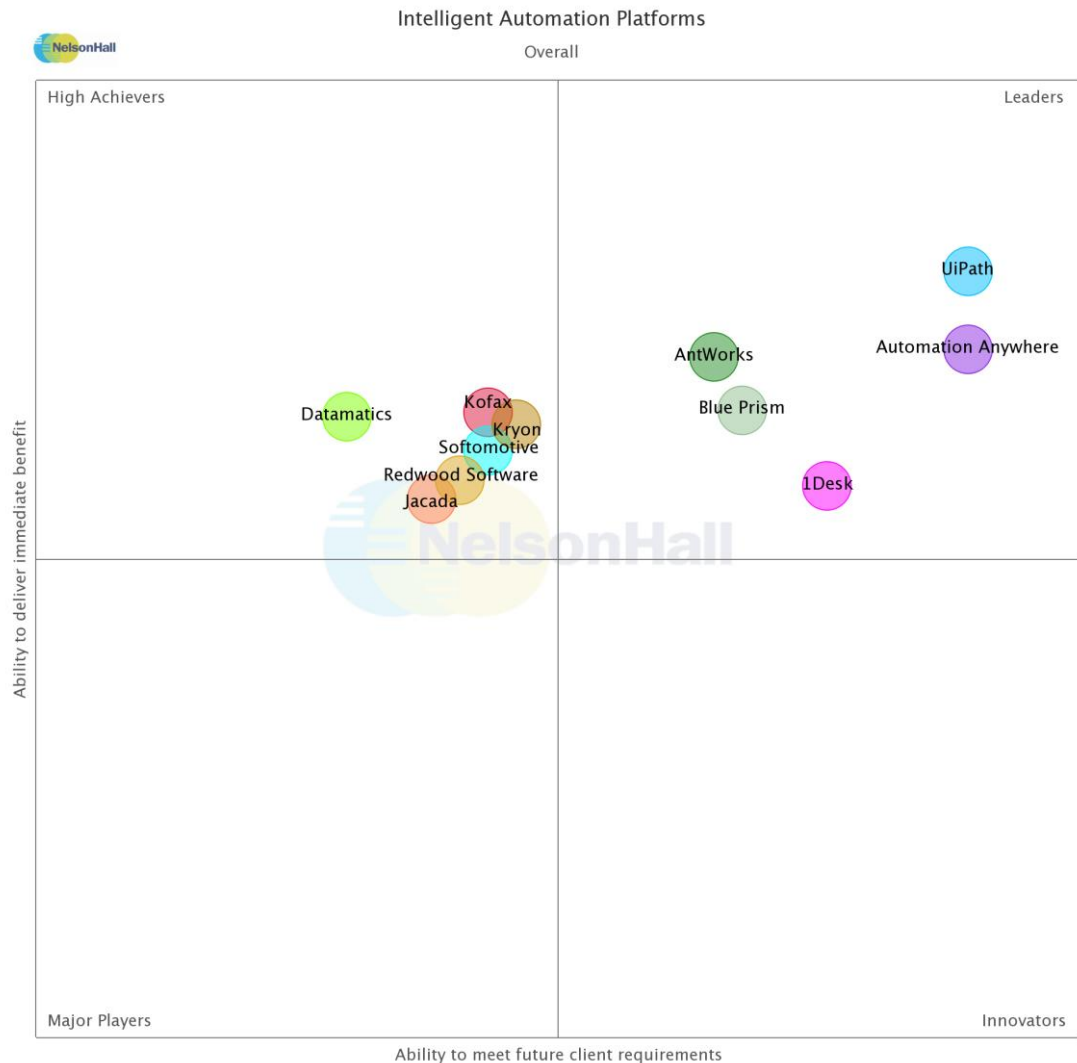
This NelsonHall Vendor Evaluation & Assessment Tool (NEAT) analyzes the performance of vendors offering intelligent automation (IA) platforms. The NEAT tool allows strategic sourcing managers to assess the capability of vendors across a range of criteria and business situations and identify the best performing vendors overall, and with a specific focus on ease of IA adoption & scaling, bot/human co-working, end-to-end IA, and enabling business process owners to develop automations.

Evaluating vendors on both their 'ability to deliver immediate benefit' and their 'ability to meet client future requirements', vendors are identified in one of four categories: Leaders, High Achievers, Innovators, and Major Players.

Vendors evaluated for this NEAT are: AntWorks, Automation Anywhere, Blue Prism, Datamatics, IPsoft, Jacada, Kofax, Kryon, Redwood Software, Softomotive, and UiPath.

Further explanation of the NEAT methodology is included at the end of the report.

NEAT Evaluation: Intelligent Automation Platforms (Overall)



Source: NelsonHall 2019

NelsonHall has identified UiPath as a Leader in the *Overall* market segment, as shown in the NEAT graph. This market segment reflects UiPath's overall ability to meet future client requirements as well as delivering immediate benefits to IA platform clients.

Leaders are vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements.

Buy-side organizations can access the Intelligent Automation Platforms NEAT tool (*Overall*) [here](#).

Vendor Analysis Summary for UiPath

Overview

Previously known as Deskover, in 2015 the company became UiPath and formed partnerships with BPO firms including Cognizant, Capgemini, and NIIT, and with specialist professional services companies including Symphony, Genfour, and Virtual Operations. In April 2016, UiPath launched its Front Office and Back Office Server Suites based on its Server 2.0 architecture.

The company had ~2.2k employees by the end of 2018, with 1k added between September and December. The company had 2,937 employees at early June 2019.

UiPath's primary offerings include:

- *UiPath RPA*: its primary automation software offering
- *UiPath Community Edition*: a free version of UiPath RPA for developers and small teams (and now being commercialized as cloud-based RPA as a Service)
- *UiPath Connect!*: a social network for RPA professionals, which includes:
 - *UiPath Academy*: an open online training platform for RPA professionals
 - *UiPath Project Space*: a collaborative website where developers can create automations together
 - *UiPath Go!*: an open marketplace for downloadable automation code
 - *UiPath Automation Ready Programs*: partnerships offering universities, nonprofits, and governments free automation curricula to teach youth, students, and the workforce how to automate
 - *AI Fabric*: a framework for deploying AI into RPA workflows
 - *AI Skills*: document, visual, and conversational understanding.

UiPath RPA consists of three sub-products:

- *UiPath Studio*: a visual environment for designing new automations
- *UiPath Robot*: the process execution engine, aka robot
- *UiPath Orchestrator*: the robot operations and management offering from UiPath.

Financials

UiPath's 2018 annual recognized revenue was \$152m.

The breakdown of UiPath's revenues by geography at June 2019 was Americas (37%), EMEA (34%), and Asia (29%).

Strengths

- Architecture clearly separates process mapping, automated process execution, and automated process/robot monitoring and management
- Ease of use of platform supporting UiPath's goal of a robot for every person
- Citrix automation supported via computer vision engine for ease of use and reduced robot maintenance
- UiPath Academy and Automation Ready programs provide a ready supply of trained workers
- Community edition enables companies to try before they buy and offers a vehicle for RPA as a Service.

Challenges

- User roles may require greater granularity
- Storefront limited to task components and not commercialized to incentivize partners
- Computer vision at an early stage of development
- Only just trialing RPA as a Service
- Yet to implement ML in support of "self-learning" exception management.

Strategic Direction

UiPath is principally investing in building AI capability into its platform, enhancing its partner ecosystem, and education.

In terms of enhancing its AI capability, the company has announced plans for a set of "AI skills", including:

- "AI-based Computer Vision", a neural network developed in-house to provide visual understanding by identifying UI elements and adapting to screen changes
- Document understanding that enhances robots' ability to classify and extract unstructured text, including handwriting to provide document identification, entity recognition, and sentiment analysis
- Conversational understanding to enable the robots to have more advanced interactions with customers and employees. UiPath is looking to introduce voice commands in support of assisted RPA, has partnerships with, for example, Kore.AI, Druidsoft, and Avaamo, and is working with Humley to develop industry- and process-specific ontologies in support of connecting cognitive assistants with RPA
- Native machine learning-based capabilities integrated into its platform to go beyond identifying the optimum path within a process by generating scripts for automatic bot creation along with the associated documentation. This is expected to be available in MVP form in Q4 2019
- ML in support of "self-healing" for exception handling.



Outlook

UiPath is the fastest-growing provider among the major RPA players, and we expect UiPath to maintain its position within the top two in this space.

The company's growth to date has largely been built on its comparative ease-of-use, ability to handle a wide range of types of automation, and ease of adoption. These factors were important throughout the major wave of unattended automations that began around 5 years ago and have also been important in favoring UiPath in attended automations, where the company, though not an attended RPA specialist, was often selected over its major mainstream RPA competitors.

The company is well placed to maintain its ease of adoption as a result of its major initiatives with UiPath Community (now on the verge of offering scalable cloud-based RPA-as-a-Service) and UiPath Academy, though the company will need to develop its UiPath Go! storefront beyond simple task automation if it is to take a leadership position in the mid-market.

The company is continuing to focus on ease of use and now needs to maintain this focus while expanding its capability within a single highly-integrated platform to serve the future needs of both unattended and attended automations.

Intelligent Automation Platforms Market Summary

Overview

The boundaries between RPA and AI are blurring, with the former RPA vendors increasingly including machine learning and cognitive automation in their roadmaps, and cognitive technology vendors developing RPA capability. The result is a convergence into intelligent automation.

The technologies that are coming together within intelligent automation platforms include:

- Robotic process automation (RPA), defined as the automation of back- and front-office tasks typically executed by human workers, on a spectrum that ranges from unassisted automation (in which a task or subtasks are wholly automated without human involvement) through assisted automation (in which a human's actions enable an automation to support human work), to attended automation (in which a human manages exceptions for an otherwise automated process)
- AI cognitive platforms, which can reason their way through processes and skip steps when they are unnecessary to the completion of the task. Cognitive automation also has capabilities in the area of unstructured data management and can ingest and process documents that vary in format, such as invoices and contracts, as well as handwritten content.

IA platforms can typically feature:

- Bot development studios – featuring code views or workflow views
- Process discovery modules – to understand existing processes within the enterprise
- Computer vision – to understand and interpret visual input for use in the automation
- ML and exception handling – most neural network-based ML to reduce exceptions and improve accuracy
- Stores and digital workers – to offer pre-built components for automation builders to add to an automation
- Analytics – to gain insights from how bots are performing and in support of compliance.

IA platform vendors are primarily targeting enterprises larger than \$1bn in revenue, with the midmarket expected to grow significantly up to 2023, enabled by channel partners. Platform vendors are increasingly trying to move their deployment to partners (currently ~75%) while curating partner capability and deploying customer success teams.

Buy-Side Dynamics

Key drivers for buyers looking to implement IA platforms include:

- Cost reduction, in particular in staffing, remains an initial driver
- Reduced cycle times, particularly benefiting the front office operations to drive customer satisfaction ratings and new business acceptance rates (particularly in areas such as account opening and onboarding, loan application, and financial document production). Cycle time reduction can be in the order of 70%+ for some tasks

- Reducing error rates is a key concern for organizations with significant areas of exposure to customer attrition in the case of data entry errors, making this a top driver for enterprises in BFSI and healthcare
- Improved transparency and auditability of operations
- Regulatory compliance as more standardized processes are followed, and as a consequence of the auditability of operations. In some use cases, fewer employees are tasked with examining sensitive data such as HIPAA customer data
- Adoption of intelligent automation is increasingly seen as a sign of an organization embracing “digital”, making it more attractive as an employer
- Increased ability to scale vs human employees

Key inhibitors for buyers looking to implement IA platforms include:

- Difficulty in obtaining the necessary buy-in across the organization, especially IT resistance to credentialing automation software and lack of cooperation between business/process owners and IT professionals
- Lack of operational, financial, and technical experience in automation deployment and lack of internal organization and resources to scale intelligent automation deployment
- Difficulty in selecting the best of breed technologies, including finding and selecting the best components available in IA platform stores
- Difficulty in scaling intelligent automation and in moving more sophisticated judgment-based PoCs into production
- Change management while scaling an automation, e.g. helping users acclimatize to the use of bots within the organization
- Application of intelligent automation to unstructured document processing is still at an embryonic stage of development
- Process identification and mapping is still often a highly manual and expensive process.

Market Size & Growth

The current global IA platform market size is estimated by NelsonHall at ~\$1.1bn and will grow to ~\$15.2bn by 2023, a growth of 69% CAGR.

North America accounts for 49% of the IA market, and is the most mature region, followed by EMEA.

BFSI remains the largest and most mature sector, accounting for 41% of the market. The public sector will be one of the fastest-growing sectors toward the end of the growth period as governments struggle with poor efficiencies and hiring freezes that reduce bandwidths. Many of the functions of central and local governments are fairly standardized, rule-based operations and a prime opportunity for automation.

Success Factors

Critical success factors for vendors within the IA platform market are:

- Combining provision of simple, intuitive build and management of bots for business process owners, bringing in effective process mining and the ability for more advanced users to build more ML-based automations
- Facilitating adoption of 'bot per employee' alongside industrial scale SSC automation
- Offering a highly integrated IA platform rather than a series of loosely couple modules
- Incorporating integrated machine vision capability and high accuracy in reading and interpreting unstructured documents
- Incorporating process discovery, mining, self-build and optimization
- Incorporating process self-learning to optimize processes and reduce levels of manual exception handling and to adapt to system changes
- Incorporating a store that offers components to ease the build of custom bots by clients and more complete digital workers. Platform vendors should push for both quantity and quality in these stores, offering curation services by default (in effect, aiming for an Apple app store model rather than an Android app store). Likewise, these stores should offer rating systems and offer support/SLAs for the likes of digital workers
- Commercializing stores in ways that attract third-party developers.

Outlook

Over the next few years, expect the following developments:

- Advances in the computer vision space will be focused on reducing the computing power and time required for identification and on increasing accuracy, particularly for handwritten text and in NLP for sentiment analysis. Techniques such as fractal analysis aim in part to advance this space; other platform owners are looking primarily at building APIs into partner technologies such as Google Vision, with some also developing native computer vision
- Investments in machine learning for exception handling, aiming to learn what the exceptions are and suggesting solutions to alter the process flow to incorporate these in support of "self-healing" for exception handling into the platform. This higher form of ML aims to reduce the FTE requirement to handle exceptions through automation
- For IA storefronts, some vendors have been adding capabilities for component authors to charge license fees for the likes of digital workers. NelsonHall believes this ability to charge for components will lead the most populated stores as the paid model better encourages developers to fill the store while acting as an additional revenue stream for the platform owners. These stores have the potential to become collections of digital workers, where partners sell bots for standardized processes, potentially increasing the importance of commodity functions and in selling to SMBs
- Larger providers are currently aiming to create and scale more cloud delivery options, which will continue
- The majority of bots (~70%) are currently unattended, requiring little to no human intervention. NelsonHall estimates that within the next five years the current



proportions will reverse, resulting in the unattended: attended ratio becoming 30:70. To assist users with attended bots, vendors are investing in capabilities such as conversational intelligence

- More vendors will achieve certification of their platforms against standards set by the likes of the Veracode program, Verified Continuous
- Technology providers as a whole are becoming more transparent in pricing as a response to client requirements during platform selection. Cloud-based offerings to come are likely to have transparent pricing.

NEAT Methodology for Intelligent Automation Platforms

NelsonHall's (vendor) Evaluation & Assessment Tool (NEAT) is a method by which strategic sourcing managers can evaluate outsourcing vendors and is part of NelsonHall's *Speed-to-Source* initiative. The NEAT tool sits at the front-end of the vendor screening process and consists of a two-axis model: assessing vendors against their 'ability to deliver immediate benefit' to buy-side organizations and their 'ability to meet client future requirements'. The latter axis is a pragmatic assessment of the vendor's ability to take clients on an innovation journey over the lifetime of their next contract.

The 'ability to deliver immediate benefit' assessment is based on the criteria shown in Exhibit 1, typically reflecting the current maturity of the vendor's offerings, delivery capability, benefits achievement on behalf of clients, and customer presence.

The 'ability to meet client future requirements' assessment is based on the criteria shown in Exhibit 2, and provides a measure of the extent to which the supplier is well-positioned to support the customer journey over the life of a contract. This includes criteria such as the level of partnership established with clients, the mechanisms in place to drive innovation, the level of investment in the service, and the financial stability of the vendor.

The vendors covered in NelsonHall NEAT projects are typically the leaders in their fields. However, within this context, the categorization of vendors within NelsonHall NEAT projects is as follows:

- **Leaders:** vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements
- **High Achievers:** vendors that exhibit a high ability relative to their peers to deliver immediate benefit but have scope to enhance their ability to meet client future requirements
- **Innovators:** vendors that exhibit a high capability relative to their peers to meet client future requirements but have scope to enhance their ability to deliver immediate benefit
- **Major Players:** other significant vendors for this service type.

The scoring of the vendors is based on a combination of analyst assessment, principally around measurements of the ability to deliver immediate benefit; and feedback from interviewing of vendor clients, principally in support of measurements of levels of partnership and ability to meet future client requirements.

*Exhibit 1***‘Ability to deliver immediate benefit’: Assessment criteria**

Assessment Category	Assessment Criteria
Offerings	Process discovery module Bot development canvas Recording capability Bot orchestration/management platform Conversational intelligence Computer vision/NLP Ability to handle unidentified exceptions Automation app store Assisted bot capability Multi-tenancy Seamless integration of RPA and machine learning Self-learning bot maintenance functionality Security options Competitive pricing Product training
Delivery	Strength of partnership Vendor service culture Flexibility Contracting terms and conditions Maturity of partner base Account management and engagement Ability to run bots through cloud delivery
Benefits Achieved	Speed of implementation High RoI from bot implementation High bot utilization Accurate document/data capture Low levels of bot downtime FTE reduction Reduced service fulfilment times Improved process accuracy/reduced error rates Improved transparency & auditability of operations Value derived for the price paid Overall vendor satisfaction



Exhibit 2

‘Ability to meet client future requirements’: Assessment criteria

Assessment Category	Assessment Criteria
Level of Investment	- Overall investment/commitment to IA - Investment in/commitment to data harvesting - Investment in process mining - Investment in/commitment to bot/human co-working - Investment in UI/ease of use - Investment in partners - Investment in use cases - Investment in AI/ML/DL - Investment in training/academies

For more information on other NelsonHall NEAT evaluations, please contact the NelsonHall relationship manager listed below.



research.nelson-hall.com

Sales Enquiries

NelsonHall will be pleased to discuss how we can bring benefit to your organization. You can contact us via the following relationship manager:

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