

RFP (Request for Proposal) Consolidation using RPA (Robotic Process Automation) for Smart Cities

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Abstract- Smart Cities with Middleware and RPA becomes a strong research area. The reason is the ability of middleware technologies with RPA technologies to integrate and solve problems to build a smart city. This paper aims in providing a solution framework using RPA for smart cities.

Index Terms- Middleware, Integration, Smart Cities, Robotic Process Automation, ICC (Integrated Command and Control Center), Request for Proposal, Artificial Intelligence, Machine Learning, Deep Learning, L&T (Larsen and Toubro), SWC(Smart World and Communications).

I. INTRODUCTION

The term RPA defines Robotic process automation (or RPA or RPAAI) is an emerging form of business process automation technology based on the notion of software robots or artificial intelligence (AI) workers. In a typical business set up / Smart City solution provider (MSI) the Solution Architects team and the Design Engineers Team are busy responding to the RFP (Request for Proposal). There is a dire need to collect and collate the humongous information or requirements.

II. IMPORTANCE OF RPA & MIDDLEWARE IN CURRENT MANUAL RFP CONSOLIDATION

Given the fact that middleware adds a lot of integration value, there has to be a lot of effort that goes in each architectural framework. The framework need not be technical. It can be at high level over all solution architecture. Every RFP has issues and challenges in their requirements and complexities. It is up to the Design Consultants, Engineers and Solution Architects to understand, discuss, elaborate, present and articulate the benefits of their solution. They are left with no help than to read the RFP that would go up to 500 pages, that too working on multiple RFP with the given tight deadlines to stitch the solution and paint the big picture. All these are manual and prone to errors.

III. ISSUES AND CHALLENGES IN MANAUAL PROCESS

- STEP 1: Check & Validate the Information: The information is exhaustive and it is needed to carefully check and attention to details is always needed. There is a need to

double check the information that are linked and tagged with other sections for integration. The information is then shared with other Design Engineers that are involved for arriving at the overall solution. It has to be further validated to check if all information related to a particular section of the RFP is captured. If there is any ambiguity, then it has to be raised for the clarification.

- STEP 2: Check & Validate the Generic Architecture: Once the information is collated and validated in the excel sheet, the next steps are to arrive at a Generic Architecture. The Generic Architecture could contain, Overall Landscape Architecture, ICC Architecture – Core & Complex, Unified Architecture, Flow Model Architecture and Identity Architecture. This is a vital step and the input for this the checklist of information that is collected in previous step.
- STEP 3: With these Architectures, the next steps is to reach out to different vendors that comply to the solution
- STEP 4: Evaluate the different vendors
- STEP 5: Select the perfect match of vendor for the requirements

IV. THE ATUOMATED SOFTWARE ROBOT SOLUTION

- The solution is to arrive at the Solution Document AUTOMATICALLY that could be possible by completing Steps 1 & 2 described in “Issues and Challenges”. RPA software could provide the Smart city specific completed checklist to start with.
- To automate this solution, RPA software can be utilized. Some of the RPA stack/vendors can be utilized as below;
 - Blue Prism
 - UI Path
 - Automation Anywhere
 - Black Line
 - And the list goes on.

- The solution should capture all the needs of each Design Engineer involved in different sections/discipline/areas of expertise. It has to cover the below aspects:
 - ❖ Provide the completed smart city specific data captured in checklist.(step 1)
 - ❖ Validate the checklist/information by complete automatic scanning of the file (step 1)
 - ❖ Send out emails to the relevant stakeholders.
 - ❖ Manage the history of discussions/Blog with stakeholders
 - ❖ Prepare the Generic Architectures (step 2)
 - ❖ Validate the Architectures with stakeholders with history of blogs.
 - ❖ Provide next steps for Vendor Evaluation
 - ❖ Generate Vendor Stacks with optimum consideration along Technical needs
 - ❖ Choose and Pick the Vendors with stakeholder approval and confirmation
 - ❖ Provide justification for the selection
 - ❖ Provide Executive summary and collation of the Solution Document

V. CONCLUSION

Based on the RFP requirements and complexities, we need to address problems with competencies to build a framework for suggesting the successful software bot architecture for smart Cities project. Using such approach will help a futuristic framework for Smart City solutions. The level of details and accuracy in the final solution will resonate with the implementation of the solution post bid. To enhance the winning ratio and roll out a successful solution, Automation of manual job is needed in pre bid stage. Apart from the Bid stage, RPA will have key role in other aspects of Smart City ICC (Integrated Command and Control Center) platform architecture as well clubbed with Cognitive Analytics using Artificial

Intelligence, Machine Learning and Deep Learning models.

VI. IMPLICATIONS

The advent of RPA bring in the though process that it will affect the existing workforce. The truth is that it will aid the workforce and increase their productivity if implemented properly. This will make workforce life happy and in turn make the organization perform well. If the workforce is happy and effective, organization will become efficient and achieve their goals.

VII. SCOPE

Though this approach is on RFP, the scope of RPA for this paper is on smart city projects. This can be used across verticals and business areas as long as the idea is nurtured and implemented in right way. This paper will enable the readers to think through their current organization issues and find a solution with RPA.

REFERENCES

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