Unit Test Tool

CoverageMaster winAMS

ISO 26262
IEC61508
Certified

Automated embedded C/C++ software unit test tool
Unit testing on actual MPU target code
Automatically create input test data for C1 & MC/DC coverage
Certified by TÜV SÜD as a tool that meets the ISO26262 and IEC61508 standards

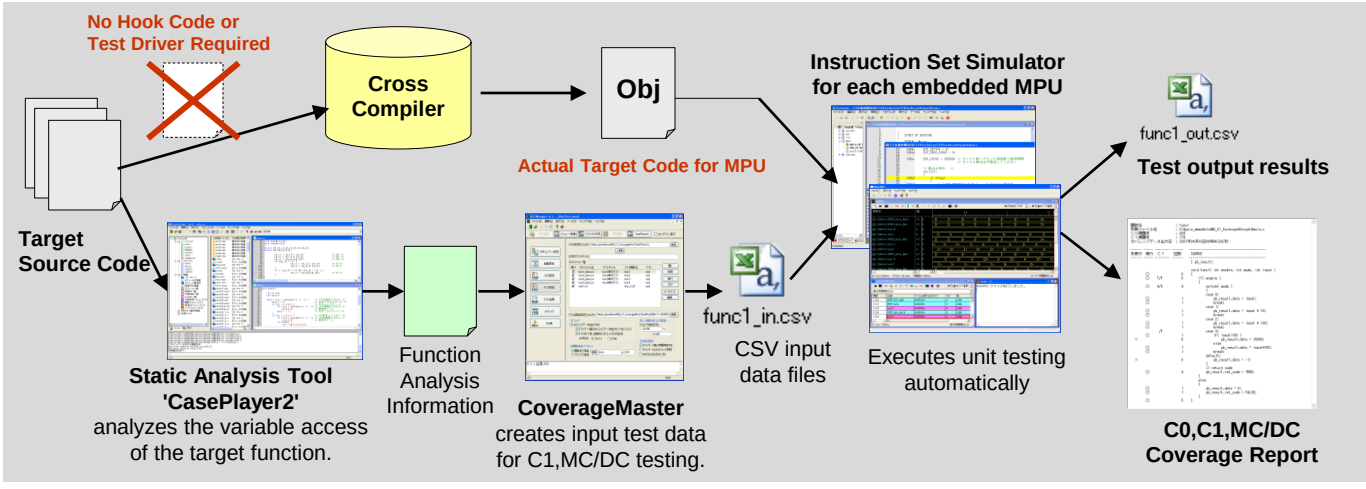
ISO26262/IEC61508 Compliant Software Unit Test Tool

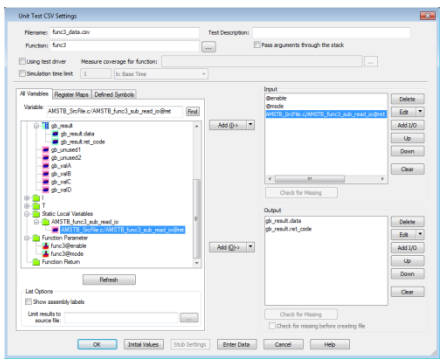
CoverageMaster winAMS is an automated embedded software unit testing tool that executes the target MPU device's code for achieving reliable testing results. The standard coverage modes, C0, C1, and MC/DC are fully supported. In addition, C1 and MC/DC test data can be automatically created through the use of the static analysis feature. CoverageMaster winAMS complies with ISO26262 automotive functional safety standard and IEC61508 fuctional safety meta-standard.

No Hook Code or Test Driver Required

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.

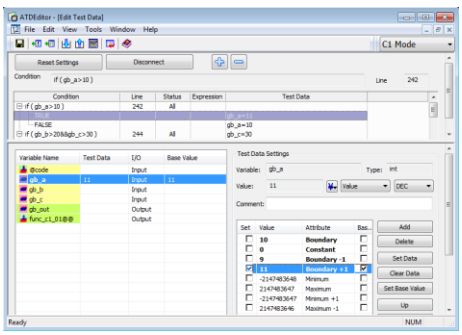
GAIO is the first company to obtain tool certification for the automotive functional safety standard ISO 26262 in the Asia-Pacific region. Tool certification was granted by third-party certification organization TÜV SÜD Germany.





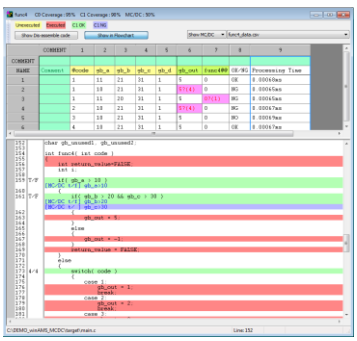
Searches for Input/Output Variables Automatically

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.



Creates Optimized Input Test Data Combinations for C1,MC/DC Tests

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'.

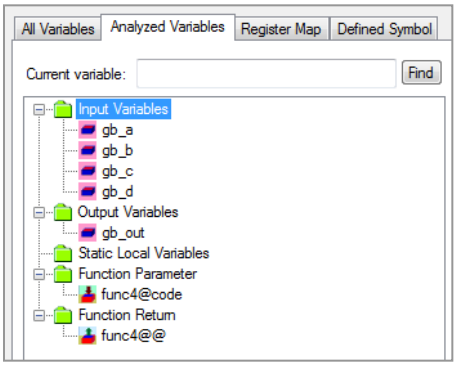


C0, C1 Coverage View

After the automated unit testing has been completed the C0/C1 coverage result will be output automatically. Using the dedicated coverage viewer tool the test data and source code can be analyzed.

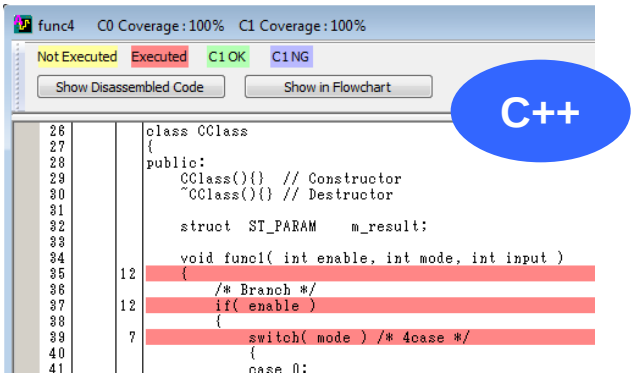
Automated unit testing features

Automated features to promote unit test efficiency such as global variable detection and displaying structure member variables are supported.



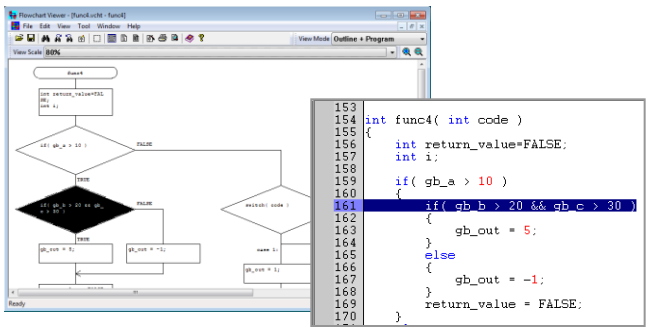
C++ unit testing supported (option)

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



Easy access to source code and program documents

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



CoverageMaster General MPU version

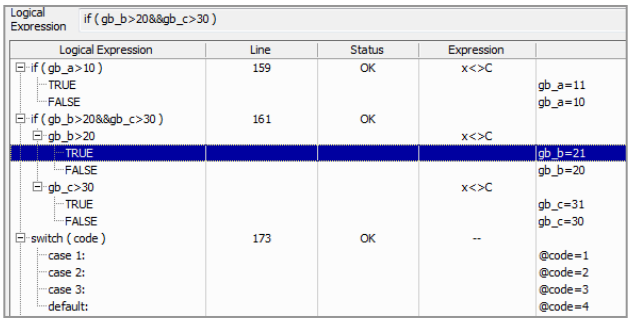
'CoverageMaster General' may be used to perform C logic level unit testing for applications that do not require assembly target code level testing. The test package includes a general use ANSI-C compatible compiler and MPU simulator.

Product maintenance and service

GAIO product maintenance contract includes: version updates, technical support, initial startup seminars and changing MPU device services.

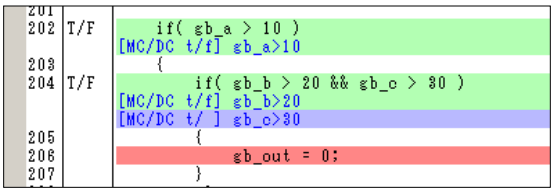
Automatically create coverage test data

Optimized test input data for C1 & MC/DC coverage may be created automatically through code analysis.



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).



MPU and compiler support list

As of June 21, 2013

MPU Maker	MPU Type	Simulator Kernel Type	Cross Compiler Support	Status
ARM	ARM Cortex-A Series	System-G	GreenHills, ARM	OK
	ARM Cortex-M3	System-G	GreenHills, GNU, IAR, ARM	OK
	ARM Cortex-R Series	System-G	GreenHills, ARM	OK
	ARM7	System-G	GreenHills, GNU, IAR, ARM, TI	OK
	ARM9	System-G	GreenHills, GNU, IAR, ARM, TI	OK
STMicroelectronics	SPC563(e200z3)	System-G	Diab, GreenHills, GNU	OK
	SPC56E/SPC564(e200z4)	System-G	Diab, GreenHills, GNU	OK
Infineon	C166	System-G		U/D
	TriCore	System-G	TASKING, HighTec	OK
	XC2300(C166)	System-G		U/D
Sony	SPC900	System-G		OK
Panasonic	MN103S/103L	System-G	Panasonic	OK
Freescale	e200z0	System-G	Diab, GreenHills, GNU	OK
	e200z3/e200z6	System-G	Diab, GreenHills, GNU	OK
	e200z3/e200z6(MPC5500)	SX(HyperSonic)	Diab	OK
	e200z4	System-G	Diab, GreenHills, GNU	OK
	e200z420	System-G	Diab, GNU	OK
	e200z7	System-G	Diab, GreenHills, GNU	OK
	e500v1/v2	System-G	Diab, GNU	OK
	MPC500	System-G	Diab	OK
	MPC600	System-G	GNU	OK
	MPC800	System-G	Diab	OK
	MPC83xx(e300)	System-G	Diab, GNU	OK
	S12	System-G	Freescale	OK
	S12X	System-G	Freescale	OK
Renesas	78K/0	System-G	RENESAS	OK
	78K/0R	System-G	RENESAS	OK
	H8S	System-G	RENESAS	OK
	H8SX	System-G	RENESAS	OK
	H8/300H	System-G	RENESAS	OK
	H8/300/300L	System-G	RENESAS	OK
	M16C	System-G	RENESAS	OK
	M32C/80	System-G	RENESAS	OK
	M32R	System-G	GreenHills, RENESAS	OK
	R32C/100	System-G	RENESAS	OK
	R8C/Tiny	System-G	RENESAS	OK
	RH850	System-G	GreenHills, RENESAS	OK
	RL78	System-G	GNU, IAR, RENESAS	OK
	RX600	System-G	RENESAS	OK
	SH2A-FPU	System-G	GreenHills, GNU, RENESAS	OK
	SH-1/SH-2	System-G	GreenHills, GNU, RENESAS	OK
	SH-2A	System-G	GreenHills, GNU, RENESAS	OK
	SH-2E	System-G	GNU, RENESAS	OK
	SH-3	System-G	GreenHills, GNU, RENESAS	OK
	SH-3E	System-G	GreenHills, GNU, RENESAS	OK
	SH-4	System-G	GreenHills, GNU, RENESAS	OK
	SH-4A	System-G	GreenHills, GNU, RENESAS	OK
	V850E2M	System-G	GreenHills, RENESAS	OK
	V850/V850E/V850ES	System-G	GreenHills, RENESAS	OK
JRC	Alligator(Ximo16)	System-G		OK
Toshiba	TLCS870C	System-G	TOSHIBA	OK
	TLCS870C1	System-G	TOSHIBA	OK
	TLCS900	System-G	TOSHIBA	OK
	TX03(Cortex-M3)	System-G	GreenHills, GNU, IAR, ARM	OK
	TX04R(Cortex-R4)	System-G	GreenHills, ARM	OK
	TX19	System-G	TOSHIBA	OK
	TX19A	SX(HyperSonic)	TOSHIBA	OK
Fujitsu	FM3(Cortex-M3)	System-G	GreenHills, GNU, IAR, ARM	OK
	FMC16FX	System-G	FUJITSU	OK
	FMC16LX	System-G	FUJITSU	OK
	FMC8FX	System-G	FUJITSU	OK
	FMC8L	System-G	FUJITSU	OK
	FR20/30/60Lite/80	System-G	FUJITSU	OK
	FR81S	System-G	FUJITSU	OK

Supported OS : Windows 2000 / XP / Vista / 7(32/64bit)
Recommended System Requirements : Pentium 2GHz, 512MB RAM

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