Verifysoft TECHNOLOGY

Software Testing Solutions for your Productivity and Quality

















- Code Coverage
- Software Complexity Measurement
- Static Code Analysis
- Dynamic Code Analysis
- Safety-critical Embedded

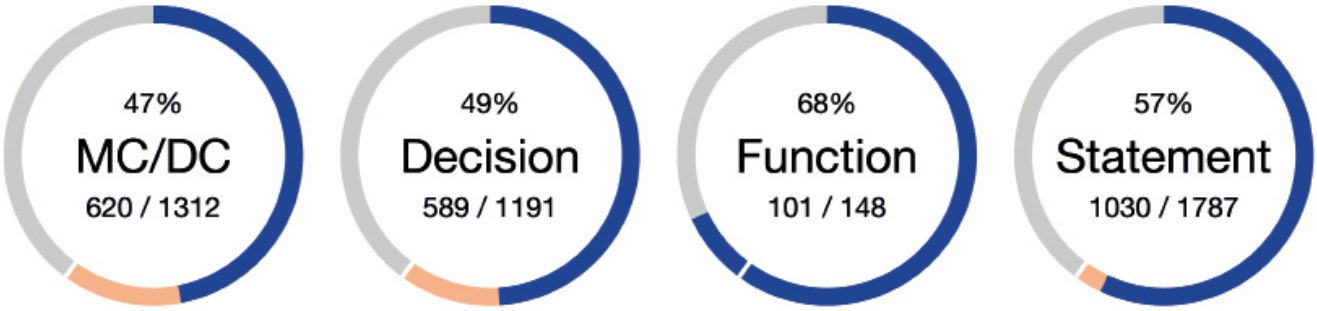
Testwell CTC++ Code Coverage Analyser

Code coverage for the highest requirements of safety standards

Testwell CTC++ analyzes which parts of your source code have been tested. Testwell CTC++ supports all coverage levels and is used by leading companies for safety-critical projects.

Coverage levels

Testwell CTC++ provides all coverage levels required by standards for safety-critical software development: function coverage, statement coverage, decision or equivalently branch coverage and modified condition/decision coverage (MC/DC). Condition and multicondition coverage can also be determined.



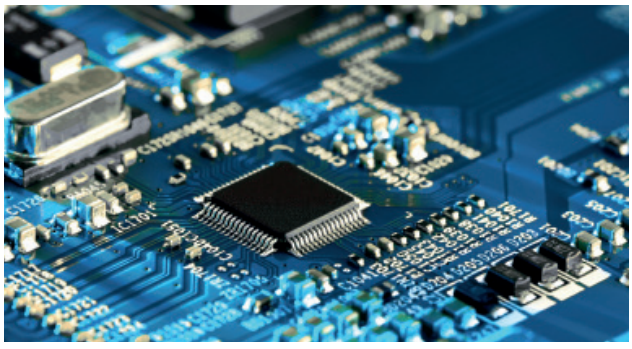
Desktop applications

- ✓ Low impact on the build process
- ✓ Scalable for large projects
- ✓ Compiler-independent
- ✓ For Windows, Linux, macOS

Embedded software

- ✓ Low memory requirements
- ✓ Testing on any target
- ✓ With any cross compiler
- ✓ Customizable runtime layer





Easy to use

- ✓ Generic build integration
- ✓ Very fast execution
- ✓ Seamless integration into many IDEs
- ✓ Ease of integration by modular architecture

Programming languages

- ✓ C, C++
- ✓ Add-On for Java

Working method

Coverage measurement is performed with Testwell CTC++ in three independent phases:

Instrumentation

During compilation, Testwell CTC++ automatically instruments a copy of the source code by injecting measurement code. This creates an instrumented version of the program or test executable – fully automatically during the build process or on the basis of a simple, one-time build configuration.

Testing

Any type of tests can be executed as usual: Unit tests, integration tests or complete system tests. The coverage measurement data are written to a file. When performing tests on a target, this write-out is fully adjustable, e.g. the data can be transferred directly to the host computer.

Generating reports

In the third phase, Testwell CTC++ generates coverage reports based on the raw data. Data from different builds and different tests can be combined. A structured HTML report and any text-based exchange formats are available as output formats.

Functional safety

- ✓ Suitable for safety-critical development according to:
  - ✓ ISO 26262
  - ✓ DO 178-C
  - ✓ EN 50657 / EN 50128
  - ✓ IEC 61508
  - ✓ IEC 62304
  - ✓ IEC 62443
  - ✓ IEC 60880
  - ✓ ISO SAE 21434
  - ✓ ISO 25119 / DIN EN 16590
- ✓ Qualification support
- ✓ TÜV-certified
  - ✓ ISO 26262
  - ✓ IEC 61508
  - ✓ EN 50128
  - ✓ IEC 62304



Coverage reports

Testwell CTC++ provides a comprehensive HTML report that is adaptable to the user's needs and to the type and size of the project.



Configurable report layout

- ✓ Desired coverage levels in any combination
- ✓ Selectable report levels with drill-down: directories, source files, functions

Optional source code view

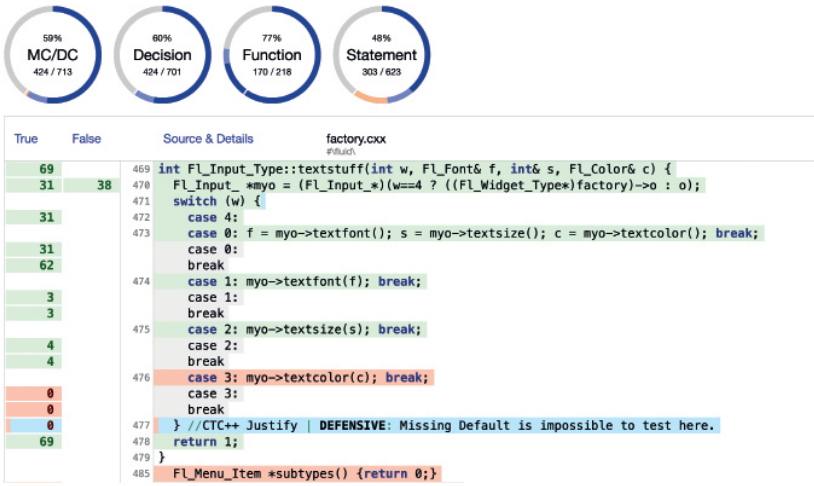
- ✓ Highlighting of executed and not executed lines
- ✓ Display of all coverage counters
- ✓ Compact visualization of complex coverage measures like MC/DC
- ✓ Visibility of missing test cases

Justification of missing coverage

Justifications can be used to record the reasons when full coverage cannot be achieved.

Testwell CTC++ derives which code parts are covered by a justification.

- ✓ Own categorization of justifications
- ✓ Recording in comments or in companion files
- ✓ Clear distinction between tested and justified code
- ✓ Recognition of over-justification



Coverage data in any form

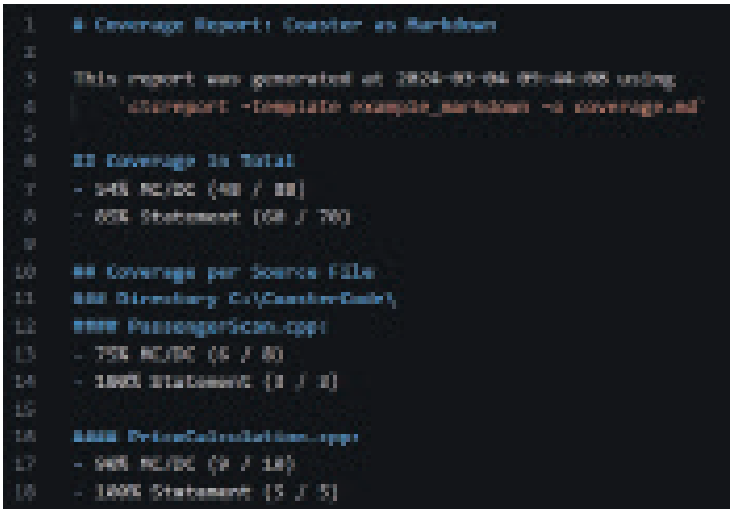
Create template-based reports in any form. With a simple template language for data export, Testwell CTC++ supports structured reports such as HTML reports as well as the export of single text files.

	A	B	C	D
1		MC/DC		
2	Function	Hits	Total	Ratio
3	hasAdmission	6	8	75%
4	calcPrice	9	10	90%
5	main	6	6	100%
6	TicketApp::showInstruction	3	8	50%
7	TicketApp::switch2BatchMode	2	2	100%
8	TicketApp::askUInput	3	4	75%
9	TicketApp::reportPrice	3	4	75%

Classic exchange formats like CSV, XML, JSON



Overall result as a badge or on dashboards



Text reports, e.g. in Markdown, for easy archiving and management in a repository

More than 750 customers all over the world







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Verifysoft TECHNOLOGY

Verifysoft Technology GmbH is specialized in the development, distribution and support of software testing and analysis tools. In addition to our own Testwell tools, we also distribute complementary tools from our partners. Verifysoft was founded in 2003 in Offenburg, Germany and has since been operating successfully as an independent company in the field of software quality.

With an international team, we support more than 750 customers in over 45 countries. Our development and support staff have many years of experience in the test tool sector. Find software defects and problems as early as possible before release and guarantee the highest software quality with tools from Verifysoft Technology.









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