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EBOOK

Four Ways Developers Can Deliver Better Software Faster

Accelerate application delivery with better Dev and Ops collaboration

DevOps is all about improving collaboration so IT organizations can speed application time-to-market without sacrificing quality. But workflow orchestration is often left out of the equation. Instead, developers use various basic tools to code jobs as they build apps. What's wrong with that?

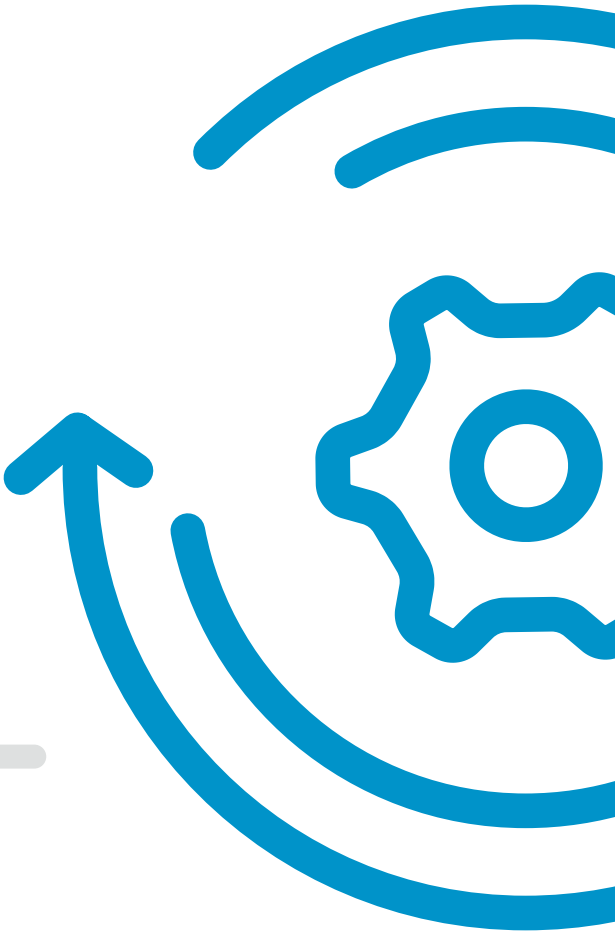
The absence of consistent dev standards often leads to a failure to meet production standards. And when something breaks, it's usually hard to find and fix. Not very DevOps-y, right?

Consider what makes up an application:

- The code (like Java and Python) implements business logic
- The infrastructure (like a Linux server, or web application server)
- The databases and SQL statements that create tables and rebuild indexes
- The many dependent jobs and tasks that must execute, often in a specific order

Jobs-as-Code

standardizes and automates job scheduling by embedding code using a simple notation that makes API calls to a scheduling engine, then managing these calls throughout the continuous delivery pipeline, the same way Java or Python code is managed.



Let’s focus on the jobs and tasks embedded in an application.

The workflow orchestration determines when jobs run and what to do if a job fails. If developers are spending too much of their time defining this administrative functionality, they are literally spending time only to create future headaches for operations.

Don’t worry though. There’s a better way – leveraging Jobs-as-Code you can:

- Save time
- Conserve resources
- Reduce errors
- Ensure consistency

1

Don’t think of jobs as business logic

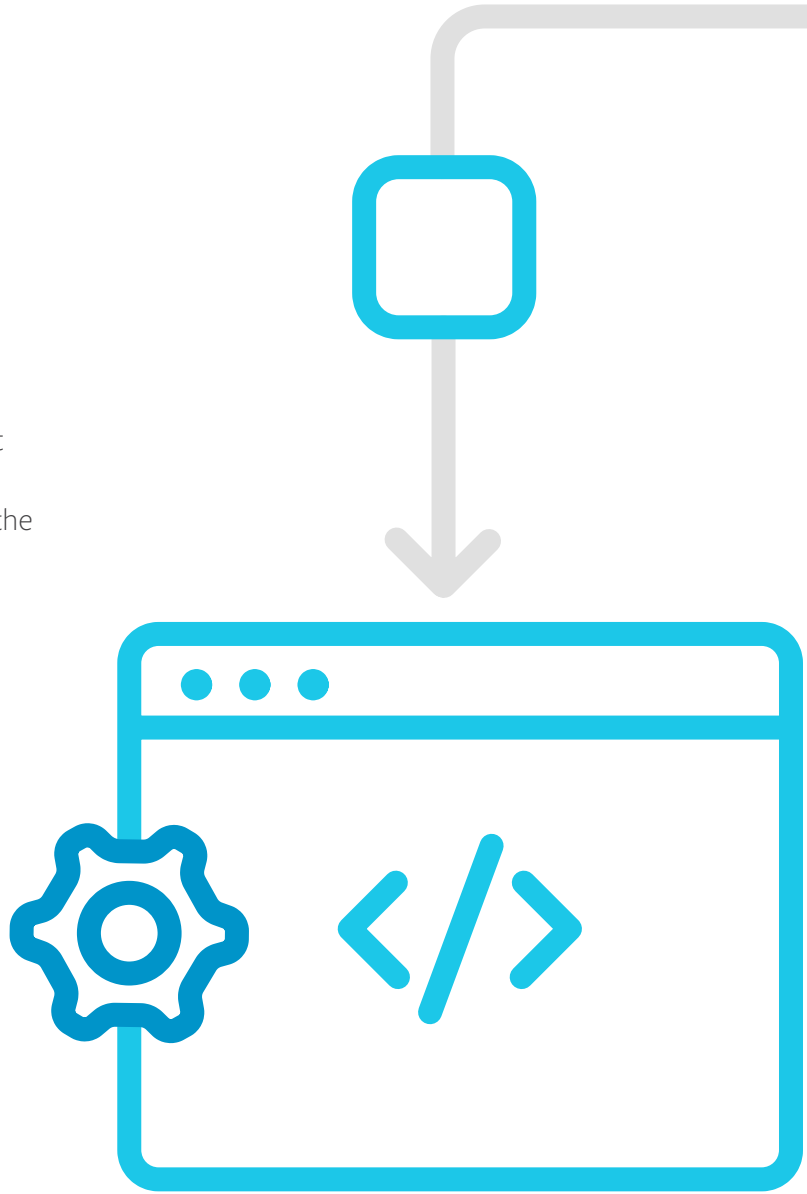
Job scheduling is just instrumentation. Scripting it requires a lot of effort for the build, test and support processes – errors and inconsistency can carry over into operations. Don’t waste your time!

Instead, use an application workflow orchestration product that can manage flow relationships, success/failure analysis, output capture, and other functions. This ensures consistency across an application and from application to application, eliminating headaches for both Dev and Ops.

2
Test early and often

Think about it... the syntax of source code is checked as it's created, right? Why not apply a similar approach to job definitions? In traditional Dev environments new, scripted–and therefore inconsistent scheduling – may work fine during testing only to fail in production.

By automating the scheduling, similar notation and interfaces for all jobs can be used at the earliest stages, allowing for early and accurate testing. This is even more effective when infrastructure-as-code is used to provision a test environment that is as close to the production environment as possible. That makes it possible to anticipate and eliminate resource contention and inconsistencies with other workloads.

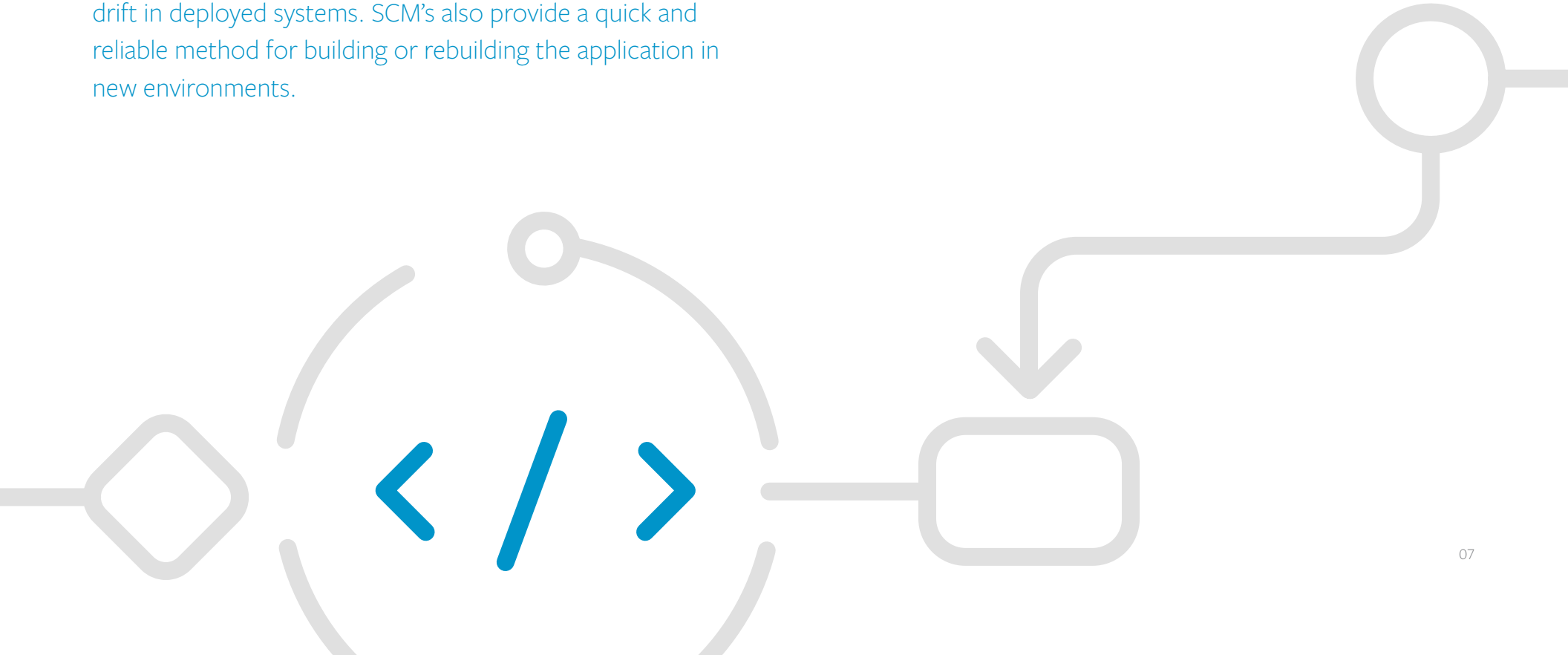


3

Use a source code management (SCM) system

SCM systems like GIT, Subversion, CVS, and TVS, create a central repository for storing application components and managing versions. They enable fallback to previous versions, "diff-ing" versions to identify changes, and managing potential drift in deployed systems. SCM's also provide a quick and reliable method for building or rebuilding the application in new environments.

When any component in the SCM is revised, a build tool (like Jenkins®) rebuilds and tests the application for errors or functionality regression. Typically, when a test fails, the entire development team must work to fix the problem, causing delays. But, the use of Jobs-as-Code will naturally reduce the number of errors.



4
Consider the value equation

For an application to deliver the greatest ROI, the development process must be as streamlined and efficient as possible, and the application should run in production with the fewest possible issues. Jobs-as-Code is a key element in achieving both.

Keep in mind that even the most rigorous development practices will occasionally fail. Jobs-as-Code adds visibility to applications so that, when necessary, the operations and support teams can more quickly identify, analyze, and resolve problems to make the application available again.

Jobs-as-Code with Control-M

If releasing better business applications faster is essential to your company's strategy, you need to make Jobs-as-Code an integral part of your DevOps processes. Stop wasting valuable developer resources on defining the administrative functionality of when jobs run and what to do if they fail. Securely automate Jobs-as-Code with Control-M, an application workflow orchestration product.

"A Jobs-as-Code approach is paramount for anyone doing agile development and DevOps. We have been using Control-M for years in operations, and now the product gives our developers full ownership and control of their jobs in a coding environment that is familiar to them, so they can define the business processes they want to automate in production."

Robert Stinnett
Automation Analyst, IT Operations | Carfax

With Control-M, you can:

- Use shift-left best practices for job and workflow orchestration to accelerate delivery and improve application quality
- Allow developers to work in a familiar development environment using JSON, REST APIs and a node.js CLI for creating workflows as artifacts
- Reduce rework by embedding operational instrumentation as a code artifact throughout the SDLC
- Take a Jobs-as-Code approach to accelerate application build, test, and validation
- Provide developers access to business application automation leveraging Control-M Workbench, a no-fee sandbox environment

Visit **www.bmc.com/control-m** to learn more!

Explore Jobs-as-Code resources for developers at **www.jobsascode.io**

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