



Capgemini's Smart Automation Engine-SAE Framework

Achieve Comprehensive, High - Speed and High- Quality RPA Automation Today!



Executive Summary

Robotic Process Automation (RPA), is one of the most favored enterprise technologies in recent times. A study by Gartner, Inc. references Robotic Process automation (RPA) software revenue grew 63.1% in 2018 to \$846 million making it the fastest-growing segment of the global enterprise software. Gartner expects RPA software revenue to reach \$1.3 billion in 2019. At Capgemini we witnessed a similar influx from our clients to leverage RPA capabilities and add value in the digital journey of their organizations.

The use cases addressed by Capgemini were enormous both in terms of volume and complexity, and it was extremely challenging to meet clients' expectations on timelines and quality of delivery. For any project, a clients' choice of RPA tool is an important factor to consider along with the task of resource allocation and developer performance which influences the speed of development. This led us to come together and work on a solution that will transform the way we perform coding and testing, and will help our client organizations meet their financial goals .



Our solution offers a tool - independent approach to RPA automation that handles inconsistency in development, delivers high value in complex processes and operates in a non-dependent Resource Delivery Model which together results in a significant reduction in the time taken for deployment. Regarded as a gamechanger in the RPA space, the framework also incorporates the features of maintainable code, reusable sources, eliminates dependency on test data and performs post process data validation. Perfected in-house by talented Capgemini architects, this framework aims to address some of the toughest challenges the industry faces in the adoption of RPA.

At a very high level the SAE framework consists of five vital layers- Engine, BLOC, Broker, Activities, and Operations that are supported by two critical components, the Data Layer and Tool Kit. The Engine and the BLOC are classified under the Process Layer while the Broker, Activities and Operations are classified as the Operations Layer. Each layer is loosely coupled which allows development to progress simultaneously

The deployment of the SAE Framework across the tools of Blue Prism, UiPath, Automation Anywhere and Pega Robotics has reduced the development time to anywhere between 1 to 3 weeks depending on the size and complexity of the process. The dependency for test data no longer exists. This has resulted in significant reduction in cost and greater customer satisfaction.

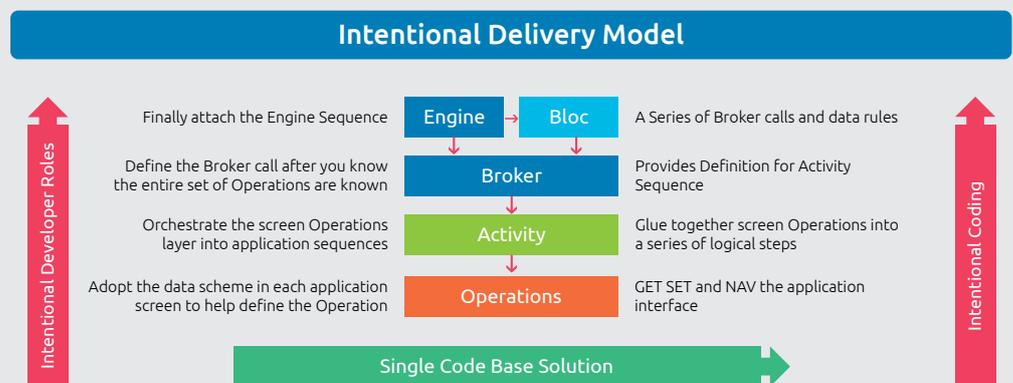
Challenges faced in our RPA Implementation Journey



It is important to mention some of the key challenges that we faced in our RPA Implementation journey. The insights gained from these experiences played a pivotal role in building the framework.

- High Client expectations on Turnaround Time and Quality
- Nonavailability of highly skilled developers with adequate business knowledge
- The high cost involved in hiring developers for the job
- Multiple engagements running in parallel

SAE Framework Design Process



Key Features



OPERATION – This is a single screen layer. Operations interacts with applications Operations are categorized into three types:

GET Operations – Extracts screen data

SET Operations – Puts data into screen controls

NAV Operations – Keystrokes and Mouse clicks

ACTIVITY – This layer organizes screen operations into sequences of application activities that gets/sets data and performs useful work

BROKER – Abstracts application calls from the automation, performs data transformation and transition between process-oriented and application-oriented data, provides a point for test data injection, and alleviates dependency between development layers.

BLOC – A manifestation of the Business logic/ Rules meant to mimic the way a SME processes.

ENGINE – Conducts Case/Work item heavy lifting that centralizes all item processing, exceptions and error handling.

SAE Framework Unique Features

Single Code Base Solution



The Framework is a combination of good RPA coding practices that modularizes automation roles within the automation code

- All modules have a repeating code fingerprint making it easy to follow the appropriate automation methods
- The well-defined code modularity abstracts process handling, item handling, business logic, and application integration
- Shared components are limited to shared library code that can be incorporated into an automation solution
- These modules are orchestrated together to create a working automated process

Intentional Coding



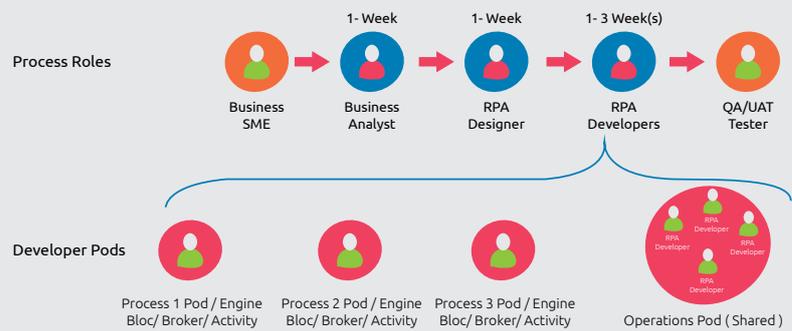
- The purpose is consistency, not efficiency
- Engine code is 70% completed before it is customized for the process
- Each layer has a specific visual signature that can be copied/pasted and customized to address the item at hand
- Visual signatures make time-consuming tasks such as assurance coding and code reviews much easier to accomplish in a short amount of time with high confidence
- Lead developers need to understand the project in detail, however line developers do not need to know the project at the same level they fulfill an engineered transaction
- Each component in the layered delivery is meant to be small enough to deliver in 2 hours, or less, by junior-level developers. No work is left open at the end of the day.
- New workers can be assigned as needed for fulfillment purposes
- At any point in time, the number of components left in a manifest can be easily calculated toward percent completion



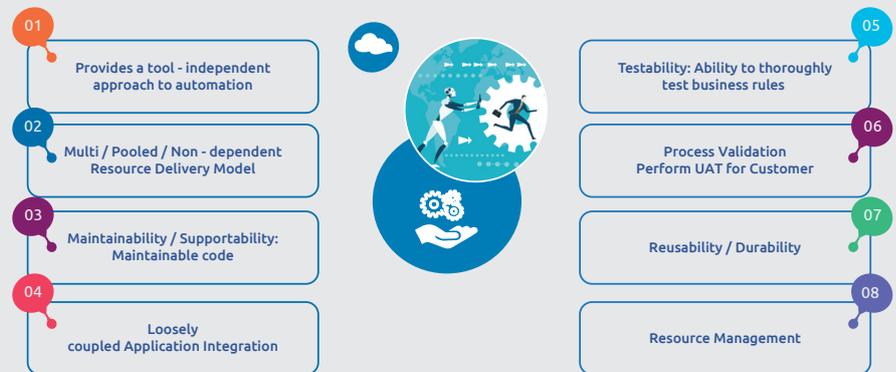
Intentional Developer Roles

- The framework has non-dependent developer roles and is independent of the SME data setup in applications
- EBBA (Engine, Bloc, Broker, Activity) Developer utilizes the Broker Layer to inject data so the development of Engine and BLOC layers can occur before the developers have completed their work.
- The Developers have the ability to perform end-to-end data testing prior to releasing to QA/UAT

Intentional Delivery Model (Squeeze Development Calendar Cycle)



Big 8: SAE VALUE



Business Case Studies



At Capgemini we have proven expertise in deploying the Smart Automation Engine framework for RPA implementation. Here are two prominent success stories where we delivered highly challenging programs to clients that helped them effectively realize business outcomes .

Business Case: A leading Insurance provider based out of US anticipated a significant growth in the volume of transactions in the Claims management and Policy Administration space. In order to be future ready to meet the demand both in terms of higher volumes and its corresponding increased costs, the client chose to adopt RPA methodology. The aim was to not only reduce the manual effort spent in processing but also achieve higher efficiency and reduction in cost.



Total Volume
Claim Intake: 2.7 k
WebPolicy
Endorsement: 3k



No of Processes : 15
Deployment Time : 1 year



Avg claims Processed :
40,000 per Month



Reduction in time : 10 minutes
Per transaction



Total FTE Savings : 69



Accuracy % : 90%

Tool Used: Blue Prism

Business Case: A leading Australian Digital Bank embarked on a program to leverage RPA capabilities in its technical landscape. The Automation was used across multiple areas of Mortgage covering loan origination and loan servicing, Deposit Operations, Transaction Banking, Collection and other Banking support functions. The objective was to achieve higher customer satisfaction with increased time to market.



Team Size : 38
(PM: 1 Architect :2
Mgr : 1BA : 5 Developer : 28)



No. of Processes Automated : 102
(140 plus BOTS) Deployment
Time : 1year



Manual Effort
Automated : 70%



Performed Reengineering
for Multiple Processes



Chosen by PEGA as
Top 3 Bank in Australia
for best use of
Pega Robotics



Accuracy %: 100%

Tool Used: PEGA Robotics



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About Capgemini

A global leader in consulting, technology services and digital transformation, Capgemini is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. It is a multicultural company of over 200,000 team members in more than 40 countries. The Group reported 2018 global revenues of EUR 13.2 billion.

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