

Automation for the Rest of Us

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Automation is a hot topic, but its dirty little secret is that you cannot automate something if you don't understand how it works... making ITIL process definition a cornerstone to automation success.

Automation – replacing manual work with pre-programmed machine work – is all the rage today. Run Book Automation (RBA), IT Process Automation (ITPA) or plain old automation are at the forefront of IT operations. There is a good reason for this interest in automation – some reports say as much as 60-80% of IT work is repetitive and can be replaced with scripts or similar automation.

This is not a bad thing. As IT complexity continues to escalate due to commoditization, there is simply no way for IT staff to keep up with all the Installs Moves Adds and Changes (IMACs). IT has to work smarter, not harder. Enter automation.

Consider the potential windfall in efficiency, effectiveness, and economy possible by integrating an actionable Service Catalog with a CMDB system for automated provisioning. For example, an executive goes to the Service Catalog portal and orders a BlackBerry. The ordering, status tracking, configuration and account activation can all be done automatically – if the processes are understood.

Automation is not automatic. In fact, without sound and documented manual processes in place there is little hope to ever achieve real automation. Following are some guidelines for automating IT workflow based on ITIL.

Quick Wins for Automation Projects

Of course, too much of a good thing is not always good. Create too many scripts and you soon find yourself losing productivity trying to maintain all these scripts. And self-service is an option that should never be forced upon a user.

Keeping this in mind, getting started with automation requires that you understand the job as it is today – what Six Sigma refers to as the “as-is” state. You must document the current process in place today from the perspective of all constituents. You shouldn't change things too dramatically at first, instead aim for a visible and valuable improvement. Think evolution not revolution.

IT variability costs result from just seven areas: defects, over producing, transporting, waiting, inventory, motion, and processing – DOTWIMP for short. Following is a quick explanation of common areas where you can probably find “quick wins” for automation projects.

Defects

Defects are a tremendous burden to the organization. Re-inspection, rescheduling, loss of capacity, loss of productivity, inability of IT staff to work on other projects, inventory issues, and so on. The remedy here is to use automation to “mistake proof” the process. Consider the Service Catalog. If you build an automated IT workflow using a Service Catalog you can improve the collection of data, and you can improve fulfillment.

Overproduction

Overproducing creates a false demand for resources. Over servicing customers is bad for IT, unfair to IT workers, expensive, and ultimately unproductive. Typically, IT overproduction is the result of missing process. Going back to the service desk example, if you don't have a good incident management or problem management process, or your change management process is dysfunctional, you may think you have no other choice but to “over service.” Now, thinking about the Service Catalog again, let's consider setting proper expectations.

The Service Catalog presents the user with a framework to acquire IT services – just like a menu establishes expectations when you go to a restaurant. And it's automated so you need fewer resources.

Transporting

Moving paperwork, hardware, software, cabling, and all the other bits and pieces it takes to deliver a service consumes more time and has more wasted time than you might first consider. While you may not be able to remove all physical transportation, you can nearly eliminate the movement of paperwork using automated scripts and workflow.

Waiting

Users waste millions of hours waiting for IT to do something for them. IT wastes more time waiting for other IT staff members to carry out related tasks. Reducing the time spent waiting in the service provisioning cycle represents a huge opportunity to improve IT service quality. Remedies here are easy to understand: do tasks in parallel, and make sure to follow managed processes. One of the most dramatic improvements realized is how automation reduces the wait time on behalf of users and customers. The improvement in productivity alone is often sufficient to justify the automation project.

Inventory

Stockpiling and maintaining an inventory of commodity IT products “Just in Case” is a common IT problem. For example, because of the delays in many manual ordering systems, many IT organization purchase PCs in bulk. On the surface this sound like a good thing – customers can get their laptop quickly. The reality of the situation is that just as in manufacturing too much inventory quickly becomes an economic drain. First, there is requirement for capital outlay, storage, inventory management, tracking, and increased security. Then comes the issue of obsolescence – hardware and software configurations change so rapidly that even a matter of months can result in obsolete inventory. Automating a procurement process can produce real economic benefits.

Motion

Human ergonomic waste such as walking, lifting, climbing, and reaching wasteful of time and it is also a health and safety issue. How much time does your staff spend walking around trying to obtain what they need to get a job done? Whenever you see wasted motion, think about how you can prevent it. Most wasted motions represent real opportunities to improve process or work environment. You can make a safer, more comfortable workplace as you improve IT staff productivity. Shuffling papers, obtaining signatures, manually configuring systems, are all great candidates for scripting and automation.

Processing

Many times the method of processing used has no justification – it is simply how things have always been done or how someone in IT thought they ought to be done. Think about smaller, simpler, and easier to use solutions and processes. It is not necessary to achieve total integration and automation of IT systems. For example, in many cases significant benefits come from simply providing a single place for users to obtain assistance. Think about calls into a service desk. Every call on average costs about \$30. Without appropriate processing – think about communicating status and updates to users – IT customers are going to call and ask. In this case, the low-tech solution (e.g. people with telephones) is dramatically more expensive than the high-tech solution (e.g. automated service request management software like a Service Catalog.)

Summary

ITIL has many opportunities for automation. From known error record generation, to Change request processing, to service provisioning, ITIL is oozing with potential.

Using ITIL as your guide, examine your organization for manual workflow and waste. Remember DOTWIMP and the “7 Wastes” presented in this article. Process and workflow waste are the prime candidates for optimization using automation. All the sources of waste cause IT service variability. If you can reduce waste through automation, you can reduce IT service variability. Reduce IT service variability and you increase IT service quality while reducing costs. The trick of course is to identify those opportunities that can be quick wins.

Here is a summary of potential opportunities almost everyone can benefit from:

- Look for the repetitive and mundane tasks. These consume the bulk of IT operations time. Candidates here often include providing status to users, checking servers, and other systems for status, responding to inquiries, etc.
- The Service Desk and Incident can be a goldmine for opportunities – if you capture good data in the first place. Examine the last few weeks of Incidents for common requests. See if these can be automated. Every Incident that used to require human attention that you can prevent is “free” time for IT staff to work on value-added solutions and services. You might not have thought of this, but self-service portal options for users is automation.
- Change and Release Management are often rife with automation candidates. Everything from collecting the RFC (you are collecting them electronically, right?) all the way through pushing out updates and patches can be automated.
- Service Level Management is a prime candidate for automation due to its relationship with the Service Catalog. Perhaps the “biggest bang” can come from implementing an automated Service Catalog to handle routine interactions like requests for information about services, IMACS, up to and including the automation of authorizations and procurement.
- Availability and Capacity Management are where most people use automation today – in the form of monitoring scripts. If you are not using some form of script to gather, analyze and filter data from your infrastructure you should. A few simple scripts can result in a dramatic improvement in efficiency.

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