eInfochips An Arrow Company | The Solutions People

Robotic Process Automation Assessment Report

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1. Introduction

This document provides a sample of RPA assessment carried out for a billion dollar telecom customer for their Smart City Infrastructure Operations processes. This assessment is the first step towards adopting RPA within the organization.

eInfochips RPA architect analysed the Current Support processes and activities for the Video Node Products utilizing eInfochips RPA Assessment Framework in the first two weeks. RPA architect captured dimensions such as Time Taken, Repetition and Frequency for each process / activity.

Within the next six weeks, RPA architect and the Technical Lead summarized the potential Use Cases for RPA and also created Proof of Concept to demonstrate a few Use Cases to support the concept. The team also came up with an Implementation Roadmap for RPA.

2. Goals

2.1 Technical Goals

- Evaluate Introduction of RPA (Robotic Process Automation) as a supporting technology for execution of Production Support Use Cases for a suite of different products.
- Provide a comparative analysis of diverse RPA Tools and make a recommendation.
- Create a Library of Reusable components encapsulating the common support tasks performed for Incident / Ticket Resolution. Few examples such as Hadoop Monitoring, Web Application Monitoring, JIRA extraction & updating, etc.
- Create a Monitoring Platform, which monitors the RPA infrastructure and integrates with the existing Verizon Monitoring.
- Provide the Technical Implementation plan for adding RPA to the existing Technology stack.

2.2 Business Goals

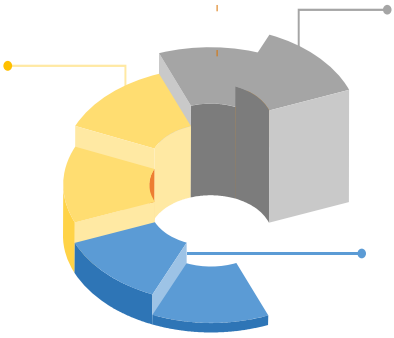
- Incrementally automate the support processes & reduce the manual effort dependency for Customer support.
- Reduce the Cost ($) of support by automating repetitive activities and hence supporting more products/customer with the same / reduced cost.
- Improve the Quality of Support by increasing the Test / Monitoring coverage for key activities such as Node Monitoring, Proactive Health Check etc.
- Respond to Customers' requests / issues in a timely fashion thus improving Customer Service.
- Provide an Implementation road map for RPA covering the Implementation, Licensing cost as well as projected reduction in the existing support costs.

3. RPA Approach

Process Identification Approach

Analyze

Selection of processes right for RPA deployment, high-level business case development of such processes, and identification of processes that require artificial intelligence-based support



Gather

Create an inventory of all processes end-to-end

Design

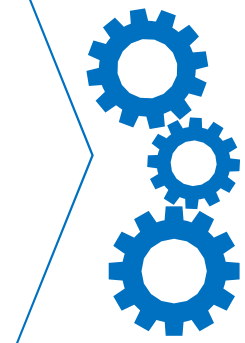
Create the keystroke level To-Be maps, business case, solution architecture and detailed project plan

RPA Assessment Framework

Overall process is broken down in sub processes and each sub process is evaluated against the following attributes with a predefined cut-off for RPA applicability.

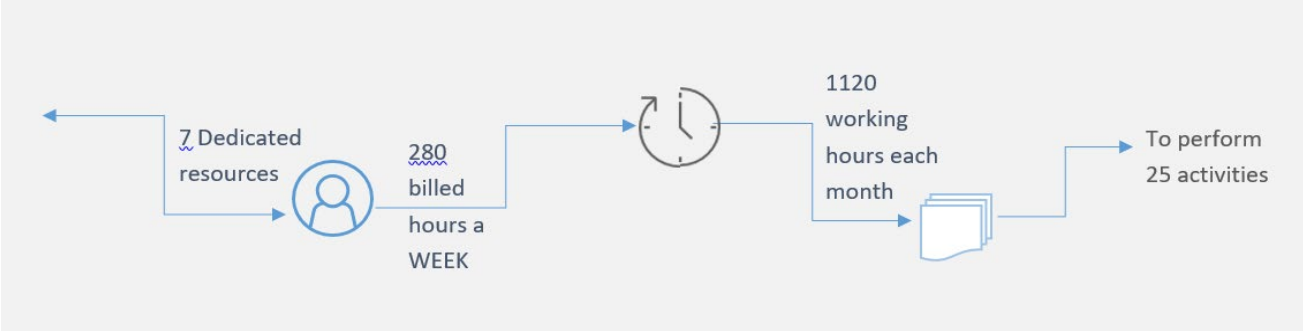
ATTRIBUTES

	LOW — HIGH	
Employee Involvement		How much is human involved in the process
Volume/Time		What is the volume of transactions that involve manual intervention
Repetitiveness		Tasks that are Manual and repetitive
Standardization & Stability		The process defined is stable & doesn't need frequent changes
Complexity		How complex is the process
Rule Based		Processes that are rule-based and consistent
Digital		Are your input data already digitized
Applicability		Exploring existing RPA solutions for other processes



4. Process Discovery

Support Scope and Team



Key Activities/Processes

Email Check 11%

- Checking Emails
- Report Check
- Alerts Check
- Report comparison

Cloud Monitoring & Alert Check 28%

- Checking Pagerduty, Datadog, SLACK, Pipeline alerts
- Create JIRA

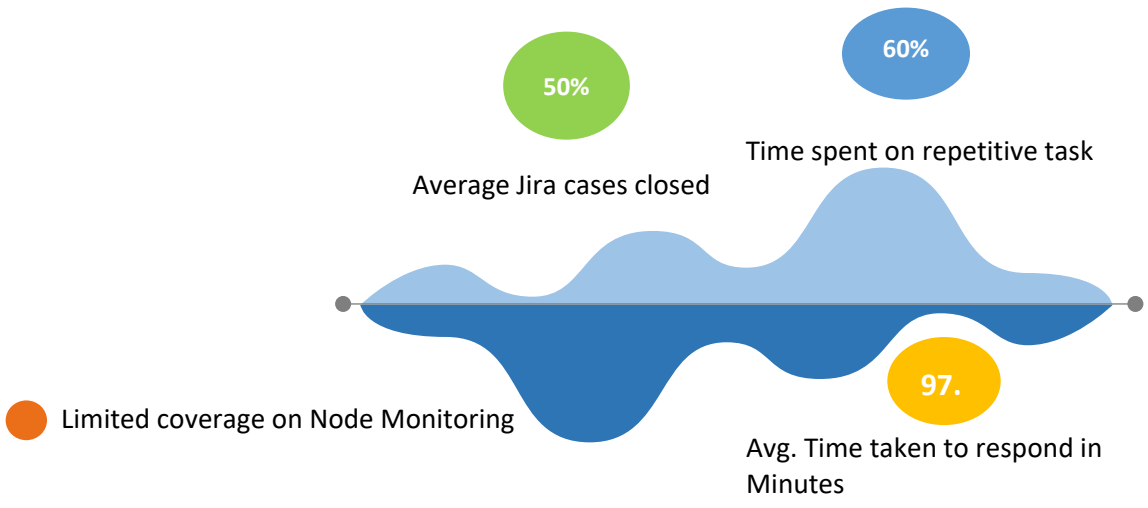
Node Monitoring 40%

- Verify Sites
- Parking Check
- Perform unreachable nodes
- Checklist
- API Check

Customer Support 21%

- Node Commissioning
- Customer revert
- Profile making
- RMA

Key Observations/Challenges (Statistics from Previous 2 months data)



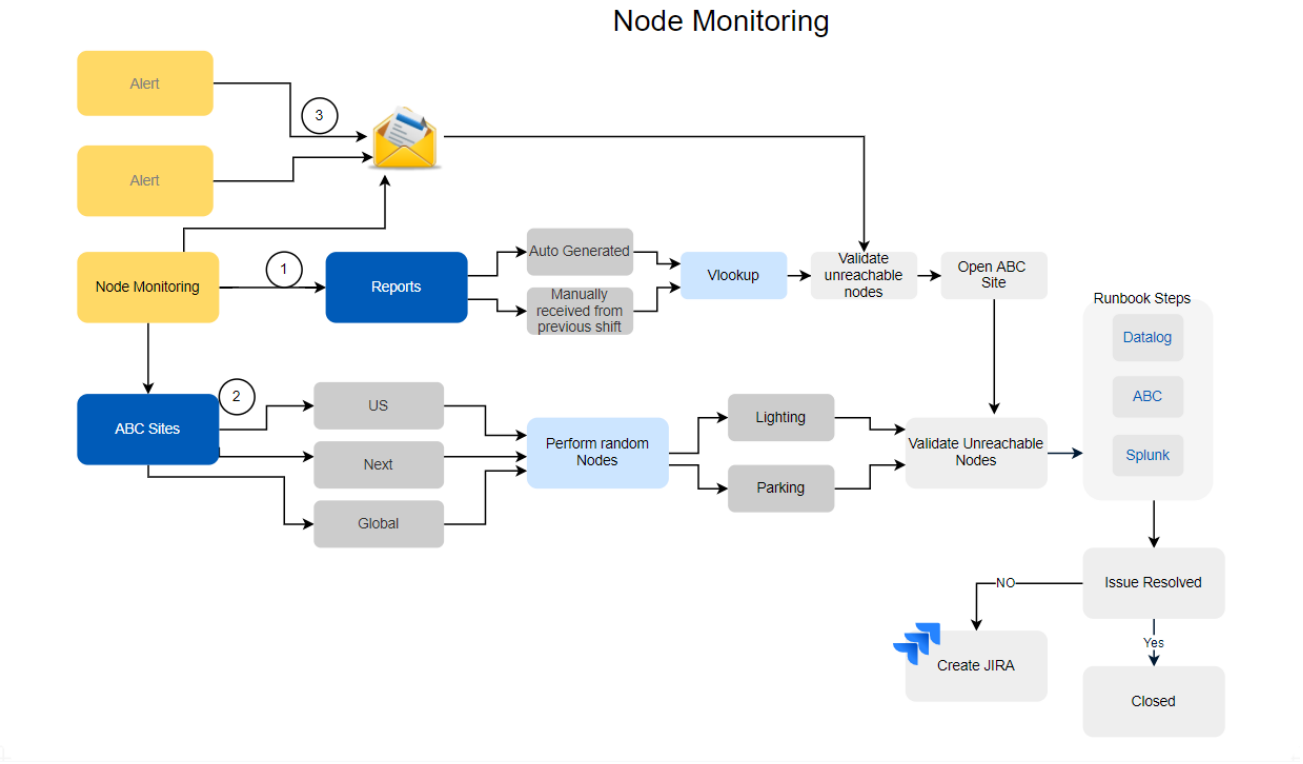
4.1 Sub Processes Performed

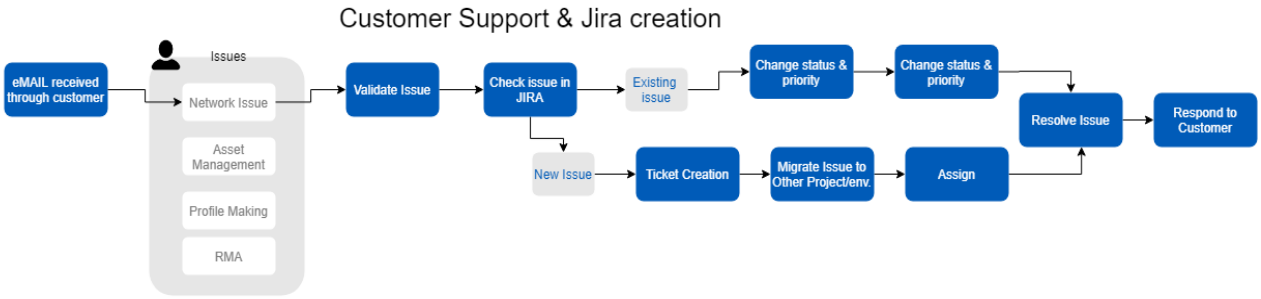
Sub Process	Sub Activities	Times repeated in a Day	RPA Candidate
Email Check	• Perform action for unattended activity • Report generation • Send reports	On going	YES
Customer Support	• Node commissioning • Respond to issue • Profile Making • Return merchandise authentication	Based on requirement	R&D
Alert & Cloud Monitoring	• Perform action on errors received through Pager duty, Data dog, Slack, Pipeline, AWS Instance etc • Respond to Outage or service issue	On going	YES
Node Monitoring	• Verify sites, parking utilization • Perform unreachable nodes from report • Check API's	On going	YES
Checklist	• Fill Excel	Every 2 hours	NO

4.2 RPA Framework Mapping

Activities	Employee Involvement	Volume /Time	Repetitiveness	Standardization & Stability	Complexity	Rule Based	Digital	Potential RPA
Email Check	HIGH	MED	HIGH	HIGH	MED	MED	HIGH	**YES**
Customer Support	HIGH	MED	MED	MED	HIGH	MED	MED	**YES**
Alert & Cloud monitoring	MED	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	**YES**
Node monitoring	MED	MED	HIGH	LOW	HIGH	MED	MED	**YES**
Checklist	HIGH	LOW	MED	MED	LOW	MED	MED	**NO**

5. Proposed RPA Use Cases/Sub Processes





8. Solution Identification Approach

Technology Evaluation

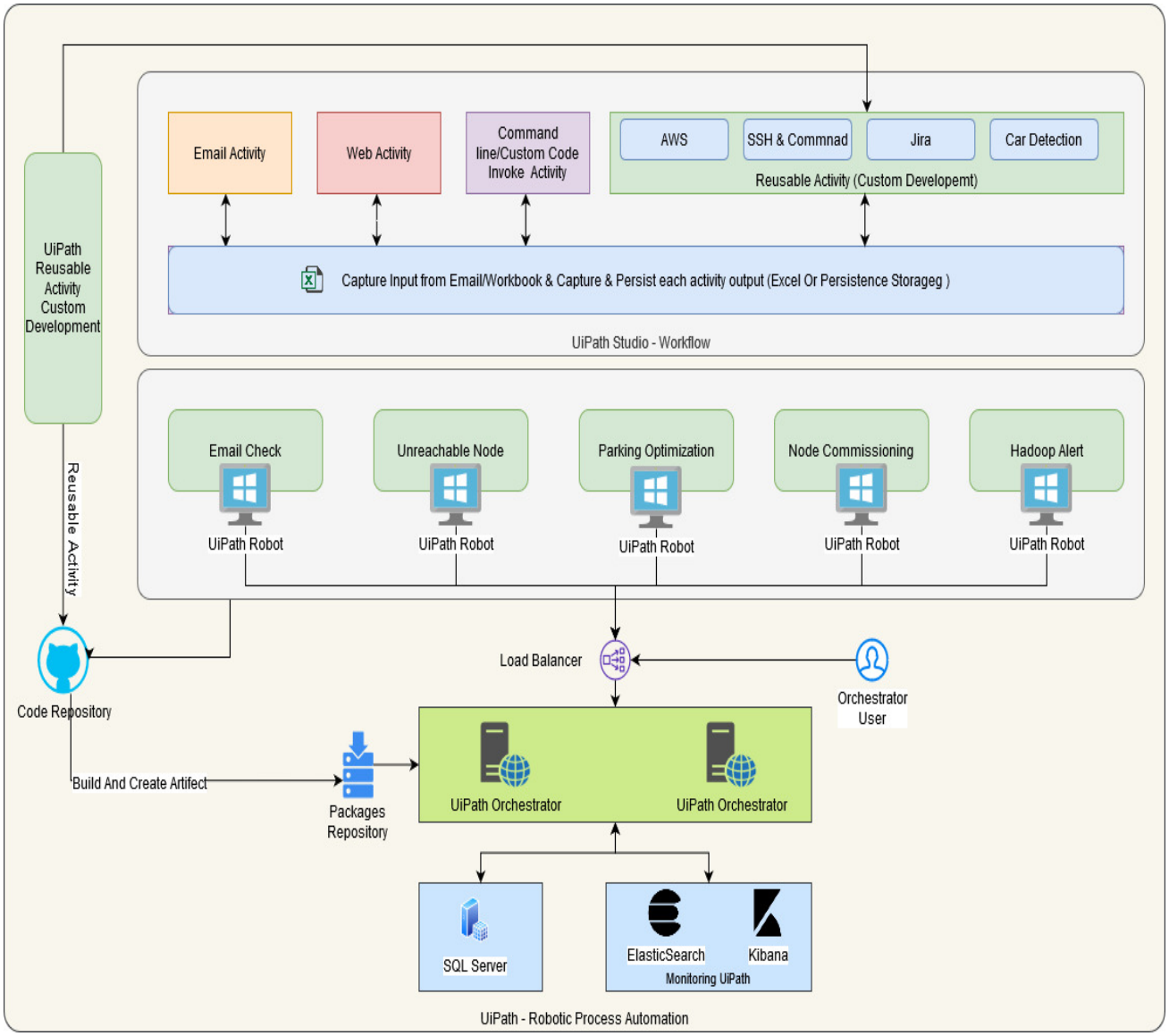
UiPath vs Automation Anywhere vs Blue Prism

Parameter	UiPath	Automation Anywhere	Blue Prism
Offer Trial Version	Both Trial and License Version are available	Both Trial and License Version are available	Both Trial and License Version are available
Technology Base	SharePoint Kibana Elastic Search	Microsoft Technology	C#
Architecture Type	Web-based Orchestrator	Client-Server Based	Client-Server Based
Process Designer	User-Friendly with Drag-Drop Functionalities	Developer Friendly[Script Based]	Developer Friendly[Script Based]
Programming Skills	Does not require coding	Required to use activities	Required to manage Business Objects
Accessibility	Mobile and Browser Accessibility	Application Based	Application Based
Re-usability	Projects are grouped together as library	Blocks are created using smart adapters	Libraries can be reused with other process
Recorders	Basic & Macro Recorders	Basic & Macro Recorders	No Recorders Available
Robots	Front Office and Back Office	Front Office and Back Office	Back Office
Accuracy	Citrix automation designed for Business Process Outsourcing	Reasonable across mediums	Desktop, Web and Citrix
Operational Scalability	Good Execution Speed	Limited large scale robot deployment	Good and High Execution Speed
Community Support	Yes	Yes	Yes
Certification	Free Online Training and Paid Certification Program	Official paid Certification is available	Official paid Certification is available

Why UiPath?

- Machine learning capabilities
- Increased compliance
- Best customer experience
- Productivity improvement
- Good management capabilities

9. Proposed RPA Solution Architecture



10. High Level Architecture

- **UiPath Workflow using UiPath Studio**
  - Create a Reusable Activity/Component for AWS, Command line, SSH, Jira, car detection, etc.
    - AWS Activity
      - EC2 Start/Stop/Create Instance
    - SSH/Command & Status (Hadoop/Kafka/etc.) Activity
      - input: IP,SSH Key Or Credential, List Of Commands
      - Output : Commands Status
    - VPN Connect Activity
    - JIRA Ticket Activity
      - Create /Read Ticket
    - Car Detection
      - OpenCV Python Command Execute
  - Email Check Activity
    - Read Alert/Notification from mail & Persist extracted entity into excel for next activity input.
  - Web Activity
    - Data Dog for all other web site related data extraction or to fill data, UiPath web activity will leveraged.
  - Command line Activity
    - To execute command line services like SSH and trigger some command or to invoke some custom scripts/code.
- **Custom Workflow**
  - All the below test scenarios will be created using UiPath Activity or using custom reusable Activity
    - Unreachable video node.
    - Parking Optimization
    - Node Commissioning
    - Hadoop Alert
    - Pipeline Install
- **UiPath Robot**
  - All the workflows will be installed on window based VM, which will act as UiPath RPA Bot.
  - Multiple bots will process the workflow in parallel (based on execution time and workflow variety, numbers of bot will be leveraged)
- **UiPath Orchestrator**
  - Orchestrator is bot management from where UiPath robot can be easily deployed, managed and scheduled.
  - It's a web application and for HA, two instance of Orchestrator will be deployed behind the load balancer.
- **Monitoring**
  - Orchestrator store logs in Elastic search and for visualization Kibana will leveraged.

11. RPA Implementation Roadmap

Phase 0: Detailed Assessment

- Customer Environment
- Include Other Products
- Committed ROI / Cost Red
- Phase wise Implementation
- Governance Metrics

4 Weeks / $25K USD

Phase 1: Basic

- Implement Quick Wins(Alert/Cloud)
- Deploy in Production
- Measure Effectiveness

Investment: 8 Weeks / $20K USD

Cost Reduction (Cumulative): 1 FTE

Phase 2: Intermediate

- Implement Level 2(Node/Customer Support)
- Deploy in Production
- Measure Effectiveness

Investment: 8 Weeks / $25K USD

Cost Reduction (Cumulative):3 FTE

Phase 3: **Advanced**

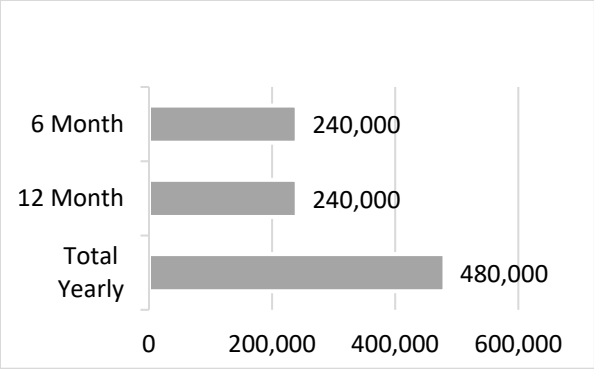
- Other Products
- Cognitive Use Cases
- Deploy in Production
- Measure Effectiveness

Investment: 8 Weeks / $25K USD

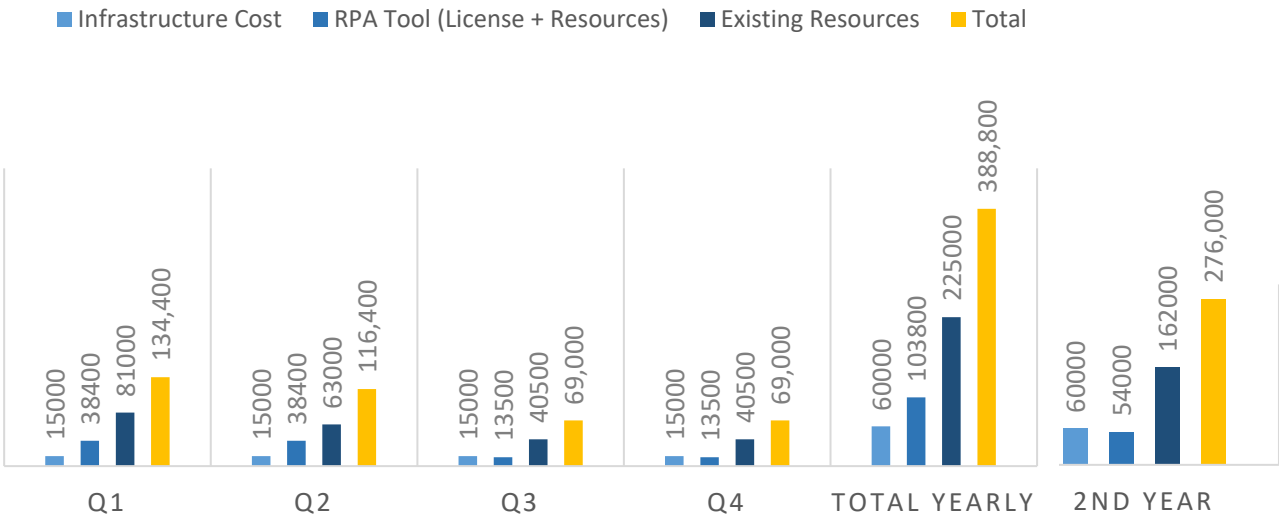
Cost Reduction (Cumulative): 4 FTE

12. ROI/Benefits

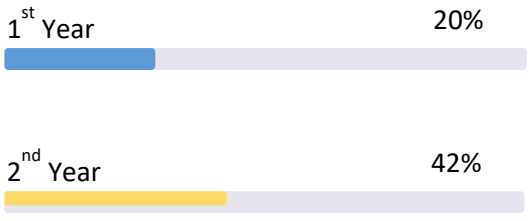
Current Approach (Non-RPA)



RPA Approach



ROI



RPA Benefits

42%
Reduction in Cost from 2nd Year

90%
Reduction in Errors

30%
Avg. time saved

Higher customer satisfaction