INTRODUCTION TO ROBOTIC PROCESS AUTOMATION (RPA) IN HEALTH CARE

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Robotic Process Automation (RPA) Introduction

- What is RPA
- The Digital Workforce
- Common use cases
- Partnership with Automation Anywhere
- Automation Anywhere Platform
- Demonstration
- Health Care Case Studies
- Getting Started with RPA
Robotic Process Automation Overview

Robotic Process Automation ("RPA")

RPA refers to a set of modular software programs (or "bots") to complete structured, repeatable, and logic-based tasks by mimicking the actions taken by existing human staff.

RPA Value Proposition

Across industries, RPA enables organizations of all sizes to efficiently scale operations with minimal impact to existing business processes.

- Developed bots are capable of interacting with and integrating disparate enterprise applications, databases, and files to limit the business need to develop custom, application specific integrations.

- A set of scheduled bots are capable of running on multiple servers within a company’s environment simultaneously with minimal impact to resource and network capacity.
The Digital Workforce

• Variety of robotic and automated solutions for driving productivity

• Not a physical embodiment of a digital worker

• Virtual robot (software)

• Works in conjunction with the human workforce
Transformation to a Digital Workforce

Your human workforce

Act
Think
Analyze
Coffee

Your digital workforce

RPA
Cognitive
Smart Analytics
Digital Workforce
Key Components of a Digital Workforce

**Acts like a person**
- Enterprise RPA
- Uses systems like a person
- Rules-based
- Front office
- Back office
- Structured data

**Thinks like a person**
- IQ Bot
- Unsupervised learning
- Supervised learning
- Semi-structured data
- NLP
- Fuzzy logic

**Analyzes like a person**
- Bot Insight
- Real-time
- Actionable Insights
- Mine across 1000s of apps
- Data visualization
- ML identified trends
Automating Tasks Across the Enterprise

DATA CAPTURE
Collect and synthesize your data

DATA ENRICHMENT
Modify, rationalize, normalize your data

DATA VALIDATION
Validate, authenticate your data

PROCESS
Perform the process actions

RECONCILE
Ensure consistency and accuracy

ANALYZE & REPORT
Reliable, accurate, timely analysis and reporting

Collect and synthesize your data

Modify, rationalize, normalize your data

Validate, authenticate your data

Perform the process actions

Ensure consistency and accuracy

Reliable, accurate, timely analysis and reporting

Cognitive

Robotic Process Automation

Real Time Analytics

ARTIFICIAL INTELLIGENCE
Robotic Process Automation Overview

- No Physical Robot
- Quick Deployment
- Uses existing applications
- Mimics human actions
- Little change in existing infrastructure
- Documents process steps

• RPA Benefits
  - Increased Productivity & Efficiency – Focus employees on higher value activities
  - Scalability and Flexibility - replicate robotic tools across geographies/business units
  - Accuracy - Robot’s don’t make mistakes or judgement calls, and they don’t get tired
  - Cost Savings – automation quickly reduces administrative and back office costs for fast ROI
RPA technologies are more effective when leveraged alongside structured, repeatable tasks. According to a 2017 survey from Gartner Research:

- Workers surveyed categorize 35-41% of their daily work as routine
- 32-37% of work is a mix of routine and non-routine

Manual aspects of non-routine processes can be also be automated to reduce the number of touchpoints required to complete.

COMMON USE CASES
Top RPA Use Cases

- **Financial Operations** – data entry, invoice processing, taxes, Accounts payable
- **Human Resources** – Track Timesheets, onboarding/offboarding processes
- **Information Technology** – fix technical problems, password setting, setting up application accounts, system maintenance
- **Operations** – Procurement, requisition approvals, supplier comparisons, Re-Orders
- **Data & Analytics** – Collecting data across systems, and monitor processes
### RPA Use Cases and who does RSM partner with?

**F&A**
- Order to Cash
  - Credit Analysis
  - Sales Order Processing
  - Customer MDM
  - Order Entry
  - Reports by segments
- Procure to Pay / AP
  - 3 Way Match
  - PO Issuance
  - Invoice Receipt
  - Vendor Master
  - Payment Process
  - Duplicate Payment Tracking
- Record to Report
  - Monthly close
  - Treasury and tax
  - Financial statements
  - General ledger
  - Journal entry processing
  - Inter-company accounting
  - Account reconciliations
  - Fixed assets and projects
  - Cost and inventory accounting

**HR/Payroll**
- Maintain Master Data
- Candidate Identification
- Offer Letter Process
- Onboarding and Exit
- Appraisal-updating process / Change Payroll Status
- Position Management
- Reporting Line Change
- Superannuation
- Payment Summaries
- Employment Type Updates
- Service Desk Reports
- Distribution
- Leave Amendments

**Revenue Cycle**
- Insurance Eligibility (270/271 transaction)
- Claim Edits
- Duplicate Medical Records
- Credit Balances
- Claim Status
- Denials management (835 remittance)
- Adjustment Posting
- Payment variance
- Rebilling
- Payer acknowledgement reports

**Supply Chain**
- Order Prioritization
- Master data management
- Invoice verification
- Receipt confirmation
- Scheduling processes
- Reporting
- Production information capture
- Inbound processing
- Inventory management processes
- Pricing management
- Billing
- Freight costing

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**Key Partner Aspects**

- **Value Driven**: We ensure clients extract the most value.
- **Seamless**: Easily configured to integrate across platforms.
- **Support**: Reliable, real-time support available post integration.
**RPA in Action for Revenue Cycle**

**Before RPA**

### Key Pain Points

- Manual processing involving repetitive and mundane steps
- Inefficient & long cycle time
- Inefficient use of billing resource
- Timely filing penalty incurred if not responded to within pre-defined timeframe

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**Denial Management**

**835 Remittance Example for Medical Records Request**

**Payer**

- Receive & process 837 claim file

**Biller**

- Send Claim / Encounter 837 claim file to payer

**Legend**

- Start/End process
- Manual Task / Human Interaction
- Automated operational task

**Start**

**835 Remittance advice**

- Inbound file received; OPS job routes B12 CARC denial code accounts to Patient Accounting work queue

**Patient Accounting Rep manually opens, reviews and responds to each B12 CARC account in queue**

**For each B12 CARC denial code:**
- Navigate to EHR clinical application
- Search for patient MRN, DOS, provider
- Obtain clinical documentation
- Send to payer

**End of B12 queue?**

- yes
  - End
- no

**End**
RPA in Action for Revenue Cycle

After RPA

Key Benefits

- No manual / human intervention
- Improved accuracy
- Realignment of billing resource to other meaningful tasks
- Enables department to refocus on value-add activities

Denial Management
Automated 835 Remittance for Medical Records Request

Payer

Receive & process claim request

Send Claim / Encounter 837 claim file to payer

Biller

Start

Receive inbound 835 file from payer; route B12 CARC denial codes to Patient Accounting work queue

For each B12 CARC denial code:
- Navigate to EHR clinical application
- Search for patient MRN, DOS, provider
- Obtain clinical documentation (create .pdf)
- Send to payer via secure email system
- Auto-script note in patient account notes

Bot

End of B12 queue?

End

Legend

Start/End process
Manual Task / Human Interaction
BOT Task / Interaction

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AUTOMATION ANYWHERE PLATFORM
Automation Anywhere – An Overview

WORLD’S MOST WIDELY DEPLOYED DIGITAL WORKFORCE PLATFORM

1,000+ Employees worldwide
250+ Partners worldwide
1,400+ Enterprise customers
800,000+ Digital Workers Deployed
90+ Countries with customers

Leader in the Forrester Wave for RPA
Leader in RPA PEAK Matrix
Leader in RPA Customer Experience
Intelligent Digital Workforce Portfolio

Bot Store

Digital Worker Marketplace

IQ Bot
- Cognitive

Bot Insight
- Analytics

Cloud
- RPA on-demand

Automation Anywhere Enterprise

Control Room

Bot Runner

Bot Creator

Robotic Process Automation Platform
PLATFORM ARCHITECTURE

1. CONTROL ROOM
Central management and control layer

2. BOT CREATORS
Client system for bot development

3. BOT RUNNERS
Runtime systems on desktops, datacenters and cloud infrastructure

- Infrastructure-agnostic Architecture
  - Ability to extend from desktops to private, public and hybrid cloud.
  - Some processes start on desktops and, as RPA matures, migrate to batch processing in data centers.
  - Others processes may require human interaction or do not otherwise lend themselves to server-based processing.
  - Control Room ensures that any bot can be deployed and managed securely, at enterprise scale, regardless of deployment architecture.
1. CONTROL ROOM

A web-based, mobile-ready application that provides enterprise-wide automation management and control.

- Ensures reliable, scalable, and secure bot deployment and execution.
- Admins can deploy, schedule and run hundreds and thousands of bots with a single click.
- Realtime operational analytics provide bot heartbeat across the enterprise with customizable dashboards.
- Granular Role-based Access Control (RBAC) management.
- Built-in credential vault, CyberArk integration certified.
2. BOT CREATORS

Bot development client with smart recorders and a low-code design environment for the business user

- Bot creation made easy through intuitive and intelligent SMART Windows and web recorders that get business users up and running their bots with minimal training.

- Powerful IDE for advanced bot editing with a drag-and-drop task editor with 650+ actions, a web data extraction tool, Excel integration, data transfer wizards, data mining integrations and much more.

- Module-based workflow designer for the RPA program managers and architects to quickly identify and list processes and turn them into bots.

- Licensed for each type of Bot and includes a runtime system for execution and testing. Runs on Windows and must be registered and connected to an active Control Room in order to function.
3. Bot Runners

Bot Runners are runtimes that execute bots on an operating system

- Bot Runners run on desktops or VMs distributed across the enterprise on private, public or hybrid clouds.
- Control Room schedules and assigns bots to Bot Runners for execution.
- Bot Runners can only execute once they are registered, identified and authenticated by the Control Room. Once authenticated, they can be authorized to execute bots, and can do so independently and asynchronously.
- Bot runners can be grouped, and can be dynamically allocated, offering a convenient option for scaling up.
- All bot telemetry is cached locally and transmitted to the Control Room.
## The BOT Workforce

<table>
<thead>
<tr>
<th>TASK BOTS</th>
<th>METABOTS</th>
<th>IQ BOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Task bots automate repetitive, rules-based tasks that rely on structured data</td>
<td>• Metabots are reusable, highly resilient automation blocks. Metabots aggregate many commands and APIs into a single function by operating at the object, API, and DLL layers</td>
<td>• IQ bots are next-generation bots with the cognitive ability to learn (with or without human assistance) as they run automations.</td>
</tr>
<tr>
<td>• Task bots distinguish themselves as they are easier to build and more resilient to change</td>
<td>• Once created, Metabots can be shared across the organization to standardize common logic, massively reducing maintenance costs. Metabots are also frequently used in place of scripting, VB macros, and more.</td>
<td>• Enterprises can add cognitive capabilities to processes through the use of IQ bots</td>
</tr>
<tr>
<td>• Task bots are the basic building blocks of robotic process automation and can be executed in a number of ways including from command-line interfaces.</td>
<td>• Reusable logic components accelerate time to value, and enable creation of Intellectual property.</td>
<td>• Examples:</td>
</tr>
<tr>
<td>• Task bots can execute one or more Metabots.</td>
<td>• A Metabot maintains a repository of application screens and objects, enabling high resilience that is essential in a world where applications changes are frequent. Object-level allows metabots to abstract out process logic from the user interface and auto-calibrate for application changes.</td>
<td>o <strong>Vision bot</strong> - uses cognitive capability to extract information from semi and un-structured data such as scanned documents and invoices</td>
</tr>
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<td></td>
<td>o <strong>Natural Language Processing (NLP) bot</strong> - natural language cognition with sentiment analysis</td>
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### Security

#### Role-based Access Control (RBAC)
- Logical segregation of duties at Bot Creator and Bot Runner level
- Least Privilege Access at User, Role, Bot, Device, Application and Operational levels

#### End-to-End Encryption
- Native credential vault
- FIPS-compliant password hashing
- AES-256 for Data at rest/in memory
- TLS-1.2 for Data in motion

#### Security Integrations
- SAML 2.0
- Kerberos - Windows login
- CyberArk® certified integration

#### Secure Operations
- Veracode Level 5 certified
- Centralized remote control
- Configurable automation timeout
- Stealth mode automation
- Disable mouse and keyboard

#### Audit Completeness
- User, Bot, Bot Runner and Admin level audit
- Development lifecycle audit
- Change management
SELECTED CASE STUDY SUMMARIES
National Healthcare Provider

**CHALLENGE**

- Reduce claims processing time and deliver operational compliance

**SOLUTION**

- Bots automated benefits enrolment processing including claims processing, premium adjustments, termination overages, PeopleSoft updates, Leave of Absence, and other various procedures

**PROCESSES AUTOMATED**

- Premium adjustments
- Termination coverage
- Dependent change
- LOA updates
- Document creation

**BENEFITS**

- Increase in customer satisfaction
- Significant quicker turn-around times
- Better tracking and accountability of operations and systems
- Faster more accurate financial settlements
## International Healthcare Technology Company

### CHALLENGE
- Reduce cycle time and produce quality and error-free Electronic Medical Record (EMR) data

### SOLUTION
- Bots automated the data integration process of records in spreadsheets, different applications and customer’s Healthcare Resource Management System (HRMS)

### PROCESSES AUTOMATED
- EMR data integration
- Data validation
- Data updates

### BENEFITS
- Elimination of manual intervention in process execution
- Acceleration of the company’s ability to bring new clinics online
- Total ROI: 628%
- Payback: 6 months
- Average annual benefit: $130,000
## Large US Pharmaceutical Manufacturer

### CHALLENGE
- Simplify the vendor creation process

### SOLUTION
- Bots automated vendor creation, data validation, exception handling, work allocation approval and analysis in SAP

### PROCESSES AUTOMATED
- Vendor creation
- Data validation
- SAP Data analysis

### BENEFITS
- Reduction in vendor creation and validation time
- Saving in manual labor cost of data validation
- Creation of error free data
<table>
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<tr>
<th>CHALLENGE</th>
<th>SOLUTION</th>
<th>PROCESSES AUTOMATED</th>
<th>BENEFITS</th>
</tr>
</thead>
</table>
| • Expedite medical sign-off process to speed medical care delivery to US military | • Bots automate exam records review and sign-off process, interacting with local HRMS and US Military websites | • EMR data acquisition  
• Web data acquisition  
• Data analysis  
• Exception handling  
• Document generation  
• Approval notifications | • Speed medical care to US military personal  
• Significant reduction in sign-off processing time |
DEMONSTRATION
Denial Management
Automated 835 Remittance for Medical Records Request

Receive & process claim request → 835 Remittance advice → Receive inbound 835 file from payer; route B12 CARC denial codes to Patient Accounting work queue

For each B12 CARC denial code:
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Key Benefits:
- No manual / human intervention
- Improved accuracy
- Realignment of billing resource to other meaningful tasks
- Enables department to refocus on value-added activities
Demonstration

https://automationanywhere1.sharepoint.com/:v:/g/SalesEngineers/EbMNRPnyg-BInkttBL5S-t0BCXWdYowEJMygMj8tvlvNzw
GETTING STARTED WITH RPA
RSM RPA Approach

RPA Rapid Assessment
- 2-4 weeks
- May contain Small Proof of concept
- Feasibility Study of processes
- Licensing Requirements
- RPA Roadmap

RPA Pilot
- 1-3 Months
- 2-4 processes in production
- Environment set up
- Initial client training
- Confirm ROI
- Update RPA plan

Scale Up
- 6-12 Months
- Define plan
- Enable business users
- Establish operating model and center of excellence
- Implement Robotic Development Life Cycle (RDLC)
- Define internal/external support team
We look at process from five distinct perspectives

- **Value** — Does the business receive appropriate value in terms of cost, quality and performance?
- **Feasibility** — Are processes predictable, routine, and structured?
- **Capability** — Does the business have the right people and technology to operate efficiently and effectively?
- **Alignment** — Is the department or function positioned to support the strategy and vision of the business?
- **Innovation** — Is the business in a position to explore new ideas and leverage technology?
Questions
And Answers?
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