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Stepping Up to Process Automation: Why You Should Care

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"Automation" may not be a term prevalently used within the ITIL libraries, but it is one of the key enablers for stepping up to operational efficiency, minimizing human error and ultimately enforcing governance to support industry compliance and minimize risk. However, the term itself can be confusing - so the goal of this article is to provide you with some guidance on how to plan an automation strategy by clarifying the breadth and variety of your options.

There are plenty of free-floating terms, ideas and technologies out there on the automation tsunami already. For instance, there is "Data Center Automation," "IT Process Automation," "Runbook," "IT Process Automation," "Service Automation." Enterprise Management Associates (EMA) even created one primarily for its internal use, "ITSM Automation," to reflect that cluster of technologies that have grown up from service desks, service catalogs and workflow - and one might argue the Configuration Management Database (CMDB) as well.

Many automation technologies have been around for a long time, such as configuration (release) management, automated diagnostics and discovery, and, in the data center, load balancing and job scheduling, or workload automation. You may also come across a term called "NOC Automation," which is simply a placeholder to capture any automation relevant to network operations, such as WAN optimization, or dynamic routing.

You might ask, then, how do all of these (and other) pieces fit together? One simple way to look at automation is that logically it falls into three classes: **machine-to-machine**, **machine-to-human**, and **human-to-human**. Of course, some capabilities and products cut across all three.

Humans at the Top

If you think of human beings as "top" and machines as "bottom," then let us start from the top-down. Service desk workflows have been around for years with trouble-ticketing solutions being the most obvious in support of Incident and Problem management. With the rise of ITIL best practices, the service desk is viewed as a center for automating other ITIL-defined processes such as configuration, change and release management.

This "tradition" - because it truly comes from a certain set of cultural roots - is very **human-to-human** centric. It focuses on codifying how people work with each other and introduces human-to-machine automation (configuration/release management, discovery, etc.) from this top-down view.

Service catalogs are worth mentioning here because they are something of their own phenomenon. They hold the potential to become one of the centers of bringing all these pieces together by modeling relationships - much like can be done in effective Configuration Item (CI) class and attribute modeling in the Configuration Management Database.

Most visible today is customer-facing automation through service catalogs, including self-provisioning and other routine requirements such as on-boarding new employees. Such catalogs may contain time/cost and operational processes that serve both to communicate service options to customers and to streamline processes for fulfilling the services on the back end.

As linkages between service catalogs and CMDB systems become stronger, this capability to automate more complex

provisioning tasks will move several steps closer to reality and out of the realm of science fiction.

Room for Machines

Now let us look at the other dominant tradition, which I will call Data Center Automation (DCA) for now. This tradition did not particularly grow out of ITIL processes, but it has strong **machine-to-machine**, and **machine-to-human** roots. Job scheduling, patch management, database automation, dynamic capacity management, and event management are classic examples here.

DCA may also align automated diagnostics and analytics to determine root cause. Of course, configuration/release management is a mainstay as well - and a firm handshake with the IT Service Management (ITSM) area.

Humans and Machines

In DCA, possibly the most game-changing technology is sometimes referred to as IT Process Automation (ITPA), which I view to be a classier and more appropriate label than "run-book automation." Like service catalog modeling integrated with CMDB Systems, ITPA has the potential to bridge granular machine-to-machine interaction with top-down, ITIL-driven best practices over time. But for now most actual deployments are clearly more in the operational arena, with strong granularity in automating machine-to-machine capabilities.

By the way, this list is not complete. For example, some in IT are also looking at automation technologies directed at servicing application developers, Quality Assurance Testing and production-level requirements to provide better, more automated insights into application design vis-a-vis real-world networks.

An Automation Map

As we have seen, IT Automation is the superset of requirements for automation, including **machine-to-machine**, **human-to-human** (workflow) and **human-to-machine**. Today most of IT automation is derived from four clusters of technology. A summary of how IT automation might map to ITIL processes is as follows:

- **Lifecycle Application Automation** - tools to enable collaborative pre-deployment testing during the application design process (ITIL's Service Design and Service Transition phases).
- **Service Management Automation** - automated triage and diagnostics (ITIL's Service Operation phase).
- **Data Center Automation** - automated operations including configuration across the data center/NOC (ITIL's Service Transition and Service Operation phases).
- **ITSM Automation** - automated service provisioning and problem and incident management through workflow and service catalog/service portfolio technologies with roots in Help Desk technology (ITIL's Service Strategy, Continual Service Improvement, Service Transition and Service Operation phases).

Summary

The net is that automation is not only multi-faceted and complex, it is an area of huge innovation and one that is becoming more and more urgently relevant as virtualized infrastructures pair with virtualized application designs - and Service-Oriented Architecture-based Web Services all become part of the network versus just data center realities.

But I must stress the importance of CMDB systems. Without that cohesiveness, you may be automating in blind silos - or in other words you will be automating train wrecks. The correlation between process automation and CMDB system investments is growing in the industry right now for very good reasons. Both enable the other as CMDBs depend on finding effective ways for automating repetitive tasks in order to ensure their growth and sustainability.

Keep in mind these types of synergies as you chart an automation program.