Large UK Bank Proves You Can Deliver DevOps on the Mainframe with BMC Compuware Topaz
Start Your Autonomous Digital Enterprise Journey with a Mainframe-Inclusive DevOps Toolchain

**Compuware joins BMC** to empower the next generation of developers to mainstream the mainframe. With unparalleled mainframe operations management and agile application development and delivery, BMC Compuware provides a mainframe-inclusive DevOps toolchain that increases volume and velocity.

Bring apps that run on the mainframe to market faster with increased quality throughout the process of analyzing, building, testing, deploying, monitoring, and tuning apps and services. Our combined offering accelerates each client’s evolution to an **Autonomous Digital Enterprise**.
A large UK bank recently invested heavily in driving the adoption of Agile Development and DevOps practices across its business by leveraging **BMC Compuware Topaz**. These efforts have been central to achieving the objectives of a strategy through which it aims to modernize its digital service capabilities and tightly align with the expectations of its customers.

“We were keen to enable better, slicker processes that dovetail technology with the needs of the business, so we can be agile and responsive to our customers. DevOps is pivotal to this. It gives us an opportunity to identify new capabilities that our customers are calling for and bring them to market quickly, providing a competitive edge,” the bank’s DevOps transformation manager said.
Mainstreaming the Mainframe

The mainframe is the main system of record for the majority of the bank’s critical back-end functions and processes, including its account engine, database, and card processing. However, this has traditionally been slow to change. The bank’s operating model was bimodal IT (two-tier, two-speed), reducing its ability to become fully agile and maximize innovation at speed.

“We could have tried to re-engineer everything onto distributed platforms, but the cost and effort involved would never pay off,” the bank’s engineering lead for debit card systems said. “The mainframe is the heavy-lifting engine of choice for financial services. It is an exceptionally fast, performant, and concise platform for transaction processing. To retain this value, it was evident that mainframe modernization was needed to bring the team into the fold of mainstream IT and integrate it with our DevOps workflows.”
The bank evaluated the mainframe software market and quickly identified BMC Compuware Topaz as an option to help them modernize mainframe development and delivery with DevOps. Following a competitive proof-of-concept and detailed technical evaluation against other vendor solutions, the bank selected BMC Compuware Topaz as the ideal solution.

The key capabilities that attracted the bank to the Topaz suite included:

- **BMC Compuware Topaz Workbench**: Topaz Workbench provides the bank with an Eclipse-based, integrated development environment (IDE) with a modern and intuitive user interface. This allows developers of all experience levels to use BMC Compuware tools—including BMC Compuware Abend-AID, BMC Compuware Xpediter, and BMC Compuware Strobe—alongside non-BMC Compuware products and solutions from the bank's wider DevOps toolchain—such as Jenkins and SonarSource SonarQube—in a single environment.

- **BMC Compuware Topaz for Program Analysis**: Topaz for Program Analysis makes it easy for both veteran and novice developers at the bank to quickly understand, update, and troubleshoot even the oldest, most complex mainframe code. It creates an instant, static visual summary of everything a developer needs to know about a program, or a dynamic visualization that provides them with a clear and accurate understanding of a program's runtime behavior.

- **BMC Compuware Topaz for Total Test**: Topaz for Total Test enables the bank to fully automate the process of creating and executing unit tests. These tests can be stored in GitHub for reuse, enabling developers to automatically run “Java-like” unit tests to find low-level bugs with speed and confidence.

We’ve been a BMC Compuware customer for more than 30 years, so already had confidence in their ability to deliver. Ultimately though, BMC Compuware won out on the richness of the features in Topaz, its in-built integrations with our DevOps toolchain and the enthusiasm of their team. They provided a compelling, fully proven demo that showed what we were hoping to achieve was possible. This opened our imaginations and changed the mind sets of those who previously thought you couldn't do DevOps on the mainframe. It was hands down the best technical solution and was the only one that provided a complete package.

- DevOps Manager

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Resistance to Change

The bank is very ambitious with its transformation goals. One of the cornerstones of its shift to DevOps has been to break down silos and have all teams working in a shared space. Therefore, one of the biggest challenges the bank had to navigate when implementing this change was cultural.

The DevOps transformation required developers to move away from decades-old practices involving monolithic projects, to instead delivering smaller, incremental building blocks. This required a new way of working, but also a change in mindset. The bank was able to tackle this by integrating the mainframe platform into its broader DevOps digital ecosystem.

“There was a clear message about the need for change from senior leadership within the bank: Break down silos within the organization. To bring people along on that journey, trust is essential—it was a real ‘hearts and minds’ campaign. We started small and built out incrementally. This allowed the more cautious teams to watch at first and see how the changes could help them,” the engineering lead said.

“BMC Compuware helped with this education process by sharing insights, supporting workshops, and providing demonstrations. This built trust and gave people the vision and confidence about what could be achieved. Co-locating mainframe development teams allowed stronger relationships and promoted better understanding of one another. Topaz helped smooth this transition and bridge the cultural gap by allowing the mainframe team to speak the same ‘language’ as distributed and operations teams.”
Increasing Quality, Velocity and Efficiency

Since deploying the BMC Compuware Topaz suite, the bank has seen significant developer productivity increases. Over a 12-month period, the adoption of Topaz has increased flow by 400 percent on the mainframe, while virtually eliminating defect leakage, saving on rework and test timescales.

Additionally, Topaz has reduced the time the bank spends writing and checking code during each sprint from an average of 40 hours to just seven hours. Additional code quality checks have been incorporated, with SonarSource SonarLint highlighting syntax errors or necessary improvements while developers are working on code. Plus, the integration with SonarQube confirms compliance with the bank’s coding standards and monitors technical debt to ensure it does not increase.

Use of Topaz for Program Analysis allows the bank’s developers to get up to speed quickly with the application structure that has been built over decades and instantly understand the implications of changes they are making. This is particularly powerful for new developers, who may be less familiar with the code base.

“Topaz has allowed us to really see what’s going on inside our mainframe code, and our developers have taken to it as if they have been using it for years,” the engineering lead said. “That’s brought some major improvements in the quality, velocity, and efficiency with which we can deliver change on the mainframe. A typical project used to take anywhere from six to nine months, but we're now hitting a stride where we can deliver in a third of that time. We're innovating faster on the mainframe than we are in our digital channels, which is just incredible.”
Taking the Pain Out of Testing and Development

Topaz is also enabling the bank to set up automated unit tests and “shift left” with testing so that it takes place in parallel to new code development, rather than at the end of a sprint. This has allowed the bank to automate system testing, reducing execution time from two weeks to just five minutes by removing the manual effort from the process with repeatable tasks in Jenkins.

“Topaz takes the boring bits out of the job, so our developers can just focus on writing code. That allows us to make the best possible use of their skills to drive innovation and create better services for our customers,” the engineering lead said.

“The modern interface in Topaz is also helping us attract new graduates to work in our mainframe environment, so we have millennials working shoulder-to-shoulder with baby boomers. They already understand the concepts of writing code so, with Topaz, all we have to do is teach them COBOL—there’s no need for them to get to grips with a green screen and completely different ways of working. They are completely engaged now.”

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Building a Future on Collaboration

Ongoing support from BMC Compuware has helped enable a culture of collaboration within the bank’s mainframe community. In addition to providing training to help developers take full advantage of the power in BMC Compuware’s tools, BMC Compuware’s technical support teams have taken part in regular community calls to help the bank’s developers find solutions to their problems and identify ways in which BMC Compuware tools can be enhanced to provide new functionality to benefit them.

“The team at BMC Compuware has been the gold standard for customer care and relationships. We’ve had unprecedented access to their technical experts who stop at nothing to ensure our success,” the DevOps transformation manager said. “I’ve literally never seen another vendor behave the way BMC Compuware does, with such a core focus on supporting its customers.”

Summarizing the experience of working with BMC Compuware, the engineering lead says: “The significance of what we’ve achieved by bringing DevOps to the mainframe in just two short years is amazing. It simply wouldn’t have been possible without BMC Compuware, which has become more like a partner than a vendor. BMC Compuware’s efforts have truly helped our mainframe specialists believe that nothing is impossible.”

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About BMC
From core to cloud to edge, BMC delivers the software and services that enable over 10,000 global customers, including 84% of the Forbes Global 100, to thrive in their ongoing evolution to an Autonomous Digital Enterprise.

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