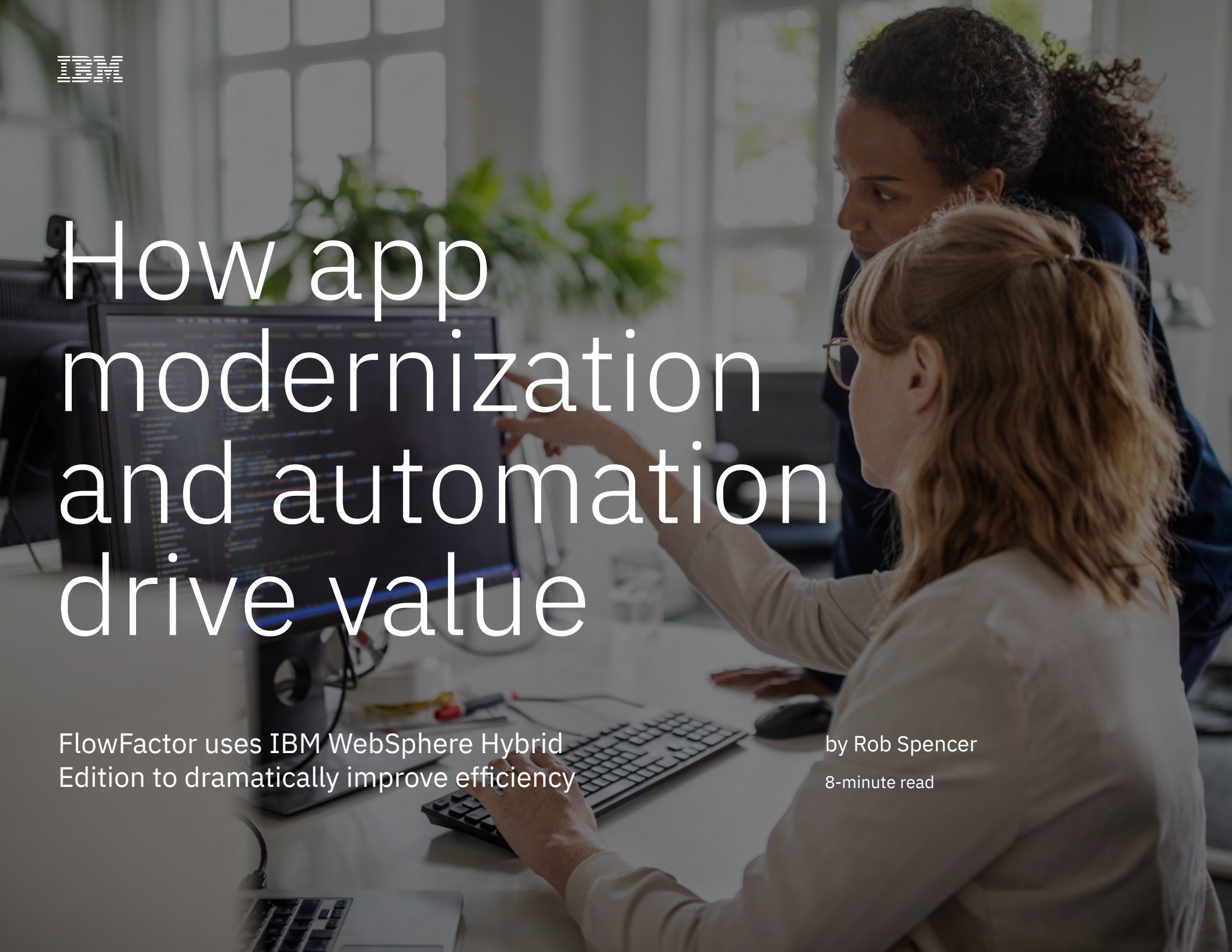

How app modernization and automation drive value

FlowFactor uses IBM WebSphere Hybrid Edition to dramatically improve efficiency

by Rob Spencer

8-minute read

Will automation take our jobs? It's a question that FlowFactor addresses all the time in its work with a range of enterprises seeking to modernize operations to keep up with—or stay ahead of—the times.

And as FlowFactor implements IBM application modernization and automation solutions to help organizations achieve new levels of efficiency and flexibility, it has a clear answer to that question:

No, automation won't take your jobs. It will make them better.

Johan Janssen and Kilian Niemegeerts, Managing Partners and Co-founders of FlowFactor, recently worked with a public transit provider in Europe that covers nearly 200 million route kilometers in a densely populated region. The project is a good example of the heavy demand FlowFactor faces in today's market, where every large organization, it seems, is looking to modernize and automate for greater efficiency and agility but has large, legacy, business-critical applications that don't easily accommodate automation.

The transport provider had 65 applications, based on older versions of Java Enterprise Edition software, running on the traditional IBM® WebSphere® Application Server platform. Manual deployment processes meant that new application releases took up to eight weeks. Further, siloed development and operations teams created greater risk of errors and rework.

Janssen and Niemegeerts worked directly with the customer. “They deployed everything manually, and there was no integrated development environment,” explains Niemegeerts. “So first the development team developed the application or the new feature. And then after testing that on their own system, they threw it over the wall to the Ops team with a set of instructions in a Word document, sometimes up to 20 pages. And that was a document per application, for 65 applications. Mistakes were made very easily.”

FlowFactor used IBM solutions to help a public transit provider modernize

65

applications

App modernization and automation reduced full deployment cycle time by

> 99%

from up to a month to about an hour

For FlowFactor, the mission was familiar. It needed to help the customer modernize and containerize its applications, creating greater flexibility which would set up automation of key processes. And it would need to help the transport provider learn how to take full advantage of the new capabilities.

Modernization + Automation = Flexibility & Efficiency

For the application modernization phase of the project, FlowFactor used three primary components to transform the transit company's applications into modular, containerized architectures:

- IBM Transformation Advisor software scanned the applications and configurations and recommended steps for modernizing the apps from traditional WebSphere Application Server to the lightweight, cloud-native IBM WebSphere Liberty runtime in containers. Although the number of steps per application created the impression that the task was large and daunting, FlowFactor used its experience to identify common code across many of the applications, allowing for reuse. Thus, after modernizing the first application, the rest took relatively little work.
- IBM WebSphere Liberty provided a lightweight application runtime ideal for running the

FlowFactor headquarters in Kontich, Belgium

modernized applications in a containerized, hybrid cloud environment. (Transformation Advisor, WebSphere Liberty and traditional WebSphere are all available in IBM WebSphere Hybrid Edition.)

- The Red Hat® OpenShift® platform and Open Liberty Operator provided deployment automation and container orchestration, streamlining the automation of workflows between development, test and production environments.

FlowFactor also reengineered the customer's build pipeline, creating standardized, reusable processes. From there, the team applied open-source Jenkins automation software end to end, from initial build processes through production deployment. Thanks to the new app architecture, the Jenkins software can automate movement of containerized code across the full software lifecycle.

But all of that was only part of the project.

In public transportation, getting people on board is the simple part. In app modernization, it can be the hard part. It's one thing to implement technology that automates processes; it's quite another to get people to evolve how they work in ways that will get the most value out of the automation.

FlowFactor needed to help the transport company shift its culture to embrace automation and adopt DevOps practices.

"Definitely in large, more traditional customers and governments, it is a sensitive topic," explains Niemegeerts. Engineers and others with expertise in existing processes pose serious questions: Will such drastic change break what actually works well? Will their jobs simply be automated away?

"The main thing there," says Niemegeerts, "is we need to find a balance, to automate a lot and still involve the original engineers and explain to them what will stay the same. We show them that their jobs are never really replaced, they're just altered. The most important part is, they will do the more interesting part of their job more often and not the repetitive stuff. It's giving them time to troubleshoot more, to investigate more, to innovate more."

Niemegeerts continues: "As soon as we start delivering some first candidates of the applications that are modernized, they notice the advantage. They see the faster

deploy times, less impact. No long maintenance windows required to deploy a new application."

And DevOps becomes the way to get the most out of the faster, more flexible processes. This is where the previously siloed teams learn to balance their responsibilities and collaborate more efficiently and more agilely. As Janssen explains: "In the past, application availability was the responsibility of the infrastructure team. Now, when the infrastructure team sees that the development team is taking responsibility to bring stability—not just new features—into production, the mind shift starts and the process really starts running and delivering new applications."

As for the dev side, says Janssen, "The development team gets a lot more power. They can now deploy when they want, to any of their environments."

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Kilian Niemegeerts, Managing Partner and Co-founder, FlowFactor

Dramatic acceleration and time savings

When the transport provider got on board with modernization, automation and DevOps, the improvements were dramatic.

Infrastructure upgrades that used to take months now take no more than a day or two. Full deployment cycles that took up to a month can be completed in about an hour. And single deployments that took hours are down to just minutes.

“Everything is automated,” says Niemegeerts. “Where they used to deploy everything manually, they do not have any manual steps anymore, except for the click of a button.”

Janssen explains the satisfaction at all levels of the organization. The developers can get more work done in less time, the ops team gains greater support in ensuring stability, and above them both, “the business leaders are happy with how fast they can deliver new applications and features.”

> “Everything is automated. Where they used to deploy everything manually, they do not have any manual steps anymore, except for the click of a button.”

Kilian Niemegeerts, Managing Partner and Co-founder, FlowFactor

About FlowFactor

FlowFactor (external link), based in Kontich, Belgium, provides managed services and solutions for helping organizations across industries automate DevOps to accelerate time to market. FlowFactor is an IBM Business Partner and a member of the Cronos Group.

Solution components

- IBM® WebSphere® Hybrid Edition
- Red Hat® OpenShift®
- IBM WebSphere Liberty
- IBM Transformation Advisor