



## **Compuware Topaz for Total Test automates COBOL code testing + acquisitions + product enhancements!**

In January, 2017 Compuware marked yet another quarter of delivering on its promises to provide solutions and services to “Mainstream the Mainframe.” This time it includes automated COBOL code testing, 4 acquisitions in 12 months plus other product enhancements. Let’s get started.



Billions of lines of COBOL-based programs are the operational heart of computer data centers worldwide. For well over 50 years, COBOL programs continue to be used for a variety of reasons. The primary reason is simply because they work. The adage “if it ain’t broke, don’t fix it,” could have been written exclusively about these programs.

Web, mobile and distributed applications often leverage COBOL programs on the back end. As such, in today’s rapidly evolving, hi-volume computing environment, companies must be able to rapidly implement COBOL code updates and changes to stay digitally competitive. Such changes, however, risk the introduction of serious errors and bugs, which, even once discovered, (in itself a notoriously difficult task) can be even more difficult to correct. Testing is required to uncover or avoid introducing such errors.

Creating mainframe unit tests has been a labor- and time-intensive task as they are manually designed, developed and custom tailored to each program. Making things more difficult, is a frequent lack of program documentation, even as those with expertise and deep program knowledge leave the work force.

Changing and updating mainframe COBOL programs remains an intimidating bottleneck; a task to be avoided, if at all possible. This is untenable in today’s digital enterprise where speedy adaptation to changing circumstances is an absolutely fundamental requirement to the survival of computer-driven services, let alone their on-going success.

Until now, no vendor had attempted to comprehensively attack the challenge of mainframe unit test creation, let alone bring automated Java-like unit testing to the world of COBOL applications. But once again, Compuware steps up to provide an effective and solid solution in the form of Compuware Topaz for Total Test.

### ***First, a little context***

Over the last two years, Compuware has introduced solutions that address multiple, long-standing mainframe application lifecycle challenges in mainframe operations. These include:



1. Intuitive visual analysis of even extremely complex and poorly documented mainframe programs and data structures (Topaz for Program Analysis and Topaz for Enterprise Data).
2. Real-time quality control and error detection of mainframe coding syntax (Topaz integration with SonarSource).
3. Agile cross-platform source code management and release automation (ISPW and integration with XebiaLabs).

Compuware's newest offering will resolve some important issues currently handicapping unit testing of mainframe code through comprehensive automation of critical tasks. Let's review what they just introduced.

### ***Topaz for Total Test = Automated Mainframe Unit Test Creation and Execution***

By automating the processes of unit test creation, Compuware's [Topaz for Total Test](#) transforms mainframe COBOL application development and testing. It does so without requiring any code changes to a COBOL program, while automatically creating and running tests on logical units of code. Developers at all skill levels can now perform unit testing of COBOL code similar to how it is done for other programming languages (Java, PHP, etc.).

Compuware goes beyond distributed tool capabilities by automating the collection of additional data that can be used in multiple ways. The data is preserved with the unit test and can be used to validate code changes. This approach allows the test data to travel with the test case making it easier to execute test cases on different systems. Developers can collect and save data stubs of existing input data and edit it for testing specific sections of code.

Topaz for Total Test, as part of the Topaz suite, can be used with other elements to provide a comprehensive solution for dev/test operations. Here is closer look at how Topaz for Total Test automates many of the steps in unit test creation and execution:

- Use Xpediter to gather test data call parameters and program results,
- Topaz for Total Test creates complete test case (fully automated),
- Topaz for Total Test generates data stubs and program stubs (fully automated),
- Unit test uses data stub created by Topaz for Total Test (fully automated),
- Topaz for Total Test allows easy on/off use of stubs – no re-compilation required (fully automated),
- Topaz for Total Test automatically cleans up after tests,
- Topaz for Total Test adds unit tests into test scenario (fully automated),
- Continuous build process uses CLI to run test suite,
- Topaz for Total Test executes test suite (automatically).



Benefits realized by IT mainframe organizations include acceleration of development processes, reduced time, effort and number of resources needed to create/run tests as it will be easier to update and change mainframe code. Overall operations efficiency improves as well because potential problems are identified and addressed at the earliest possible time in development.

Among Topaz for Total Test's unique features and capabilities are Program Stubs that allow the main program to be isolated from the sub-program calls. And, sub-programs may be tested independently of the main program. Together these capabilities enable developers to split the testing of a large program into testing a set of smaller programs.

In effect, Topaz for Total Test reduces the complexity of doing good testing by focusing on small parts of the program. The solution is useful to developers at all levels of skill. Its ease of use and significant automations improve efficiency (faster test failure identification and resolution), speeds execution and development times and provides centralized control of testing.

There is much more to the product than we cover here. Compuware has plans for further enhancements, extensions and integrations to be delivered on a quarterly basis. Given their track record of performance, we expect they will delight their customers. If you have a significant amount of mainframe code in your shop, it makes good sense to check out Topaz for Total Test.

### ***Other items in the announcement***

For their 4<sup>th</sup> acquisition in the last 12 months, Compuware acquired MVS Solutions with its popular [ThruPut Manager](#), which automatically and intelligently optimizes the processing of batch jobs. ThruPut Manager:

- Provides immediate, intuitive insight into batch processing that even inexperienced operators can readily understand,
- Makes it easy to prioritize batch processing based on business-based policies and goals,
- Ensures proper batch execution by verifying that jobs have all the resources they need and proactively managing resource contention between jobs,
- Dramatically reduces customers' IBM Monthly Licensing Charges (MLC) by minimizing the rolling four-hour average (R4HA) processing peaks without counter-productive "soft-capping."

As part of their third acquisition in 2016, Compuware added Standardware's [COPE](#) IMS virtualization technology to its portfolio. With COPE, enterprises can rapidly deploy multiple virtual IMS environments to as many different active projects as they require



without having to create costly new IMS instances or engage professionals with specialized technical skill-sets. As a result, even less experienced mainframe staff can perform IMS-related Dev/Ops tasks faster and at a lower cost. In addition, integration with Compuware Xpediter permits debugging within COPE environments.

Finally, Compuware announced updates such as graphical visualization of IMS DBDs in [Topaz Workbench](#). The tool presents the structure of IMS databases at a glance and eliminates the need to pore over IMS configuration files to find this information. In addition, a new Strobe Insight Report compares the last execution statistics with the average execution statistics. The data is visualized in an interactive scatter chart based on collected SMF 30 data. With such visualization, analysts are able to quickly identify jobs that have exceeded their norms by a user specified percentage and, then, take the appropriate action. The tabular portion of the report compares and contrasts the average CPU, Elapsed Time and EXCP count with the last values collected.

### ***The Final Word***

With the announcement of Compuware Topaz for Total Test, the company has provided a significant advance in mainstreaming the mainframe. The digital agility of any enterprise is constrained by its least agile code base. By eliminating a long-standing constraint to COBOL agility, Compuware provides enterprise IT the ability to deliver more digital capabilities to the business at greater speed and with less risk.

The January announcement marks Compuware's 9<sup>th</sup> consecutive quarter of delivering significant solutions that solidify mainstream positioning, while benefiting mainframe development and operations. We've commented on and have to admit that we have been impressed at virtually every announcement.

The steady stream of substantive improvements and additions has allowed Compuware to establish a strong market position for themselves. Their delivery of effective, innovative solutions provides solid enhancement to their reputation for successfully resolving significant problems that have hampered mainframe operations.

Congratulations to them. Check them out and see if you don't agree with us.



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