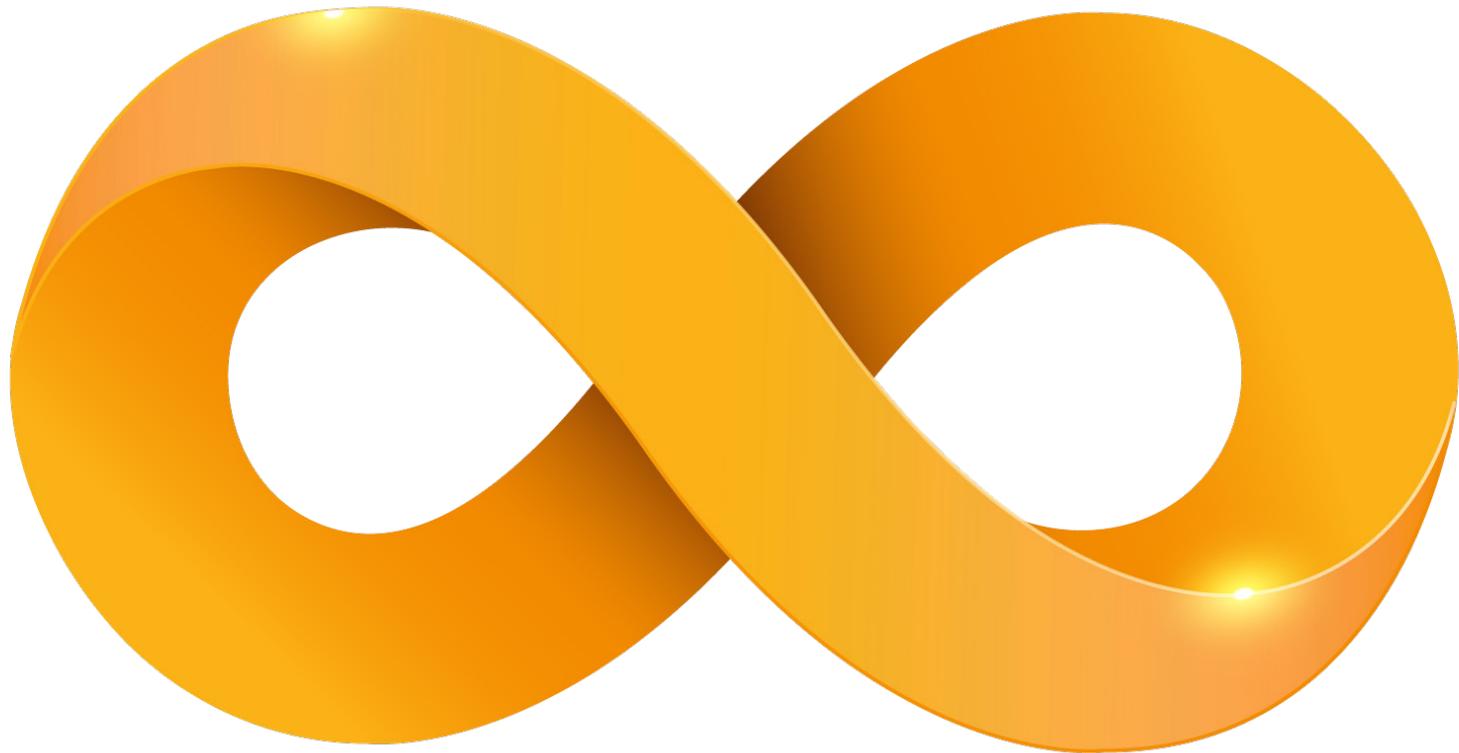# Standard Bank Makes Digital and Mainframe DevOps Advancements with Compuware Topaz and ISPW

Standard Bank

In recent years, **Standard Bank**—a major international financial services group based in South Africa—has focused on driving Agile, DevOps and Continuous Integration/Continuous Delivery (CI/CD) to grow strategic digital, digitization, infrastructure and application software engineering capabilities.

The front-end digitization depends on distributed systems, but the core of Standard Bank's portfolio—including corporate and private banking, among other interests—sits on the mainframe, where it accounts for 80 percent of processing. As the system of record, it's also the foundation for much of the bank's front-end digital transformation.

Hence, "The focus has shifted from the associated cost and esoteric nature of the platform to its sustainability, based on attrition and retention of mainframe skills, as well as its maintainability through automation of software development practices," Jolene Olivier said. Olivier is responsible for driving the execution of the CI/CD strategy at Standard Bank.

The core of Standard Bank's portfolio ... sits on the mainframe, where it accounts for 80 percent of processing.

Business Challenge

As Standard Bank's digital transformation process matured, the mainframe had to be repositioned to mitigate risks between it and the rest of the Agile and DevOps framework supporting CI/CD. There were several cultural, process-related and tooling impediments to integrating the mainframe into that framework.

1. LACK OF INNOVATION AND MODERNIZATION

The mainframe organization needed to evolve from maintaining applications to innovating and updating them in support of front-end digitization.

"Modernizing the platform—through secure extensibility into market-leading software development tools; automation of software development processes; and providing the associated tools to confidently restructure and improve the overall maintainability of inherently complex programs—would strategically support opening up the mainframe to less-experienced application developers familiar with CI/CD development practices," Olivier said.

2. UNGOVERNED DEVELOPMENT PRACTICES

To modernize applications, Standard Bank needed a modern, intuitive tool to package and extend development, testing and delivery best practices, like code-quality standards and testing guidelines, across the mainframe organization. This would:

- Improve the overall quality and rate at which applications/features were being released to the end customer
- Create greater visibility into technical metrics produced throughout the development and deployment lifecycle to better mitigate and remediate potential impacts application developers introduce into a complex and integrated environment

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3. LACK OF TOOLCHAIN INTEGRATION

Standard Bank was already using core Compuware DevOps solutions, including:

- **Abend-AID** for failure resolution and fault management
- **File-AID** for data management
- **Strobe** for application performance management and analysis
- **Xpediter** for debugging, testing and analysis

However, there were still toolchain gaps preventing a complete mainframe integration into the cross-platform CI/CD pipeline, thereby constraining mainframe-dependent digital transformation. In particular, the bank faced serious issues with its source code management (SCM) tool.

4. INADEQUATE SCM

Some of the major issues Standard Bank faced with its existing SCM tool included:

- **Limited visibility** of code quality and code-change impacts
- **Limited extensibility and integration** with existing z/OS infrastructure components and Compuware development tools, requiring expensive and extensive customization
- **Inefficient, outsourced testing** to an external division, resulting in inadequate test coverage and QA of code after being committed back into the SCM repository, allowing risk to flow into the production pipeline
- **Prolonged deployments** into only one environment per day, with multiple instances requiring separate testing environments that further extended deployment time up to six days
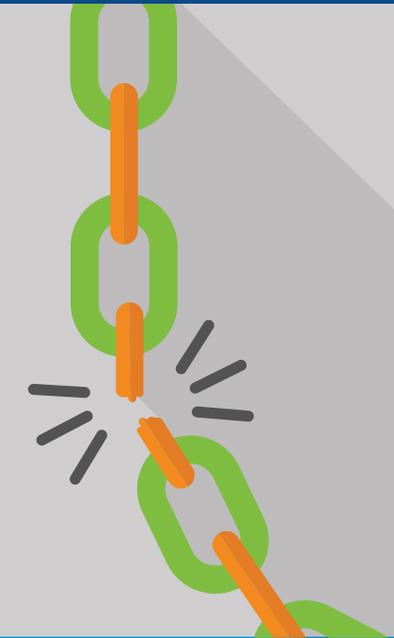
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Solutions

To solve these challenges, Standard Bank implemented Compuware Topaz—a suite of mainframe development and testing tools—and Compuware ISPW—an Agile SCM, Release Automation and Deployment Automation tool.

Compuware
Topaz®

With **Topaz**, Standard Bank made significant improvements to:

- **Automation and Governance**

  "Topaz seemed too good to be true," Olivier said. "After the initial demo and review of the workbench, we were pleasantly surprised at how much of the enhancement requests we raised in the initial demo session were included in Compuware's next quarterly release."

  The Topaz suite, including **Topaz Workbench**, Compuware's Eclipse-based IDE, "embedded years of technical proficiency and automated the best possible way of doing things on the mainframe," she said, enabling the mainframe team to auto-mate several of its manual development processes as well as improve governance of best practices.

- **DevOps Toolchain Extensibility**

  Topaz Workbench also improved Standard Bank's DevOps toolchain extensibility. The bank's core Compuware development tools plug into Topaz Workbench, making them accessible through a single, intuitive development interface.

"Topaz seemed too good to be true."

– Jolene Olivier,
Standard Bank

Compuware
ISPW®

Standard Bank favored **ISPW**, even over notable distributed SCM tools with mainframe capabilities, because it naturally integrated with Topaz Workbench to facilitate the extensibility of Standard Bank's DevOps toolchain. ISPW could also leverage Topaz Workbench integrations with cross-platform DevOps tools, including **SonarSource** SonarLint for automated on-the-fly QA and SonarQube, a dashboard for tracking defects, complexity and technical debt—two code quality tools Olivier was set on implementing.

ISPW would also improve Standard Bank's ability to bring the mainframe further into Agile/DevOps through:

- **Code Visibility and Collaboration**

  ISPW enables concurrent development and encourages collaboration through features like alerts when developers check out code. Developers can see versions of a program at multiple points in the lifecycle to ensure smooth code integrations and graphical relationship visualizations guide users to failure points.

- **Automated Testing**

  ISPW eliminates manual steps so developers can easily compile, promote and deploy programs for testing in Xpediter through Topaz Workbench.

- **Deployment Automation**

  The ISPW Deploy web interface lets developers see the status of deploy requests and the environments into which code was deployed. Developers can rollback some or all code changes at once and replace the current production program with a valid previous program version. Production source is synchronized with the fallback so versions always match.

ISPW also improved Standard Bank's ability to bring the mainframe further into Agile/DevOps.

Results

Olivier says, thanks in part to Topaz and ISPW, Standard Bank's mainframe team is "introducing Agile at scale, and it actually works. We've seen a massive improvement where we've rolled out ISPW and Topaz to the rate and level of quality at which we deploy changes."

ISPW SCM MIGRATION SERVICE

Using Compuware's **ISPW SCM Migration Service**, Standard Bank installed ISPW and facilitated the source code migration of:

- 61 applications
- 55 application types
- 395,760 active application components
- 393,263 historical components

"The objective was to facilitate the migration in such a way that we would not disrupt any application of infrastructural services or any work in progress within the existing SCM," Olivier said. "We were able to successfully install the software and utilize the baseline capability of the application without introducing any historical customization."

This made Standard Bank's ISPW implementation one of the most successfully executed initiatives in the organization, with some of the executives and software engineers, jokingly inquiring about using the services of the migration team to facilitate other enterprise-scale initiatives.

Olivier says 90 percent of the execution leveraged the technical expertise and proficiency of the infrastructural and application software engineers in collaboration with the Compuware technical team. One of the major contributors to the overall success was the autonomy given to the "guys on the ground" to effectively execute their vision in terms of building a sustainable platform.


Standard Bank's ISPW implementation was one of the most successfully executed initiatives in the organization.

CULTURAL SHIFT

Standard Bank's DevOps initiative has given mainframe developers, who for many years heard the platform is dying, a sense of abiding value. They now understand the mainframe must become maintainable for next-generation developers, and it can with Compuware tools that are allowing the mainframe team to continuously improve.

"In the past, we were given a toolset upgrade every two years that wouldn't significantly change how we did things. That's what Compuware tools have allowed us to do," Olivier said.

"It has been very interesting to see how the mainframe market has begun to transition to a more Agile approach to manage the rapidly evolving nature of software development and customer needs. When we began our journey, there was no real point of reference or thought leadership from an executive standpoint in the market—other than Chris O' Malley's advocacy and viability of introducing Agile and DevOps practices on the platform."
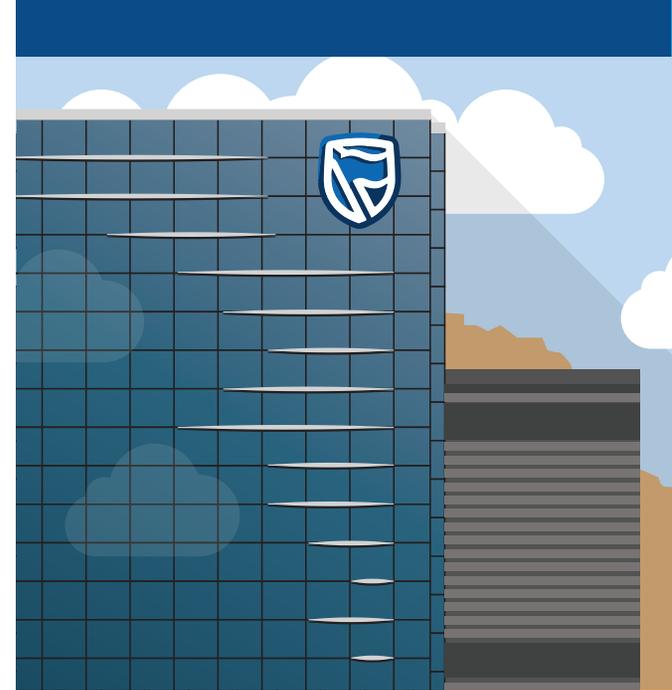
Standard Bank's DevOps initiative has given main-frame developers ... a sense of abiding value.

GET TO DETROIT

In commending Compuware's receptiveness to feedback, customer centricity and unwavering commitment to driving automation engineering and DevOps best practices, Olivier urged others to take a closer look, recalling her visit to Compuware's Detroit office:

"The intent was to understand how the cultural transition was facilitated at Compuware in terms of building cross-platform engineering teams."

"One of the first things I noticed during the initial evaluation was that whoever developed the Topaz Workbench Eclipse-based IDE had an in-depth understanding of software engineering practices on the mainframe and the associated challenges as well as an understanding of software development tools traditionally used in the distributed and open-systems community."

"I was very intrigued to meet these software developers. I initially expected software engineers on life support to walk through the door and was completely surprised at the young talent that did."

This is testament to Compuware's commitment to becoming the world's leading mainframe-dedicated software company—exclusively committed to customers' next-generation mainframe challenges and opportunities. The delivery of products centered around the progressive needs of customers is a testament to that commitment.

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> – Jolene Olivier, Standard Bank

The Mainframe Software Partner For The Next 50 Years

Compuware empowers the world's largest companies to excel in the digital economy by fully leveraging their high-value mainframe investments. We do this by delivering highly innovative solutions that uniquely enable IT professionals with mainstream skills to manage mainframe applications, data and platform operations.

Learn more at compuware.com.