VIRGINIA IT AGENCY

ROBOTIC PROCESS AUTOMATION (RPA)

JAMEY STONE

Enterprise Services Manager, VITA

JEREMY JOHNSON

Solution Architect, Wize Solutions

VIRTUAL SERVICES FAIR PRESENTATION

OCT. 20, 2021

WHAT IS RPA?

...and more importantly, how is it useful?

WHAT IS RPA AND WHAT ARE ITS BENEFITS?

- Robotic process automation (RPA) is a software technology that makes it easy to build, deploy and manage software robots that emulate human actions interacting with digital systems and software.
- RPA is “lightweight” IT. It utilizes low-code technology to reduce the cost of entry, maintenance and teardown associated with automation, while also affording a faster learning curve as compared to traditional software development languages and tools.
- RPA can be implemented without the need to replace or overhaul existing enterprise applications because it simply automates user interactions with systems as they currently exist.
- When implemented effectively, RPA can free up humans to perform more creative, higher-value activities, while reducing or eliminating manual errors and improving overall customer/employee experiences.

THE ADVANTAGES OF USING RPA

Comprehensive insight into process

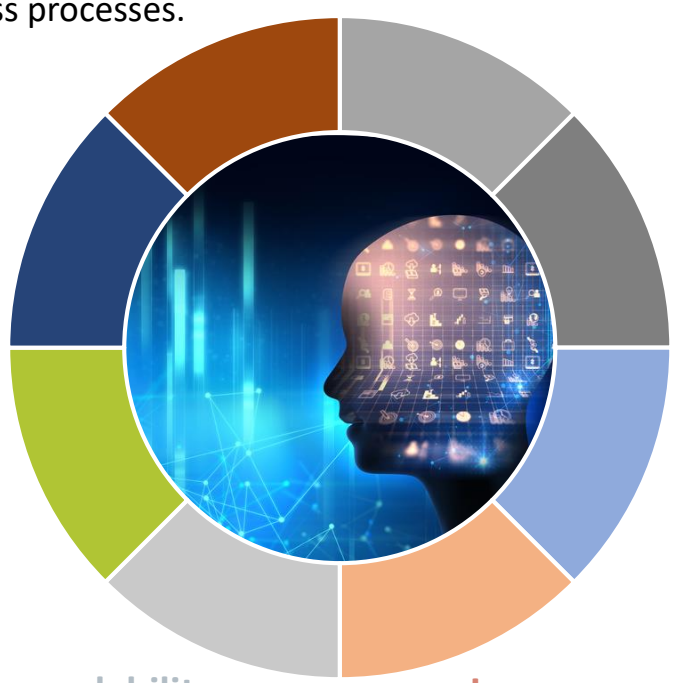
Bot activity can be more closely logged and monitored to enable a more comprehensive analysis of business processes.

Improve process compliance

Bots will precisely execute prescribed rules, so mistakes and errors are reduced.

Better employee experience

Use the human resource capacity freed up from repetitive work to get more interesting things done.



Better predict process outcome

Reduce the contribution of human factors in the execution of rules-based processes.

Reduce costs

Cost to automate processes and maintain them are usually lower than those of human resources.

Increase speed

Automation can reduce the cycle time and increase the availability of a business process.

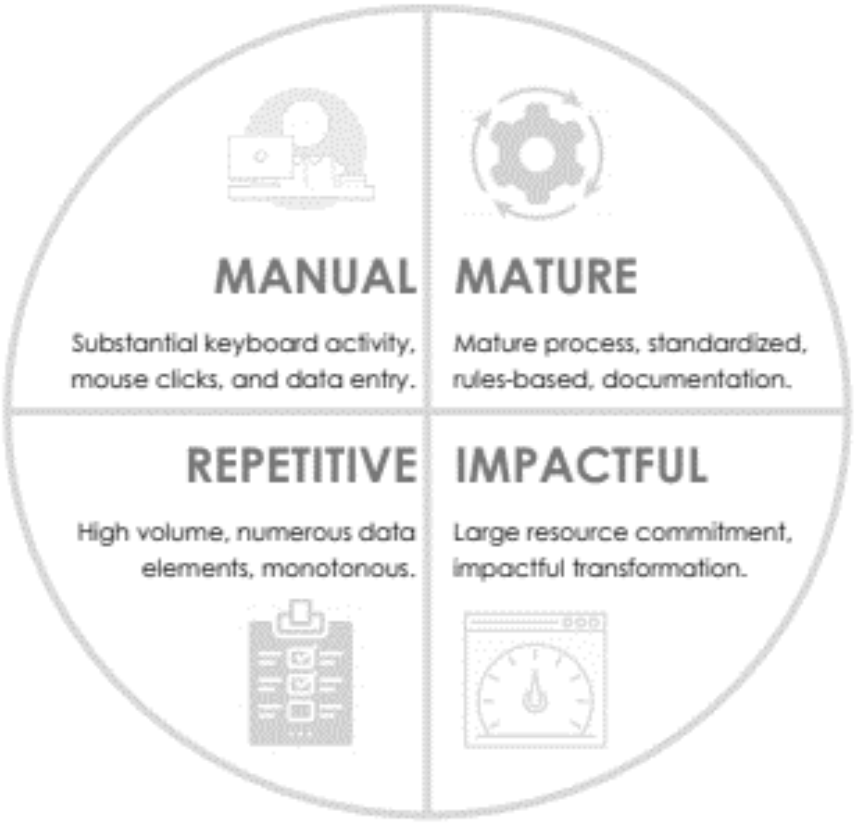
Greater scalability

Solutions to expand or reduce the process capacity to meet variable or seasonal demand are technological rather than HR-based.

Increase process agility

Changes in business processes can go live more quickly by eliminating the time to train workers and the need to reinforce the training.

CANDIDATE PROCESSES FOR RPA



- Process is repetitive, time-consuming, boring
- Process has clear, established and documented rules
- Process requires the use of multiple systems, applications and data sources, which are technically challenging to integrate
- Process failure due to human error is costly; compared to rework and remediation, benefits of reducing human error up front are significant.
- Data is structured and does not involve subjective interpretation

ATTENDED

- Started by user
- Is a virtual assistant that can execute processes along with the user on their device
- Interacts with user, stops at certain points for feedback or clarification
- Tasks require human intervention at certain points

Attended BOTs are used where human decisions are required at various points in the process. They run under supervision of the BOT user/owner.

UNATTENDED

- Started by schedule/event
- Is an independent virtual worker completing tasks on a remote machine
- Can work uninterrupted 24/7
- Tasks are simple and shouldn't require intervention

Unattended BOTs run without human intervention, usually on a scheduled basis. They are typically managed by a centralized IT group.

EMAIL REPORT CONSOLIDATION

- Once a month, reports that have been sent in by email need to be consolidated onto one sheet, checked for accuracy and submitted to a shared folder. This process occurs over the course of multiple days and is considered extraneous to day-to-day activities.
- A process was designed to work alongside a user. The user can have the bot download the reports or they can download them and compile certain ones for the bot to process. Once ready, the user activates their bot, and it goes to work checking and consolidating the reports. Once done, it uploads them to a shared folder. This process takes the bot only a couple of minutes compared to a couple of days. The results are not only faster, but more accurate.

SEPARATION REPORTS

- A large backlog of separation reports exists in PDF format. It takes a person between 10-20 minutes to work through each form, perform completion checks and to gauge responses.
- A process was designed to go through the backlog and grab the simplest cases (those where all information was complete and where responses were within given parameters). The bot performs the exact same actions as the user, but operates on a remote virtual machine (VM). It can handle about one item every 25 seconds.
- Time savings: 350 hours per bot per month.
- Increased time savings are expected on future iterations, as this was the first pass and more logic can be added to the existing process.

RPA DATA SECURITY, PROCESS INTEGRITY AND CREDENTIALS ARE TOP PRIORITY

- The successful adoption and proliferation of RPA requires full compliance with agency security policies. This applies to both attended and unattended bot deployments.
    - **Attended bots:** An attended bot can only be executed by the individual user licensed to run that specific bot. In this case, the bot will inherit the security access privileges of the authorized user.
    - **Unattended bots:** Unattended bots require non-person entity (NPE) credentialing. This is achieved by storing credentials in the orchestrator credential vault using AES 216-bit encryption.
- A key step in the RPA development process includes design and code reviews to ensure secure network access and proper handling of sensitive data such as PII. This step applies to RPA, just as with traditional software.

WHEN TO USE RPA?

How does RPA compare to other solutions?

WHEN RPA IS THE SOLUTION

- Decisions are ruled-based, yes/no questions
- High volume of similar text/data input
- The process is simple
- Rules must be enforced

WHEN A PERSON IS THE SOLUTION

- Decisions that require intuition and interpretation
- Process is done “a bit here and there”
- The process is not fully defined or is case-by-case
- Rules are situational or interpreted situationally

RPA SOLUTION

- Interact with a system the way a user does
- Quick development and deployment cycle
- Benefits from technical people, but high technical knowledge is not required to develop solutions
- Self-documenting flow
- Development at a high level

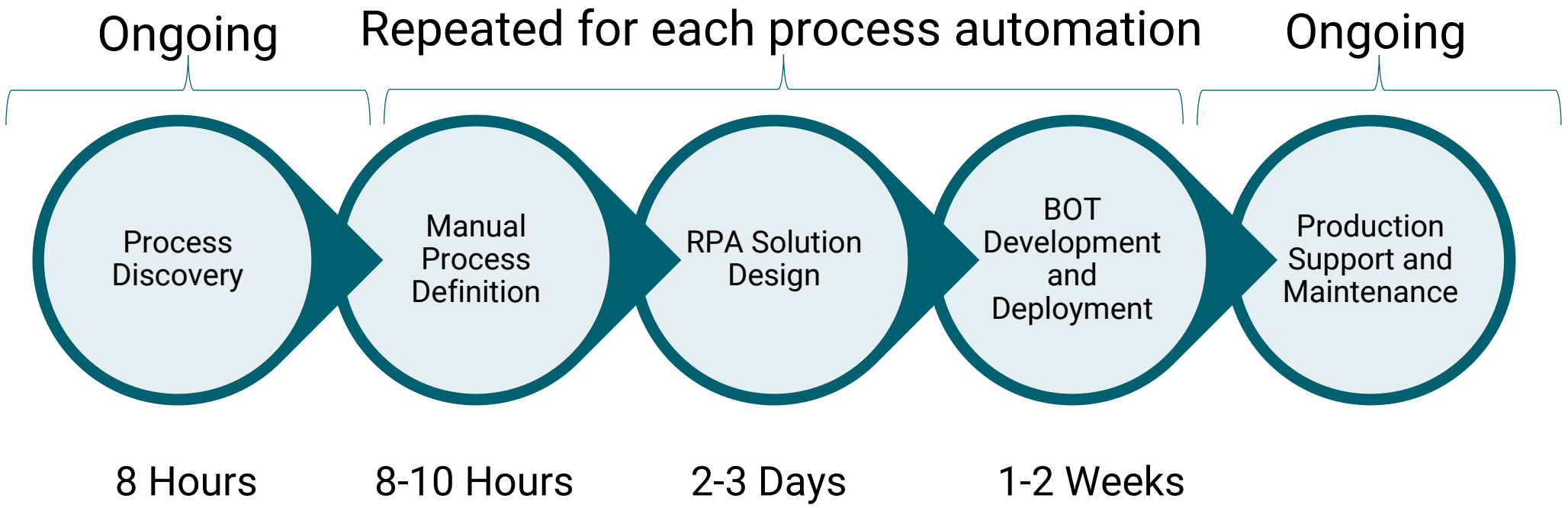
SCRIPT OR PROGRAMMATIC SOLUTION

- Interact with APIs or backend database
- Traditionally longer dev and deploy cycle
- Development requires specialized training and background
- Process is documented through other means
- Hands-on, under the hood

Key takeaway: RPA can be implemented without the need to replace or overhaul existing enterprise applications thus generating immediate ROI while extending the useful life of legacy systems.

GETTING STARTED

When RPA sounds like the right path


Ongoing
Repeated for each process automation
Ongoing
Process Discovery
Manual Process Definition
RPA Solution Design
BOT Development and Deployment
Production Support and Maintenance
8 Hours
8-10 Hours
2-3 Days
1-2 Weeks

Process Discovery Workshop

Purpose	To gather detailed information about manual business systems processes via facilitated user sessions and/or use of automated discovery tools
Required participants	Business process owners/leaders, power users, RPA business process analyst
Duration	4-8 combined hours depending on participant availability and experience
Inputs	Process documentation, process examples, list of challenges and pain points
Outputs	Prioritized list of candidate processes for automation including high-level development LOE and preliminary estimate of ROI

Manual process assessment

Purpose	Define and document all manual business process steps and create automated process requirements documentation
Required participants	Business process owners/leaders, SMEs, RPA business process analyst
Duration	8-10 combined hours per business process
Inputs	Prioritized list of candidate processes developed during the process discovery phase + ROI estimates
Outputs	Manual process definition document with automation requirement specifications and technical design considerations. May include data file layouts, process flowcharts and other process documentation. Revised ROI estimates and development LOE.

RPA Solution Design

Purpose	To translate the requirements and manual process definition into an automated solution design document
Required participants	SMEs, RPA analyst, RPA developer, RPA architect
Duration	2-3 Days
Inputs	Process definition document and technical design considerations
Outputs	Solution design document, revised ROI and development LOE

RPA Bot Development and Deployment

Purpose	To construct the RPA bot based on the process definition design document, perform system and user acceptance testing and deploy the BOT in a production environment in either attended or unattended mode, based on design specifications
Required participants	RPA developer, RPA solution architect, SME (for verification of test results), IT security expert(s)
Duration	1-2 weeks, dependent on complexity and availability of resources
Inputs	Process design documentation, user scripts, user interface and report examples, and IPA doc(s).
Outputs	A functioning RPA Bot, implemented and generating value

Post –Production Support and Maintenance

Purpose	To validate ROI post-production, ensure BOT is performing as expected and resolve any operational issues. Update/enhance BOT as needed to accommodate any changes to the business process or modifications to underlying system software or infrastructure.
Required participants	RPA developer, RPA business process analyst, business process owners
Duration	Ongoing – support level will vary based on # of processes in production, complexity and frequency of process or systems changes
Inputs	Existing process documentation, change orders, trouble tracking reports, upcoming systems maintenance or change schedules, etc.
Outputs	Maintenance logs and reports. Updated bots and documentation. ROI dashboard and/or reports to validate ongoing benefits.

CONTACT

Jamey Stone

VITA

jamey.stone@vita.virginia.gov

Jeremy Johnson

Wize Solutions

jjohnson@wizesolutionsva.com

VITA SERVICE TALKS

Let's continue the conversation

LET'S CONTINUE THE CONVERSATION

VITA is offering customers an opportunity to expand upon the discussions that were started today. These service talks will either be one-on-one (agency/supplier) or in open group settings and will provide agencies the opportunity to ask more detailed questions about the services and how they can be applied to their organizations.

PLEASE VISIT THE VITA WEBSITE, VIRTUAL SERVICES FAIR PAGE, FOR INFORMATION ON JOINING THE GROUP SESSIONS AND SIGNING UP FOR 1:1 SESSIONS:
HTTPS://WWW.VITA.VIRGINIA.GOV/TECHNOLOGY-SERVICES/SERVICES-FAIR/

The following VITA service talks have a capacity of 500 attendees:

- **Cloud services**
  - Tuesday, Nov. 9: 9 – 10:30 a.m.
  - Tuesday, Nov. 16: 1 – 2:30 p.m.
- **Messaging services**
  - Thursday, Oct. 21: 1 – 2:30 p.m.
  - Thursday, Nov. 4: 9 – 10:30 a.m.
- **Voice and data services update**
  - Monday, Oct. 25: 1 – 2:30 p.m.
  - Monday, Nov. 15: 9 – 10:30 a.m.

Questions can be submitted in advance by emailing businessreadiness@vita.virginia.gov. Please include the topic in the subject line. For example: Question for messaging service talk

One-on-one service talks are available first come, first served. Please coordinate with your team and sign up your agency for one session only.

- **Application integration services (AIS)**
  - Wednesday, Oct. 27: 9 – 10:30 a.m.
  - Wednesday, Nov. 10: 1 – 2:30 p.m.
- **ePen**
  - Thursday, Oct. 28: 9 – 10:30 a.m.
  - Wednesday, Nov. 3: 1 – 2:30 p.m.
- **Box**
  - Monday, Nov. 1: 9 – 10:30 a.m.
  - Friday, Nov. 12: 9 – 10:30 a.m.
- **Robotic process automation (RPA)**
  - Tuesday, Oct. 26: 9 – 10:30 a.m.
  - Monday, Nov. 8: 1 – 2:30 p.m.