

The Automation of IT Using IT4IT and DevOps

by Mark Smalley

IT automation

Is lack of automation in IT departments a case of the cobblers' children going barefoot?

It will not come as a surprise that advanced application of operational technology and information technology – for instance AI – is disrupting the labor market. The same, however, also applies within the IT function. IT work is just as susceptible to digitization and automation as work in many other segments, yet IT departments seem to be lagging behind. Which guidance is available to improve their productivity?

Surprisingly, there not many bodies of knowledge that address this topic, but the IT4IT Standard and DevOps provide valuable guidance.

DevOps

DevOps is a somewhat elusive phenomenon because there is no central authority that owns it. The community has developed multiple mutations of DevOps, each with their own nuances but most true to the central tenets of Culture, Automation, Measurement, Lean and Sharing – usually abbreviated as CALMS. “Automate as much as possible” is part of the DevOps mindset, and great progress has been made in speeding up the delivery of new software releases while at the same time improving the resilience of the operational systems. It is fair to comment that this hasn't been achieved by automation alone – culture, for instance, also plays a strong role in improving collaboration between various parties. DevOps automation is mostly “continuous-centric”, focusing on continuous integration, building, testing, configuration management, containerization, security and, of course, continuous deployment. If you're interested in tooling, XebiaLabs publishes an excellent overview of current DevOps tooling in their “Periodic Table of DevOps Tools”.

IT4IT

Where DevOps' core focus is on the collaboration between Dev and Ops, the IT4IT Standard has a much broader orientation, starting with strategy and ending with operations. The Standard comprises an IT Value Chain and a Reference Architecture. The IT Value Chain describes high-level activities associated across four Value Streams: Strategy to Portfolio, Requirement to Deploy, Request to Fulfil, and Detect to Correct. The Reference Architecture comprises a service model, information model, functional model and an integration model. These models together describe the information flow in a typical IT function, standardizing the data definitions and functions that are needed to create tools that are interoperable. This is often an issue – tool vendor A has a different definition of “service request” than tool vendor B, leading to inefficient and error-prone interfaces between tools. Adoption of the IT4IT Reference Architecture addresses this problem.

Administrative and physical automation of IT

The automation contributions of DevOps and the IT4IT Standard overlap to a degree but are complementary. The IT4IT Standard is mainly aimed at the information flow across the whole IT function. Some DevOps tools also address this “administrative” dimension within the narrower “continuous-centric” scope, while other DevOps tools are more engineering-oriented, focusing on the “physical” flow of software from development to operations.

Summary

Together, DevOps and the IT4IT Standard contribute to improving IT's operating model by speeding up the flow of work, making deployments and operational systems more resilient, and relieving IT knowledge workers of routine work and firefighting. Translated into business terms, this means quicker time-to-market, quicker business change, fewer costly disruptions to business operations, better customer experience and therefore more sales and higher prices that loyal customer are prepared to pay, and a High Performance Organization that has been proved to correlate with company growth.

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