Case Study: **Reducing Software Deployment Time and Necessary Engineer Effort through Custom Automation and UI Implementation**

Background

A major fintech and financial services firm implemented Electric Flow for software deployment. The organization spent too much money on man hours for weekend and overnight hours due to the need for engineers to “babysit” software deployment efforts. Additionally, the company sought to avoid its engineering team burning out through long hours spent on monotonous drudge work. They partnered with SPK and Associates due to our reputation as a leader in Electric Cloud solutions customization.

Challenges

A major fintech and financial services company specializing in online investment recently adopted Electric Flow as their software deployment solution. The customer sought to significantly decrease deployment time and efforts with regard to implementing new software solutions. In particular, the company no longer wanted software engineers working weekends or overnight hours to manually perform deployments. The customer also desired a reduction in duration of deployment windows and to increase overall ease and reliability of their deployments. The client had a secondary goal of self-sufficiency with regard to the operation and extension of their product.

The client’s current infrastructure had what they described as “brittle” elements, which presented a challenge. Processes had to be performed very carefully and very specifically -- and sometimes not at all -- because the system would potentially not be able to handle a process when it came back online. What’s more, knowledge required for deployments was tribal and highly compartmentalized. As a result, the company suffered from an over-reliance on the specialized knowledge of a few particular individuals. Failed deployments had the potential to cause massive, sweeping problems across the entire organization. With the rapidly increasing innovation in fintech, this company ran a serious risk of falling behind the entire industry or burning out its engineering team in the coming years.

Likewise, the customer stored significant information in Electric Flow. They required convenient and ready access so they could easily compare information stored in different areas of their system. Manually retrieving the information would have required a lot of time-consuming clicking that, from a UI perspective, would have made quick comparisons difficult, increasing the potential of human error. The client handles a massive volume of data, employing Electric Flow to automate much of the processes around this data. Engineers were not expected to spend a lot of hands-on time, let alone after-hours billing. Anything repeatable, consistent and reliable needed to be automated so that an engineer could trigger the changes, albeit with redundancies and fallbacks. The customer required less reliance on their engineering team to babysit Electric Flow and perform tasks, while also reducing human error.

Decision Process

Throughout 2016 we worked closely with the client on several projects. We initially came to work with the company because the product vendor recommended us for training purposes. The customer subsequently requested assistance developing customizations to Electric Flow due to our unique skills in that area. Due to our already close working relationship previously forged with the client, they requested our assistance over other organizations to work on three additional, more substantial projects related to Electric Flow rollout.

The most important factor for the client in evaluating their options was our knowledge of Electric Flow. We have a longer history of partnerships with Electric Flow’s vendor, Electric Cloud than most of their other partners. In some cases, other organizations were given the opportunity to work on these projects, however, the customer found their abilities to be not as strong. In fact, another consultancy team was taken on for the tasks we later completed, because they were found lacking. No other organizations have the user interface customization skills that SPK and Associates boasts.

Implementation

SPK deployed an automation solution coordinating deployment pipelines including commercial and enterprise services. We found the appropriate solution by working directly with various teams within the organization to determine their existing deployment process. We then sought the best way to map that over their Electric Flow implementation, not the other way around. This was a very collaborative process involving input from multiple departments to better address their individual needs. The client's team was very positive about the experience, expressing a high level of trust in our services.

SPK began with training, as well as some remote UI work. We worked with different groups in the organization to get their specific processes on-boarded into the tool. Close communication was required where we asked how they went about their tasks, how they work, what their processes were and how they wished those processes could be done better. After implementation, we again circled around with the customer's teams to address whether or not our solutions were improving their efficiency. Management was consulted, but the focus was on discussing solutions with the engineers themselves.

SPK went beyond a simple API call and basic scripting. Nor were our customizations minor tweaks of readily available plugins from Electric Cloud for Electric Flow. We created custom pages from scratch. This resulted in a dynamic UI integration. SPK is the only company providing dynamic UI modifications for Electric Cloud. This UI had to interface with several other aspects of the system, including database properties and other properties stored in Electric Flow. The custom UI needed to pull in all of the information stored in Electric Flow, view it, manipulate it and retrieve it on request. This made managing the complexity of the information stored in Electric Flow much simpler.

Because the client had a delicate infrastructure, SPK was careful to not overwhelm it with too many services performing all at one time. As the client sought a push button solution, we had to arrange processes such that they rolled out in the correct sequence.

Results

The customer saw a 5x increase in productivity directly related to the deployment of our automation tool. Deployment time decreased from several days to a few hours. Fewer employees were required to do after-hours deployments when they were required at all. Some deployments were reduced from three hours to ten minutes. This decreased employee burnout and increased morale and overall job satisfaction.

On one project alone, the customer was able to save $500,000 annually simply by automating one tedious manual task. We leveraged our partnership with other service providers to help the customer achieve this outcome. Further, we provided training and guidance, helping them to move toward independent support of their automation solutions, resulting in cost savings through decreased dependence on outside expertise and increased autonomy through greater control of their own internal processes.

SPK and Associates was able to perform this series of tasks for the customer thanks to our deep knowledge of Electric Flow and Electric Cloud products in general. We understood the internal workings of Electric Flow, where it stores information and information properties, how to access that information and how to use an API to perform operations. Because Electric Flow is a blank slate, the client needed a team with deep knowledge of Electric Flow to set their system up from scratch, coding a UI from the ground up.

Results Highlights

- SPK and Associates built a custom UI from the ground up specific to the needs of the client.
- SPK and Associates provided support in the form of training and guidance, as well as leveraging our partner relationships.
- The customer increased productivity by 5x directly as a result of deployment automation.
- Deployment time decreased dramatically from hours to minutes.
- Man hours were slashed as far fewer engineers were required to do far less hands-on work related to deployment.

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