

Test Optimization (Test Booster)

Accelerated Software Testing
That Delivers Software Quality

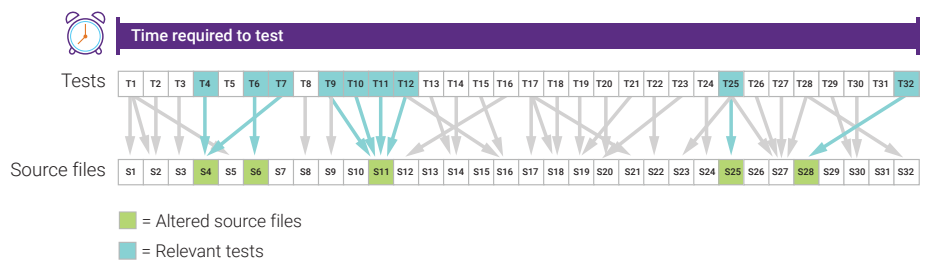


“The automated execution of tests as part of a CD process is replacing the more traditional ALM-driven execution of tests, and agile teams tend to have very different requirements than those of traditional testing centers of excellence.”

—Gartner’s 2016 Magic Quadrant for Software Test Automation

Product overview

Without Test Optimization

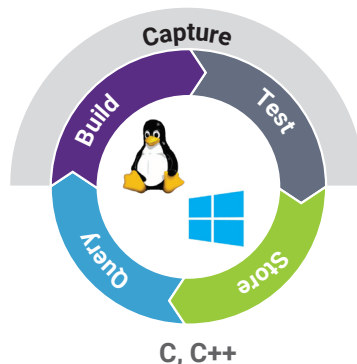


With Test Optimization



Synopsys Test Optimization (Test Booster) enables development and QA teams to keep pace with Agile, DevOps, and CI/CD by facilitating efficient, effective continuous testing. By intelligently correlating tests to source files, Synopsys Test Optimization allows engineers to run only the tests associated with modified code, resulting in shortened test cycles and **faster time to market**. Use Synopsys Test Optimization to focus valuable, limited resources on testing efforts with the greatest impact.

How Synopsys Test Optimization works



- Capture** test dependencies on source files. Synopsys Test Optimization instruments your source code during build and develops instrumented binaries. Then it runs these binaries during testing to map tests to source files dynamically. Test dependencies can be captured nightly or weekly.
- Store** captured information for later query.
- Query** Synopsys Test Optimization using a list of modified source files to see which tests are impacted.
- Execute** only the impacted tests.

“By 2020, DevOps initiatives will cause 50% of enterprises to implement continuous testing using frameworks and open-source quality tools.”

–Gartner’s 2016 Magic Quadrant for Software Test Automation

Technical specifications

Languages

- C
- C++

Operating systems

- Linux
- Windows

Compilers

- GCC
- MSVC

Build systems and test frameworks

- Local
- Distributed

Key features

Scalable continuous testing across build repositories

Synopsys Test Optimization has the scalability to map thousands of test cases to millions of lines of code. No matter how large your code repository is, or how frequent your code check-ins, Synopsys Test Optimization quickly identifies impacted tests to help you prioritize efforts and get the highest ROI on your limited testing time and resources.

Fast performance for shorter time to market

Synopsys Test Optimization responds to queries quickly so engineers can verify code changes against impacted tests. By tightening QA testing feedback loops, Synopsys Test Optimization brings development and QA teams closer together and boosts productivity.

Ease of use for any testing process

With ease of use in mind, we’ve built Synopsys Test Optimization to support both local and distributed build systems and test frameworks. In fact, if you’re an existing Synopsys Static Analysis (Coverity) user, your build is already configured correctly. Simply set up your test framework to call Synopsys Test Optimization, and start testing.

Automation to sync with your organization’s testing schedule

Synopsys Test Optimization has several modes of operation to support different use cases and minimize disruption of productivity.

Mode	Description	Tests to run	Data capture
Disabled	Runs all tests as if Synopsys Test Optimization were not integrated.	All	No
Capture	Runs all tests while capturing data to update the dependency matrix.	All	Yes
Per-Test	Recommends impacted tests to run. Runs impacted tests but does not capture data while testing. The most common mode used during high-volume development periods.	Impacted	No
Self-Learning	Recommends impacted tests to run. Runs impacted tests while capturing data to update the dependency matrix.	Impacted	Yes

The Synopsys difference

Synopsys helps development teams build secure, high-quality software, minimizing risks while maximizing speed and productivity. Across the application components of proprietary code, open source, and the runtime environment, Synopsys is the only provider with the industry-leading set of integrated tools, services, and expertise to help organizations maximize security and quality in DevSecOps and throughout the software development life cycle.

For more information go to www.synopsys.com/software.