Fueling Transformation with Automation

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As a topic, digital transformation has been fodder for many articles, especially the aspects of how important it is and will be for organizations that seek to keep pace with the rising demand for greater service quality and faster delivery at manageable cost. Digital transformation projects cover a wide range of initiatives, from basic and small-step process improvements to wholesale technology changes. The common factor in all of these projects is the need to drive business value—whether by improving operational efficiency through automation or implementing new intelligent integrations between applications.

The recent focus on Machine Learning as part of AIOps is the latest incarnation of how data analysis is used to make sense of massive amounts of collected data. It's really about answering an essential question: now that we can collect all of this data, what do we do with it? Understanding how to apply intelligence to automatically raise a 'root cause' alert to your operations team or create a trouble ticket for someone to investigate is obviously of massive benefit in improving operational efficiency. The additional business value of performing more advanced automation rooted in deeper data analysis, however, is still not being implemented widely by service providers, meaning that they are missing a big chunk of the machine learning and AI benefit.

There are certainly a number of reasons preventing adoption of more advanced automation: among them are concerns about losing control over processes and the risk associated with change. If the implementation is carefully planned and tested, however, risk can be minimized and significant benefits achieved. These benefits include:

- Decreased Human Time to Resolution (HTTR)
- Maximizing the use of skilled and valuable human resources to focus on other value-add tasks
- Implementation of agility and speed 24x7x365
- Improvement of operational efficiency to enhance quality and service levels
- Ability to run increasingly complex operations with the same or reduced resources

The ability to improve operational excellence across the areas that matter most—for example customer-focused Level 1, 2 and 3 support teams—with increased efficiencies and reduced triage and resolution times means your team can focus on other priorities that, in turn, allow the team to scale. This shift has obvious business value: faster incident resolution directly links to improved service levels and customer experience.

Of course, questions arise: What happens if an automated action does something that we don't want it to do? If the automated process goes wrong, will I be able to correct it before it's too late? To address them, let's look at them logically. the process is only going to do what you program it to do, so the answer is to design and implement a process that you trust. Using business process modelling, human intervention and manual steps can be added into any automated process—but doing so reduces efficiency and therefore lessens the business value that is unlocked, as well as your goal of actually automating anything end-to-end.

To be able to implement automation and drive business value effectively, it is helpful to understand the steps involved in defining a solution. It's important to start small. After all, you are trying to automate multiple individual tasks, which may all be part of the same business process, but we find that splitting each step of the process out, analyzing it, automating it and moving onto the next step

with the same approach is by far the most efficient way. At the highest level, each process has three distinct steps: an input, a processing step and an output. The output from one process can then be used as the input into the next and so on.

Before undertaking a project to improve operational processes, you need to fully understand the specific problem or task you want to improve. The word 'specific' in the previous sentence is important. We see a lot of time wasted by organizations that have either vague and ill-defined requirements or have bundles multiple steps into one, which complicates analysis and makes identifying automation difficult. Success comes from establishing measurable and achievable goals at the start.

Step 1: Input

As mentioned above, understand what data or action is being used to trigger the process.

- Is it a specific piece of data produced from a downstream analysis (e.g. a root cause alarm or event)?
- Is it a manually triggered action? If so, who manually triggers the action and what causes them to trigger it?
- Where does the data come from (e.g. system/application/database)?

There are a lot of things to consider when it comes to data. At Federos, we look at data as a multi-dimensional entity. The key dimensions we consider are:

Quantity (height) – Generally, the more data points you have, the more accurate and certain you can be that any analysis and subsequent automation will achieve the required results. However, having a lot of poor-quality data is problematic (see below).

Breadth (width) – Having a lot of data from one source is useful, but if you can bring in multiple related sources, the abilities to perform more intelligent correlation increase significantly.

Quality (depth) – As mentioned above, having a lot of poor-quality data can cause problems. We always recommend that having unmodified 'raw' data should be the objective. Data that has already been modified by downstream systems or processes can cause root cause analysis and correlation processes to be less accurate and, in some cases, fail entirely.

Step 2: Processing

We recommend performing two separate analysis steps at this point. Now that you understand the input or trigger(s) for defining process, examine what you are currently doing with the data, (for instance raise a ticket, produce an event or alarm) compared with what would you like to do with it.

We are often surprised that, when thinking about implementing automation, organizations miss the opportunity to look for process improvements to increase infrastructure stability and availability. In many cases, processes have been in use for many years and, when asking why the process is performed in a specific way, we often hear 'it's always been done this way.' Now is the time to review whether the process can be improved. Here's why doing so is important: you can automate an existing inefficient process and get some business value, but not as much as automating an optimized and efficient one.
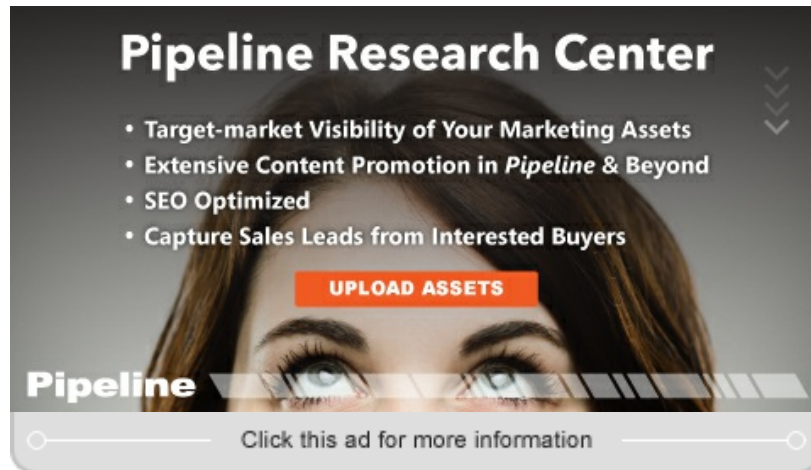
It is also worth highlighting the importance of being able to manage and change the processing that is performed at this step on your data. Environments change and data is dynamic. Having a 'closed' or 'black box' solution that can't be easily changed to meet the nature of the environment does not make sense.

Step 3: Output

Now that you have performed the processing step, you should have an output that can be used to trigger an action, whether it is directly used as an input into another process (return to step 1 using the output of this step) or is an action in itself (e.g. a trouble ticket has been raised).

Testing the output you get from your process steps is critical to ensure that your input, processing and output are all correct. Using test data to run through the process steps is often the best way to ensure that the end-to-end process is working as you designed it.

Although undoubtedly a complex subject, thinking about maximizing business value using automation is achievable when planned carefully. Having the right data and understanding it and what you want to do with it is critical. Having a solution to be able to define, execute and manage your automation is also essential.

Using automation to fuel transformation

With ever-growing requirements to make quality improvements—such as reducing alarms and eliminating service outages—while cutting cost in operations, service providers must also be prepared to meet ever-increasing customer expectations for new products.

At Federos, our software-defined operations platform helps our customers improve their operational efficiency and reduce costs by understanding and using their data to automate workflows. Based on the above guiding principles and best practices, our approach and solutions allow service providers to define their own processes and use their own data to drive automation—providing them the confidence to fuel needed transformation.

Underlying our software-defined operations platform, Federos provides unique capabilities to unify data from fault, performance, topology, flow and service sources and perform root cause analysis and machine learning horizontally across all these data sources. This provides an extremely high level of accuracy and certainty when implementing automation. Further, our 'open box' approach allows the full definition and management of any data analysis processing logic. The modelling of business processes is performed using industry-standard methods (BPMN 2.0) and is further enhanced by the ability to integrate external systems such as change management, inventory, CRM, service and ticketing systems. In order to present results in the most effective way, our platform also provides industry-leading intelligent visualization solutions to maximize operational efficiency.