Solution House GAIO TECHNOLOGY

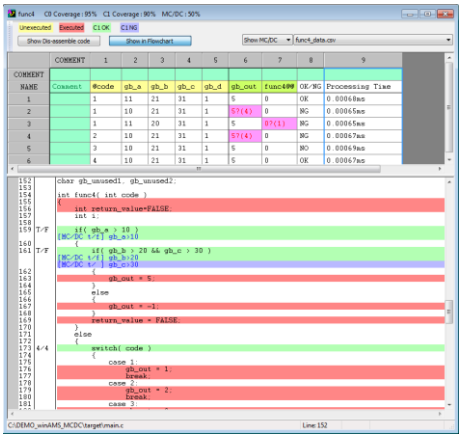
ISO 26262
IEC 61508
Certified

CoverageMaster winAMS

Automated embedded C/C++ software unit test tool
Unit testing on actual MPU target code using instruction set simulator
Automatically generate input test data for C1 & MC/DC coverage
White/black-box test data editors built-in
Certified by TÜV SÜD to meet ISO 26262 and IEC 61508 standards

MPU target code based unit test tool

CoverageMaster winAMS is an automated embedded software unit testing tool that executes the target MPU device's code for achieving reliable testing results. The standard coverage modes C0, C1, and MC/DC are fully supported.



Perform unit testing reliable as close to target MPU as possible

Specialized hook code or test drivers are not required for unit testing with CoverageMaster WinAMS. The target MPU code is executed as is, for reliable as close to the actual device as possible test results. As an additional advantage, this means that setting up a separate test environment is not required.

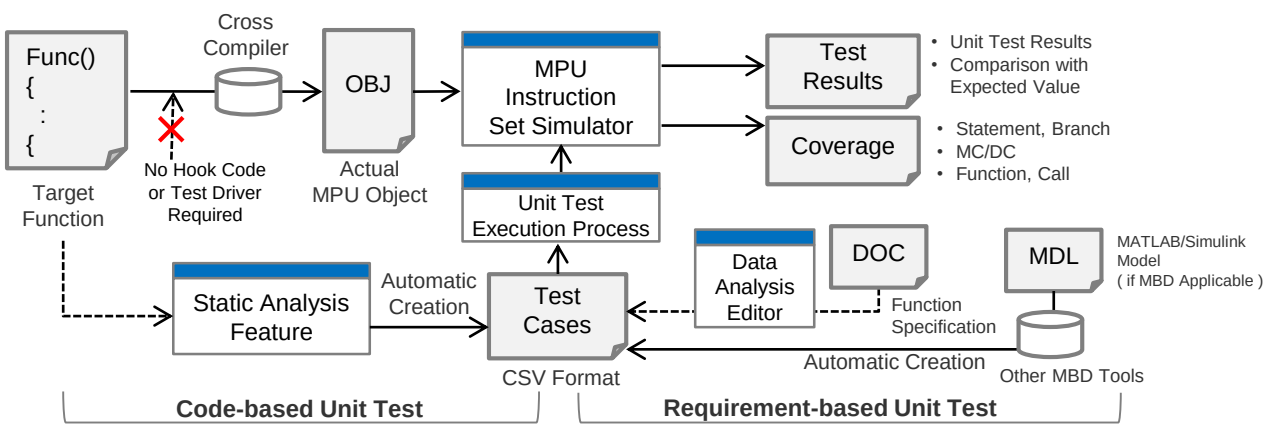
Auto-generate C1 & MC/DC test data through static analysis data and dedicated test data editors

Using static analysis data of the source files, test data can be auto-generated for achieving code coverage. Test cases can be efficiently designed for code structure and/or software specifications testing using the dedicated test data editors.

ISO 26262 / IEC 61508 certified

CoverageMaster winAMS complies with the ISO 26262 automotive functional safety standard and IEC 61508 functional safety meta-standard. Tool certification was granted by third-party certification organization TÜV SÜD Germany.

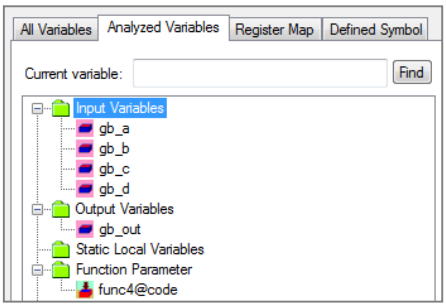
CoverageMaster winAMS Unit Test Framework



CoverageMaster winAMS Features

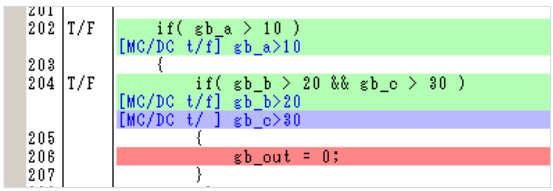
Search for input/output variables automatically

Using the static analysis information from 'CasePlayer2' the global input/output variables used by the target function are listed automatically. This feature is both time saving and reduces the possibility of human error.



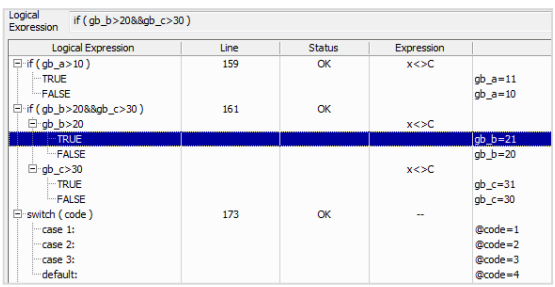
Auto Measure C0, C1 and MC/DC coverage

CoverageMaster supports C0 and C1 coverage measurement used for general embedded software, and MC/DC measurement required for automotive functional safety standard (ISO 26262).



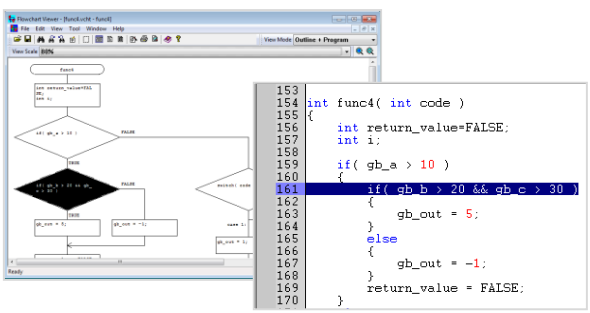
Automatically create C1, MC/DC coverage test data

CoverageMaster can create an optimal set of input test data combinations for completing the C1, MC/DC tests by using the static analysis information provided from 'CasePlayer2'.



Easy access to source code and program documents

The source code and CasePlayer2 created program documents can be easily accessed from CoverageMaster's interface. Program documents include flowcharts or module structure diagrams are useful for code reviews and getting a visual representation of the program' structure.

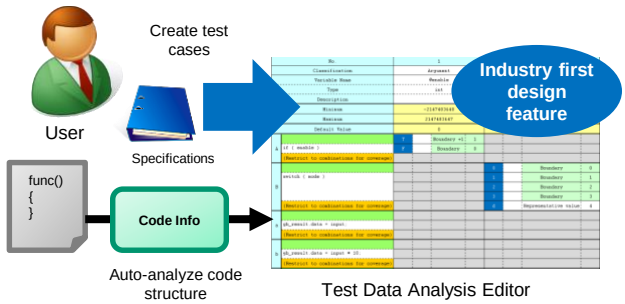


CoverageMaster General MPU version

'CoverageMaster General' can be used to perform C logic level unit testing for applications that do not require assembly target code level testing. The test package includes a general use ANSI-C compatible compiler and MPU simulator.

Efficiently design & auto-generate test cases while comparing code structure with software specs

CoverageMaster includes a "Test Data Analysis Editor" for efficiently designing test cases based on software specifications. The code structure is automatically displayed including boundary & max/min test data values using code analysis data. In this way the user can design test cases for white/black-box testing by comparing the auto-generated code structure with software specifications. For traceability, the software specification item number can be set to unit test items.



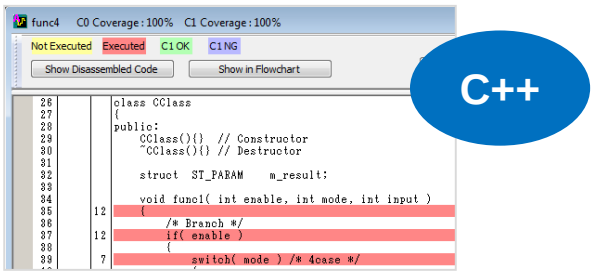
Supported 'Function/Call Coverage' testing (option)

To comply with ISO 26262, the structural coverage at the software integration level is required in accordance with ASIL. CoverageMaster supports function/call coverage for integration testing. Function/call coverage can be measured automatically by loading test cases into the top function of a component with integrated function units.

File name	Function coverage	Call coverage (by file)	Function name	Execution	Call coverage (by function)	Function call count	Function call line	Execution
source_1.c	83%	75%	fc_cover_test	yes	100%	2	23: sub_func1	yes
							27 : sub_func6	yes
			sub_func1	yes	100%	3	35 : sub_func2	yes
							36 : sub_func3	yes
							40 : sub_func3	yes
			sub_func2	yes	33%	3	48 : sub_func4	yes
							52 : sub_func5	no
							56 : sub_func8	no
			sub_func3	yes	N/A	0	N/A	N/A
			sub_func4	yes	N/A	0	N/A	N/A
			sub_func5	no	N/A	0	N/A	N/A

C++ unit testing (option)

A C++ option is available for C++ code unit testing. During testing class objects are allocated to memory based on the class definition. Further, static class objects are assigned to the target in order to perform unit testing on methods (functions) within the target class.



MPU Support

CoverageMaster supports numerous MPU architectures.
Please see our site for a list of supported MPUs.

http://www.gaio.com/product/product_supmpu.html

Supported host OS

Windows Vista / 7 (32/64-bit) / 8.1 (32/64-bit)

Developer
GAIO TECHNOLOGY CO.,LTD.
Headquarters (Tennouzu Office):
Tennouzu First Tower 25F
2-2-4 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002 Japan
Tel: +81-3-4455-4767 URL: http://www.gaio.com/ E-Mail: info@gaio.com

Authorized Dealer in Europe
Embedded Tools GmbH
Phone: +49-251-98729-0
URL: http://www.embedded-tools.de/
E-Mail: info@embedded-tools.de

April. 2015