

BMC AMI DevX Code Insights for Refactoring Mainframe Applications

Automated intelligence to defeat the fear of making changes to the monolithic mainframe environment

The fear of changing mainframe code

The need for speed in application development is constant in every area of computing. The demands for faster delivery of mainframe innovation place enormous pressure on organizations, and especially people who work in development. But at the same time, the fear of making changes to complex, monolithic mainframe applications is impacting timely delivery, driving developers away from the necessary refactoring or rearchitecting of mainframe code. The longer the delay, the greater the technical debt.

Monolithic code: the source of fear

The causes of delay or avoidance in refactoring mainframe code are varied. Some developers say, "If it's not broken, don't fix it." Others are afraid to even touch the applications. Reluctance like this can be due to what development teams have done with COBOL in the past.

The language itself isn't the problem; instead, it is the accumulation, over many years, of its many distinct functions, essentially thrown together into a unique and complex pile without clear logic, which has not been reconsidered in decades. For example, historically, when code needed to be changed, there was a tendency to keep all code in one program to avoid the hassle and confusion of trying to find and change it in multiple programs. It was considered simpler to keep everything in one place, especially if you lacked source code management.

To change even a few lines of code, you need to check out the entire monolith with all the other functions, including legacy functions. This makes it difficult for any one person to work on code, and exponentially difficult for two or more people. Further, it makes testing difficult and unreliable. You must test the entire program to discern whether your change had the desired effect.

Add to this the fact that the engineers who know COBOL and understand its arrangement within a specific mainframe system have retired or are about to. Documentation, if it exists, is unreliable and of little assistance for new users.

All in all, the monolithic world of mainframe development appears unnecessarily complicated, time-consuming, and difficult. DevOps leaders don't want to go there, and new developers find it foreign, and certainly different from the distributed environment. This type of fear—as legitimate as it is—slows the progress of mainframe innovation delivery while the marketplace around it continues to accelerate.

This is where the urgency comes in. Change must happen now. Developers need an architecture that keeps pace with modern application development practices and pulls it together into a fully intuitive space that will attract modern developers who don't object to COBOL, but rather what has been done with it.

Breaking the monolith apart

BMC AMI DevX Code Insights overcomes monolithic programs and gives developers the confidence to take on the important work of modernizing mainframe code. It relieves the fear by providing a deep understanding of mainframe applications and individual programs. Once the programs are understood, the work of slaying the dragons begins.

Solution details

BMC AMI DevX Code Insights delivers a quick understanding of unfamiliar code to help developers simplify logic, declutter old code, and break the monolith into manageable sub-programs so developers can focus on the important things.

- **Runtime Visualizer** provides real-time application visualization to identify what happens when your programs execute. It graphically presents program and I/O calls in the sequence in which they occur, dramatically accelerating application understanding and increasing confidence in modifying or extending these applications.
- **Generative AI (Gen AI)-Driven Code Explanation** provides instant comprehension—with one click—of unfamiliar code. The code explanations can be copied as comments, empowering developers to review, extend, improve, and test code with unprecedented efficiency.
- **Code Extract** effortlessly breaks monolithic programs apart into more manageable, callable sub-programs to enable re-use.
- **Code Structure and Logic Charts** deliver intuitive, dynamic flow charts of the program being edited. These charts clearly and visually represent the code's structure and provide insights into program logic, making it easier to understand and optimize code.
- **Data Flow Analysis** visualizes the data used in a program, facilitating data flow analysis and debugging.

Benefits

BMC AMI DevX Code Insights improves the mainframe developer experience by empowering multiple developers to work on monolithic programs concurrently while enhancing their agility. Developers can catch errors earlier with shift-left testing of the new sub-programs by testing isolated logic with known inputs and outputs before testing with the rest of the logic. BMC AMI DevX Code Insights also enables developers to leverage logic for API enablement, exposing the logic for other applications. The Gen AI-driven BMC AMI Assistant eliminates developer roadblocks, allowing confident maintenance and extension of mainframe applications. Lastly, by breaking apart large complex programs, the solution makes it easier to recruit and retain new developers to carry your mainframe applications into the future.

Conclusion

Welcome to a new era of fast and fearless mainframe application development. It's a new day of empowering modern developers with automated intelligence and the confidence to refactor complex mainframe systems and code to swiftly make the changes needed by the business now.



FOR MORE INFORMATION

To learn more, please visit:

bmc.com/refactoring-mainframe-code.

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