Diffblue Cover Optimize: Selective Unit Test Execution

Use AI for Code to slash the time and cost of unit test execution in your software delivery process.

Faster software delivery

Diffblue Cover Optimize enables faster, cheaper, more flexible delivery of Java code by minimizing the time needed to run unit tests, whether on the developer desktop or in a Continuous Integration (CI) pipeline.

Typical CI pipelines run an entire unit test suite every time code changes are made, because it's the only way to effectively protect against regressions. That means each unit test run may include hundreds, or even thousands, of tests that re-validate unchanged code - a huge waste of time and money.

Cover Optimize automatically selects the only the unit tests required to fully validate that a Java code change hasn't introduced regressions, slashing the time needed for execution and accelerating delivery of software.

Optimize leverages the automated analysis and unit test writing capability provided by Cover's core AI for Code engine to make this selection. The deep understanding of how code under test operates gained by Cover during the test writing process gives Optimize the information needed to choose only the most relevant tests for each change.

All-round benefits

Cover Optimize helps developers to write code faster by giving them feedback more quickly, without the frustration of waiting for entire unit test suites to be run for even minor changes.

But selective unit test execution helps the broader team, too. DevOps professionals get to accelerate testing, a common bottleneck, for lower CI cycle times and costs; while leadership teams realize even more value from unit testing through the increases in business agility and customer responsiveness provided by faster development.

COVER OPTIMIZE SPOTLIGHT

Speed up software delivery

Running every unit test every time, whether relevant or not, is highly inefficient. Selective test execution for each PR means changes can be refined and deployed more quickly.

More productive developers

Waiting time is wasted time. Optimize means developers spend less time waiting to see whether code changes pass unit testing, and reduces disruptive context switching.

Cut costs

Faster testing can also have direct cost benefits: in cloud-based systems with consumption-based billing running fewer tests might literally mean smaller bills.

Break the testing bottleneck

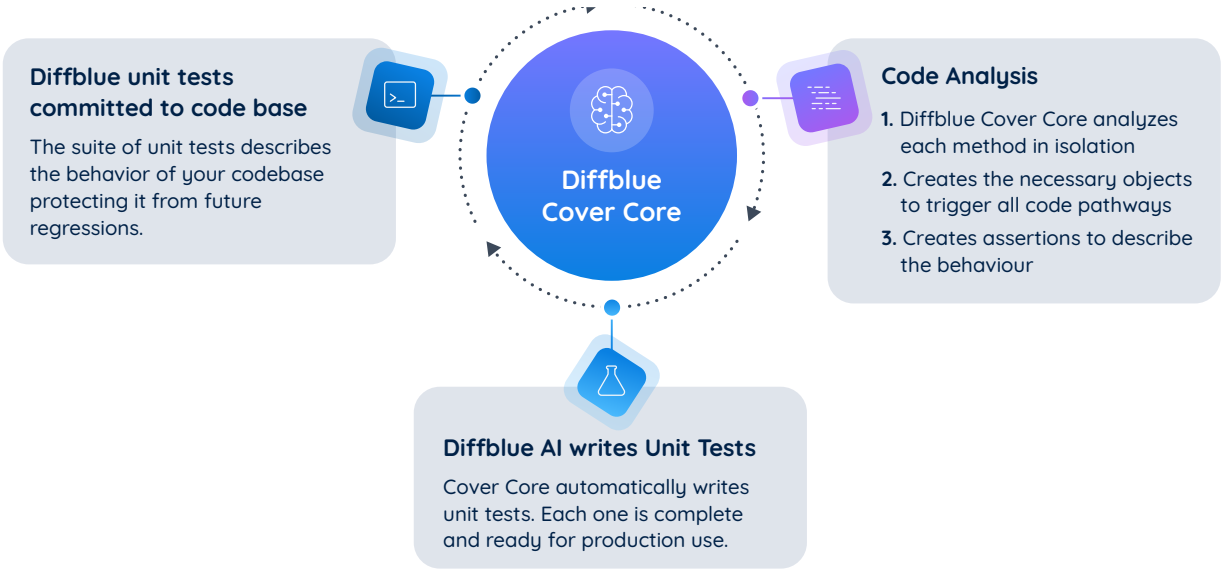
Effective testing is recognized as one of the biggest blockers of fast, agile software development, especially in large applications. Optimize helps make testing more efficient.

Built on Core insights

The deep code analysis delivered by Cover Core's unit testing writing capability provides the information Optimize uses to determine which tests matter for each code change.

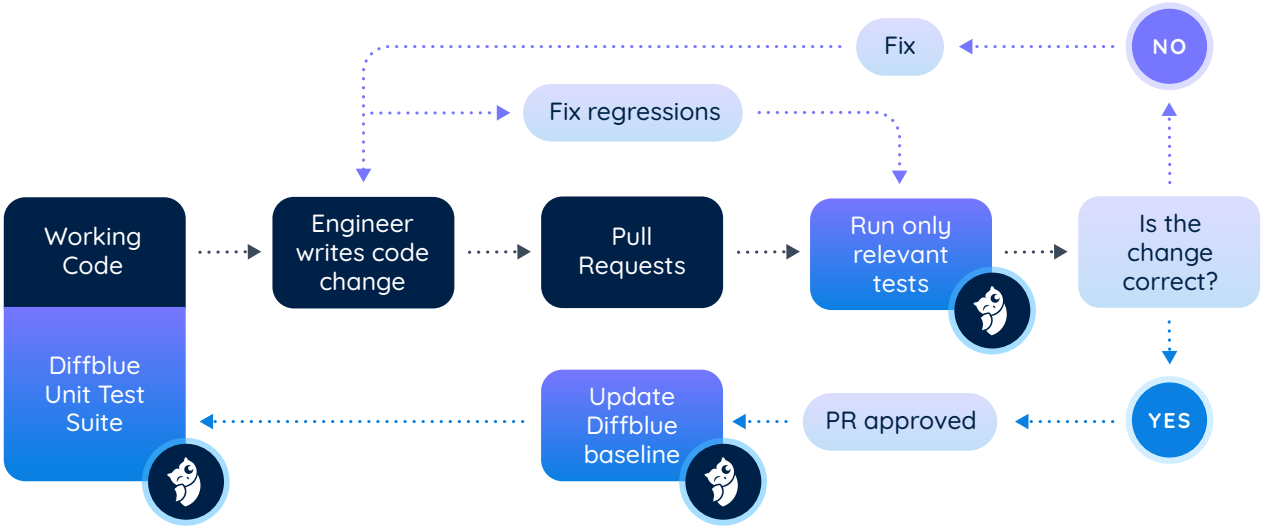
Automated Analysis and Unit Test Writing

Diffblue Cover Core uses comprehensive analysis of your code's behavior to automatically create and maintain high levels of unit test coverage. This analysis provides the insight Optimize needs to determine which tests matter to each code change.



Optimizing CI Pipelines

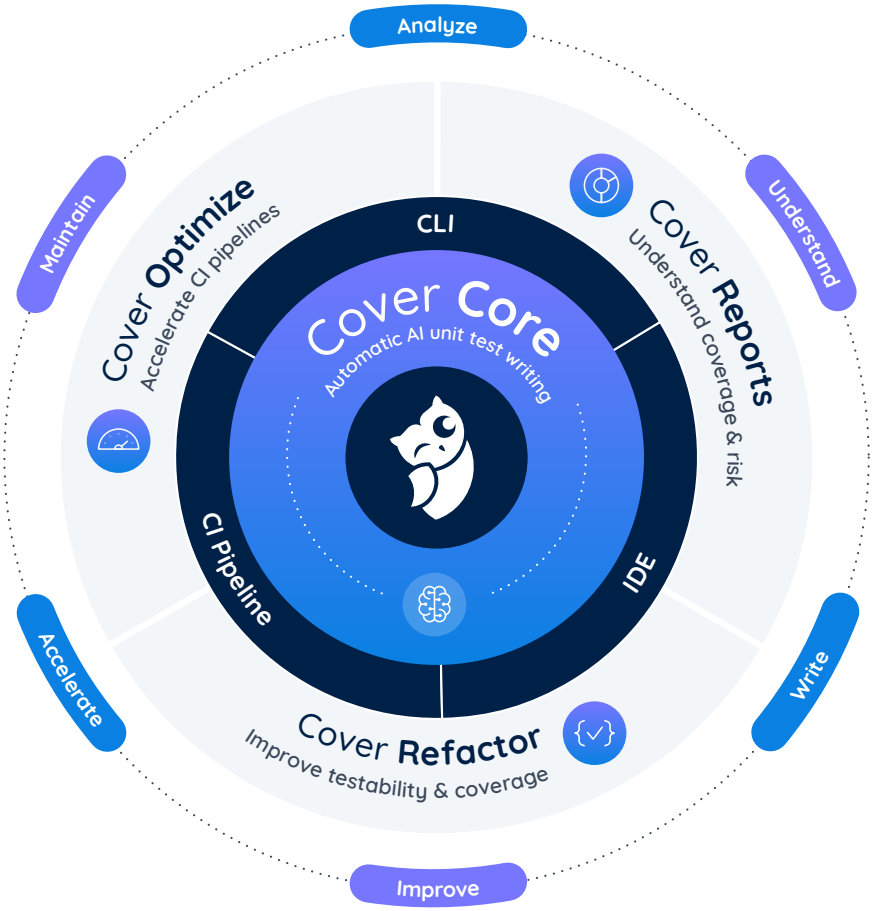
Diffblue Cover integrates into your CI pipeline to make unit testing an automated, efficient, effective part of the process. Cover Optimize means that only the tests related to each PR are run when code changes are made.



> "Citi Markets uses its deep software expertise to move faster and be more competitive. We find value in Diffblue's auto-generation of test cases. It helps drive test consistency and coverage of our software - freeing up developers to focus on delivering higher quality software, faster – and improves our developers' experience"
>
> Jonathan Lofthouse, Managing Director & Global Head of Markets Technology, Citi

The Diffblue Cover Platform

Diffblue Cover includes a range of features that let you extract more value from Java unit testing:



Diffblue Cover helps you increase business agility and accelerate transformation

Optimize the velocity and quality of Java teams; catch regressions early

Reduce software development costs and increase productivity

Untangle the complexity of refactoring legacy code

Accelerate modernization and cloud migration of core applications

ABOUT DIFFBLUE

Founded by leading computer scientists from the University of Oxford, Diffblue is changing the way code is developed. The company's flagship developer tool, Diffblue Cover, uses AI to automatically write unit tests that help Java development teams and organizations deliver better, more modern software at higher speed. Diffblue: AI for Code. Learn more at Diffblue.com or contact us at info@diffblue.com

diffblue
AI for Code