

ROBOTIC PROCESS AUTOMATION WITH AORTA



ZeroOne Technologies

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INTRODUCTION

This document is an overview of ZeroOne Technologies' automation platform – AORTA. The document explains the operational context, in which Robotic Process Automation (RPA) is applied to automate back office, rules based processes and explains the features, advantages and benefits of the AORTA.

The document is intended for those who want to understand:

1. What does robotic process automation mean in the context of everyday business processes?
2. What benefits can robotic process automation provide?
3. How does robotic process automation support operational excellence?
4. How should an organization adopt robotic automation and ensure benefits while performing minimal changes to processes?
5. The functions and components of the AORTA platform, how they fit together and their individual roles
6. How are the engine and its agents deployed in an enterprise environment?

ROBOTIC PROCESS AUTOMATION

In today's workplace, most businesses and verticals rely heavily on technology. Often it is the software or software systems that are deployed within its many divisions that form a chunk of this technology component.

As the volume of business grows, the scope and the number of software related solutions in place increase. Most software systems are acquired in stages and do not talk to each other. However, almost all these systems are required to work together to produce the end result.

For example: A company having two employees may need only connectivity to the Internet for email communications. As they grow in size they will need connectivity, a network and associated hardware, an active directory, an email server and client, etc. All these systems will have to work together to get the end result; in this case sending an email. The same logic applies to operational software.

Data shows that in-house human resources often do operations and maintenance of these systems. With human resources being a precious commodity, one thing that can free resources from their operational duties is automation.

Automation has 4 main advantages:

- Accuracy
- Speed
- Increased Productivity
- Frees up Human Resources for more critical and intelligence oriented tasks

To draw a parallel; in an industry which produces components, an assembly line will turn out a higher volume of end products with lower sub-standard pieces when it employs a mechanized assembly line rather than when those units are produced by hand.

DOES AUTOMATION MAKE SENSE FOR OUR BUSINESS?

This understanding is at the heart of our recommendations when we at ZeroOne advocate for businesses with a large number of operational processes to automate them.

Automation using ZeroOne's "AORTA Automation Engine" has many benefits.

- It can deal with complex workflows
- It has a rules engine that can implement and enforce rules and mandatory procedures.
- It has error detection, threshold breach detection, alerting and reporting systems
- An advanced audit trail system will ensure accountability and transparency.
- It handles various application types –Web, Desktop, Mainframe and SSH based systems
- The single biggest advantage with our approach – No change to the existing application as the same actions that a user would perform is done by a program from the front end.

To put it in perspective, systems do not talk to each other and often a lot of processes are manually executed. By charting out the process flows and defining the rules, the resource

is normally required to vet the data alone. (Even this step can be bypassed if the flow, rules and data are finite and inviolate.)

On successful completion of automation, customized reports will display data. The system can further have a roster of roles and rights for easy maintenance.

Our automation system is highly scalable in the fact that features like response time monitoring can be built in and activated. It can even return performance metrics.

WHY HAVE AUTOMATION SERVICES NOT PROLIFERATED?

The obvious question that is asked is “If automation provides so many advantages why is not implemented by more companies?”

One major deterrent to automation is cost. Since there is an initial payout for the software and hardware companies often tend to keep the spend down. But in most successful cases the ROI accounts for the spend in the first year itself.

Again, the size of the project matters, when human resources cost less small scale operations will not see a considerable benefit quickly. But that having been said there are indirect costs that are not always factored in. Training a resource, appraisals and direct performance hikes are costs that companies do not cost for in the long run. When these costs are consolidated along with the dollar value that is tagged to efficiency and accuracy, then automation comes out on top.

With a well laid out strategy, businesses can take advantage of the numerous benefits of RPA and include their Automation partner right from the beginning to ensure savings on time and costs from deployment by quickly eliminating risk and in some cases even rewriting processes to suit automation.

THE AORTA AUTOMATION ENGINE

WHAT ARE THE ADVANTAGES?

- Handle complex workflows involving one or multiple systems
- Exception and Error handling
- Customizable work queues
- Speed of resolution & processing
- Accuracy – What you feed is what is processed. In most automation cases, our Clients have achieved 100% error-free transactions.
- Error Detection
- Automation with almost no change in legacy or third party software
- Increased Productivity
- Frees Human resources for more critical tasks.
- Minimal recurring cost
- Low TCO (Total Cost of Ownership)
- Extremely high ROI (Return On Investment)

WHAT CAN WE AUTOMATE?

ACCESS PROVISIONING

With very large teams, User Access Provisioning is a key and time consuming activity with dedicated resources managing it. Access provisioning must comply with strict standards of request and approvals workflow and audit trails. Aorta can save valuable man-hours as well as ensure compliance with any SOP the organization may have devised.

DATA PROCESSING

AORTA is an ideal fit for situations where data from disparate sources (applications, files, database, services, etc) needs to be extracted, transformed based on business rules and policies and then populated into another application.

AUTOMATED TESTING

QA/QC is an important part of any development life-cycle ensuring that the software performs what it is intended or designed for. Functional testing takes up a large slice of

this activity and involves the application of scenarios, test data, malformed data, validations, calculations etc. Even a minor change will require the entire system to be tested. Aorta provides a “write-once, run many times” script-based automated testing platform which can run these tests any number of times with just a click of a button and can also monitor response metrics from an end-user’s perspective.

UPDATING HR DETAILS

HR departments in companies have a constant influx of information for new and existing employees. This information has to be updated in the corresponding records in such a way that the change reflects across all systems. The information needs to be automatically accessible to the entire team, at any point in time. AORTA is used as a single system which automates the task and stores the information, thereby replacing and reducing manpower used.

REPORT GENERATION

Reports generation is a crucial process in measuring the growth of a business. These usually need to be generated at varying time intervals like daily/ weekly/ monthly by either an individual or a team. The compiling of information that is extracted from various applications is made a simpler process by AORTA.

END-OF-PERIOD PROCESSES

Most IT operations involve periodical closing processes (daily, weekly, monthly, etc.) and typically following pre-defined routines, checks and processes involving multiple applications in a specific order. These operations are critical for performance and continuity of the applications. AORTA will do this for you with 100% process compliance and on-time with notifications and alerts for error and non-performance scenarios.

INTEGRATION OF DISPARATE AND THIRD-PARTY SYSTEMS

Integrating third party application, even where APIs or data end-points are available, can be a time consuming and expensive exercise and sometimes integration may not even be possible. Also, data and data-structure disparities means performing varying degrees of ETL to make the data compatible with target systems. Aorta can solve this problem by reading data “As Presented” by the source application and then performing transformations on the data to make it compatible.

CASE STUDIES

Case 1: Electronic Credit System (ECS) Processing

A large multi-national bank was using a large team to run their complete ECS processing. The process involved various steps like downloading data, sorting as per branches, posting and processing on the ECS system and finally updating on the RBI site. The process was run manually, leading to a lot of issues like – errors, inability to plan for volume of transactions and a very high cost per transaction.

AORTA server and scripts were in place which took about 2-3 weeks. Post this, not only the team size reduced considerably; they could now handle much more work, apart from the ECS process, which was predominantly run by AORTA. Apart from this efficiency, larger volumes could be handled more efficiently and without any human intervention. Additionally, the error rates dropped to almost NIL. The largest component of saving was the 600% savings in cost of running the ECS process.

Case 2: IT Operations

A team was handling the IT operations in a large multinational bank. The process involved running batch files, extracting data and sending beginning-of-day and end-of-day reports. This routine process was run across 60 internal applications every day. The process was fraught with many errors and high costs.

AORTA was launched in a lead-time of 2 months. AORTA helped automate the entire process, while maintaining complete sanctity of existing processes and applications. The automation started with the user generated action and allowed for due authorization required as per the Bank's norms. It also enabled generation of emails with embedded reports, thus reducing costs, human resources and errors.

Case 3: User Accounts Management Process

A large Multinational Bank had multiple workflows and more than 250 internal application instances that needed to be navigated to complete the process of User Account Management. The process was repetitive and the information had to be taken from one application and then verified or updated on another, for the appropriate rights to be assigned to every specific user. An increase in volume led to increase in team size, time taken to complete the process and errors.

With the implementation of AORTA, the entire process was automated without changing any element in the process flow. Necessary authorizations and monitoring were incorporated in line with the bank's norms. At 5000 user accounts per day, the resource requirement and cost of operation was reduced by 50% and further reduced to 25% when the volumes went up to 10000 user accounts.

The image below shows the usage of AORTA after 6 months of going live.



TIME SPENT ON PROCESSING 19,200 REQUESTS



With AORTA
Time Saved : 3,212 Hours
Manpower Reduced by : 85%

**AUTOMATION SAVES YOU
TIME AND MONEY**

Recently, a customized deployment was completed for one of our Clients, a multinational entity in the banking sector. With the bank's presence in over 50 countries, the solution was executed and deployed on the global WAN.

Existing architecture and hardware was utilized. Operational errors were reduced to almost nil and 5 full time resources were freed from a team of 30 (16 per cent reduction in work force utilization).

AORTA MODULES

Control Hub

Control Hub provides the window for Administrators and Technical teams for controlling the Agents, manage the applications that are automated, view live dashboard among other items. Control Hub provides web interface to the System users. Control Hub also exposes APIs if any other system requires the data to be pulled.

The features of Control Hub are described below:

1. View live Dashboard which lists the number of active agents, number of applications/ activities currently in process, daily/ weekly/ monthly statistics and more
2. Add new applications to be automated, start/ stop automation of the application(s)
3. Start/ Stop agents. View details of each Agent.
4. View and manage schedule configurations for processes.
5. Deep down view of Process Queues.

Automator

Automator handles the Automation of applications and platform. Automator is capable of automation Web applications, Mainframe, Native windows, Terminal applications and Java Applet based applications. Automator can also handle platform automation and consume APIs exposed by other applications.

The Control Hub controls the Automator.

Workflow Server

Workflow server is an optional module, which can help companies move from a manual process to an automated one.

The best example where Workflow server will be useful is a Ticket Management Process. The process usually starts with user raising tickets on the Request or Ticket management system.

Workflow server can be customized to pull the request from the Ticket or Request management system, use Control Hub/ Automator combo to automate the multiple steps involved in the process (maker, checker etc) and finally update the Ticket management system to close the ticket.

Workflow server can be extensively customized. New rules and flows can be added with minimum or no development effort.

SUMMARY

Automation is a desirable practice. With a solution like the one offered by ZeroOne Technologies, processes that are automated are self maintained. There are minimal recurring costs, low TCOs and extremely high ROI which will assure benefits in even the smaller projects over a longer period.

ABOUT ZEROONE

ZeroOne is a technology company focused on software development.

From our name to the work we do, the basic principle is the same; a deeper understanding of technology leads to visibly distinct results. That is just the beginning, as anyone who looks closer will come to know that ZeroOne is more than just another software company.

Our company was built from the realization our founders had working with other established and start-up companies. Around 2004, there was lot of technically demanding work that was just not being taken up. We realized these briefs were avoided, as the only way to get positive results was to work with unconventional processes and out of the box ideas. ZeroOne had found a niche in which it could operate and operate well.

Everything we do is based on a five-point approach;

Clarity in understanding the problem or requirement
Creativity while designing the solution
Innovation while using the most suited technology
Simplicity while developing the solution
Results that deliver what is expected

By employing these simple directives we created systems that not only satisfied the customer's requirements but also were very stable and scalable. We like to and have been surprising our customers by exceeding their expectations.

Over the past fourteen years, ZeroOne has executed various kinds of projects; from developing an online collaborative tool to a vehicle tracking system.

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