Robotic Process Automation: A Path Forward

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Abstract

The testing industries are looking for innovative methods to reduce the testing efforts and cost. RPA is considered to be a significant technological evolution of automation technique. Robotic Process Automation (RPA) uses software to complete repetitive, structured, rules-based tasks to automate business processes at scale.

In this approach the software robots interpret the user interface of third party applications and are configured to execute steps identically to a human user. They are configured using demonstrative steps (flowcharts or graphs), rather than being programmed using code-based instructions.

The RPA doesn’t require any programming skills. This method can be easily integrated into existing architecture and it does not require any complex interfaces. This paper explains about the benefits of RPA and how the RPA technology can be implemented in the existing architecture.

1. Introduction to RPA: A new evolution!

Robotic process automation (RPA) is the use of software with artificial intelligence and machine learning capabilities to handle high-volume; repeatable tasks that previously required a human to perform.

What distinguishes RPA from traditional IT automation is RPA software’s ability to be aware and adapt to changing circumstances, exceptions and new situations. Once RPA software has been trained to capture and interpret the actions of specific processes in existing software applications, it can then manipulate data, trigger responses, initiate new actions and communicate with other systems autonomously.

Large and small companies will be able to reap the benefits of RPA by expediting back-office and middle-office tasks in a wide range of industries, including insurance, finance, procurement, supply chain management (SCM), accounting, customer relationship management (CRM) and human resource management (HRM).
2. How RPA overcomes challenges faced in Traditional approach

2.1 Challenges faced in Traditional Approach

1. Technology limits: Current technology is unable to automate all desired tasks. Some tasks cannot be easily automated, such as the production or assembly of products with inconsistent component sizes or in tasks where manual ability is required. There are some things that are best left to human assembly and manipulation.

2. Economic limits: Certain tasks would cost more to automate than to perform manually. Automation is typically best suited to processes that are repeatable, consistent and high volume.

3. Unpredictable development costs: The research and development cost of automating a process is difficult to predict accurately beforehand. Since this cost can have a large impact on profitability, it is possible to finish automating a process only to discover that there is no economic advantage in doing so. With the advent and continued growth of different types of production lines, however, more accurate estimates based on previous projects can be made.

4. Initial costs are relatively high: The automation of a new product or the construction of a new plant requires a huge initial investment compared to the unit cost of the product. Even machinery for which the development cost has already been recovered is expensive in terms of hardware and labor. The cost can be prohibitive for custom production lines where product handling and tooling must be developed.

5. A skilled maintenance department is often required to service and maintain the automation system in proper working order. Failure to maintain the automation system will ultimately result in lost production and/or bad parts being produced.
2.2 Benefits of RPA

1. Productivity and Efficiency:
   They take over the automation of the human’s repetitive tasks. This results in increased productivity. This increases the efficiency by mainly focusing on the decision-making and customer services that can be automated.

2. Accuracy:
   RPA reduces the risk of transactional errors (e.g. incorrect data inputs, missed steps, incomplete processes, and mistakes in rule-application) and improves overall data accuracy.

3. Cost efficient:
   Since it doesn’t require any programming and can be implemented by using simple interfaces, it reduces the cost of transaction processing by up to 80 percent.
4. **Ease of Use**:
Relative to other forms of automation and transformation, RPA is easy to implement, configure and maintain using simple interfaces. Skilled programmers are not required for implementing RPA process.

5. **Risk/Compliance control**:
Compliance and risk management is improved through error-reduction, and more consistent, accurate and configurable application of rules.
3. RPA implementation: In a successful way!

1. Define RPA perimeter
   - Identify RPA eligible processes and activities
   - Tell for each process whether it:
     1. Is Ready for RPA
     2. Has RPA potential, but have to be adjusted first

2. Optimize existing processes
   - Seek performance improvement areas within processes having RPA potential
   - Get rid of redundancies and process inefficiencies beforehand RPA

3. Choose the appropriate RPA solution
   - Choose whether you should:
     1. Build your own in-house solution
     2. Buy a market solution with a proven track-record

4. Define the required span of control
   - The desired relationship between your virtual and human workforce
   - Define the “man to machine ratio” you deem appropriate

5. Study impacts on the Target Operating Model
   - 1. Set up an appropriate governance
   - 2. Study impacts on processes not in the scope of RPA but that might be affected
   - 3. Review your competency model
   - 4. Map the target organization

6. Build a deployment planning
   - 1. Plan programming or solution integration
   - 2. Plan change management actions
   - 3. Identify potential risks and build a risk mitigation planning
4. Case Study: Intelligent Automation In Banking

**Challenge**
The client maintains a list of customers who have neglected to pay their credit card bills and this list is processed manually, at regular intervals, by a back-office team. This team debits the open amount from the customer account, observing a complex process and using various systems. However, due to the available credit in these accounts the number of unpaid bills is high and this increases the bank’s administrative tasks and costs.

**Solution**
Swiss Post Solutions implemented a solution that uses Robotic Process Automation to process and manage the customer list. The robots regularly screen the status of customer accounts in question identifying account balances, thus enabling collection cases to be processed efficiently and successfully. The robot carries out the process almost in real time, across multiple systems, in observance of all of the necessary business rules and can, in a future step, block the card, forward the case to a member of staff or even debit the due amount.

**Benefit**
The advantages of Intelligent Automation include:
1. Nearly 100% of the possible settlements are successfully processed compared to 40% without RPA.
2. By applying RPA the bank’s collection process is optimized with the customers data remaining in Switzerland.
3. No configuration in the legacy system necessary and data accuracy improved.
4. Reduction of repetitive, manual tasks, allowing the employees to focus on higher-value tasks.

5. Conclusion
Robotic process automation (RPA) is one of the best automation technologies that allow employees in a company to configure computer software or a “robot” to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems. This is the best technique compare to traditional techniques to achieve solutions to complex testing processes and gain high productivity and accuracy in less time.
6. References

- http://www.mphasis.com/RPA.html
Author Biography

Mahendra Sharma MM is Senior Software Engineer at the testing vertical (FS) of Capgemini Technologies India ltd., Research interest is in the area of organization designs that maximize innovative solutions. Mahendra is graduated from Visvesvaraya Technological University (VTU) in the stream of E&C.

With the first project experience in Capgemini, has taken an additional responsibility in creating a wiki (KM) document on Cash Management system (CMS) application which will be helpful for the new folks who will step in new to the project with Zero knowledge.

The idea of this white paper is an initiative taken to introduce one of the best methods of automation in any domain using RPA technology, which is recognized at the organization level.
THANK YOU!