BMC Compuware Topaz for Total Test
Find and fix bugs earlier with automated testing

PRODUCT DESCRIPTION
BMC Compuware Topaz for Total Test enables developers and testers at all skill levels to test programs and subprograms almost immediately after updating a piece of code to ensure unintended changes weren’t introduced into the codebase. This automated testing increases the effectiveness and coverage of software testing, leading to fewer bottlenecks in the software delivery pipeline, lower failure rates, and higher quality software.

BUSINESS CHALLENGE
Developers need a way to test their programs frequently and repeatedly to verify their changes while remaining as independent from other aspects of the environment as possible. This requires the ability to execute a program in a virtualized environment that is completely independent from external influences and under control of the developer. On the other hand, QA teams need to execute the program under test in a life environment to test how programs work together and verify that database access and updates work as expected.

BMC SOLUTION
BMC Compuware Topaz for Total Test enables automated virtualized and non-virtualized testing for all testing types, ranging from unit and functional to system, integration, and regression testing. For developers, it allows virtualization of the most relevant environments and external data sources, especially CICS, Db2, IMS, datasets, and subprogram calls. For QA teams, it provides the tools to set up the required environmental input data before executing the program under test and to verify the outcomes—all in an automated, repeatable manner.

KEY FEATURES
• Automate virtualized and non-virtualized testing to cover testing types including unit and functional testing as well as system, integration, and regression testing
• Understand test coverage by evaluating code coverage of test cases
• Validate code changes immediately
• Maintain codebase quality
• Easily record test cases by executing a program or clicking a record button
• Quickly put program code updates into production
• Leverage integrations with leading cross-platform DevOps and BMC tools for continuous code quality management

KEY BENEFITS
• Reduce time spent manually writing tests, collecting test data, or manually creating data by up to 80%
• Increase story point production by up to 233%
• Decrease bug leakage by up to 83%
• Enable a “shift left” approach to testing to improve application quality and development velocity and efficiency
• Empower novice developers to validate COBOL code changes with the same speed and confidence as other code
• Support continuous integration and continuous delivery (CI/CD)
• Increase confidence when making large mainframe code changes
PRODUCT DETAILS

Automated virtualized and non-virtualized testing
Topaz for Total Test automates the execution of virtualized and non-virtualized tests within CI/CD pipelines. By creating and executing virtualized and non-virtualized tests of a program or a group of programs, developers can ensure they have a regression test suite that covers all foreseeable failure scenarios while saving valuable time typically spent on manually creating tests and test assets.

Cohesive user experience
Topaz for Total Test enables developers to run virtualized and non-virtualized tests from the same test scenario, using one editor and one execution dialog. Test scenarios can be combined into test suites that are automatically executed in CI/CD pipelines, and test results can be captured along with other details in one report and housed in a shared repository.

Test assertions
Default test result assertions enable comparisons between the expected results the developer or tester defines in the test and the actual results returned by the program. After the test executes, test assertions are evaluated to determine if they pass or fail as well as the reason for the failure, greatly speeding test failure resolution.

Test execution flexibility
Developers can execute tests on different LPARs based upon available test environments. If a developer is using test assets and wants to execute the test on another LPAR, the test assets are moved to the other LPAR as part of the test case for execution.

Test data virtualization
Topaz for Total Test simplifies and accelerates testing of large COBOL programs by automatically virtualizing data for Db2 databases, VSAM, and QSAM data files, as well as subprogram calls. It also supports IMS BMP/MPP and batch DL/I command virtualization, eliminating the need to have an IMS system when testing an IMS program. Similarly, CICS commands can be virtualized so CICS tests are isolated from actual CICS regions.

DevOps toolchain integrations
Topaz for Total Test can be easily integrated into a DevOps toolchain to enable automated virtualized and non-virtualized testing within the build-test-deploy process through integrations with pipeline technologies such as Jenkins, Digital.ai Release, CloudBees Flow, and SonarSource SonarQube.

Analytics
Mainframe testing activities can be captured in a detailed BMC Compuware zAdviser dashboard, enabling Topaz for Total Test users to assess the efficacy of their testing efforts. Likewise, development managers can quickly measure adoption of Topaz for Total Test, what is being tested, success and failure rates, as well as whether tests are being leveraged within a DevOps pipeline—intelligence critical to helping teams continuously improve mainframe software development and delivery outcomes.

FOR MORE INFORMATION
To learn more about BMC Compuware Topaz for Total Test, visit bmc.com.