



SmartTester

Product Overview

SmartTester is a unit and component test tool for run-time analysis. It improves productivity and quality in software development and verification processes.

Test your code, analyze and find resolution to the problems

SmartTester automates the creation of unit and component test harnesses, test stubs and test drivers. In unit testing, SmartTester stubs all the function calls made by the unit under test. In component testing, it links the actual functions to its calls. With minimal clicks, you can analyze code coverage and visualize the behavior of your program. Detailed test and run-time coverage analysis reports are generated.

DO-178B adherence

- SmartTester allows coverage analysis to be performed for all software levels as defined by DO-178B.
- Tester can configure the coverage requirement according to the level of the software.

Code graphical coverage view

```

SmartTester [cov_calc_temp.c]
File Edit View Options Tools Window Help
[Basic condition Covered for THREE]
TEMPERATURE
TEMPERATURE temperature[10];
void calc_temp(int par_lower, int par_upper, int par_step)
{
    int loc_index = 0;
    temperature[loc_index].fahr = par_lower;
    while ((temperature[loc_index].fahr <= par_upper) && (loc_index < 10))
    {
        temperature[loc_index].celsius = 5 * (temperature[loc_index].fahr - 32) / 9;
        temperature[loc_index+1].fahr = temperature[loc_index].fahr + par_step;
        loc_index++;
    }
}
Coverage Results Coverage view
Output
X "T:\Project_37\temp\calc_temp.exe"
X "T:\Project_37\temp\calc_temp.exe"
X Generating Report files...
X Report files generated successfully!
Project: D:\Project_37\temp\gcc Session: Unit_Cal SF CAP Num
  
```

Features

- Enables host-based tests to be easily adapted to different target compilers
- Provides detailed code coverage information required for safety and mission-critical certification
- Operates in GUI/Command/Batch mode
- Easy to use Graphical User Interface
- Coverage requirements are configurable by the user
- Test cases can be executed selectively
- Supports all levels of DO-178B
- Detailed test and coverage reports
- Provision to convert reports to RTF/HTML formats

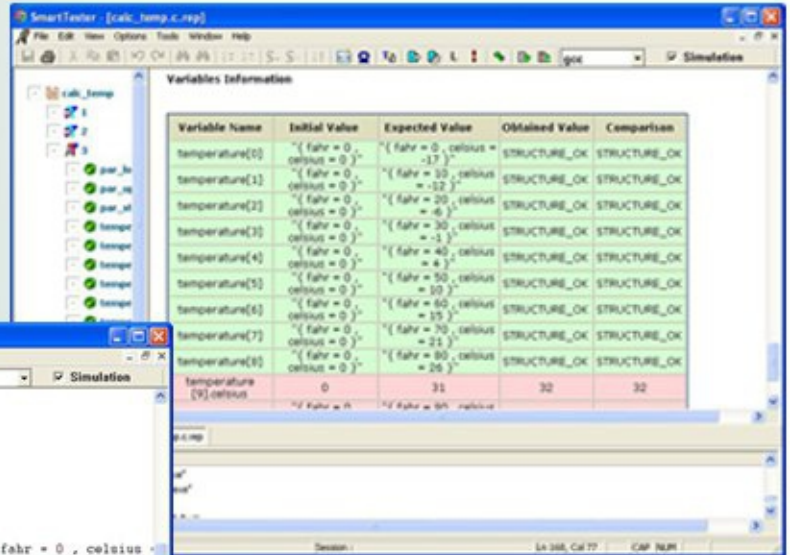


○ To Run SmartTester, you need :

WINDOWS 98/XP/NT/2000/VISTA

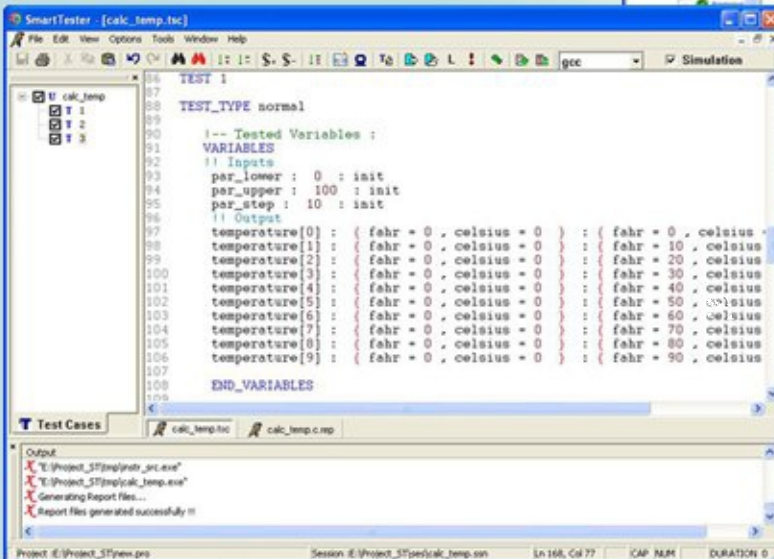
Processor : Pentium 3 and above
 Speed : 2 GHz
 Memory : 256 MB
 Hard Disk : 500 MB Free Space

Consolidated Report



Variable Name	Initial Value	Expected Value	Obtained Value	Comparison
temperature[0]	{ fahr = 0, celsius = 0 }	{ fahr = 0, celsius = -37 }	STRUCTURE_OK	STRUCTURE_OK
temperature[1]	{ fahr = 0, celsius = 0 }	{ fahr = 10, celsius = -12 }	STRUCTURE_OK	STRUCTURE_OK
temperature[2]	{ fahr = 0, celsius = 0 }	{ fahr = 20, celsius = -4 }	STRUCTURE_OK	STRUCTURE_OK
temperature[3]	{ fahr = 0, celsius = 0 }	{ fahr = 30, celsius = -1 }	STRUCTURE_OK	STRUCTURE_OK
temperature[4]	{ fahr = 0, celsius = 0 }	{ fahr = 40, celsius = 4 }	STRUCTURE_OK	STRUCTURE_OK
temperature[5]	{ fahr = 0, celsius = 0 }	{ fahr = 50, celsius = 10 }	STRUCTURE_OK	STRUCTURE_OK
temperature[6]	{ fahr = 0, celsius = 0 }	{ fahr = 60, celsius = 15 }	STRUCTURE_OK	STRUCTURE_OK
temperature[7]	{ fahr = 0, celsius = 0 }	{ fahr = 70, celsius = 21 }	STRUCTURE_OK	STRUCTURE_OK
temperature[8]	{ fahr = 0, celsius = 0 }	{ fahr = 80, celsius = 26 }	STRUCTURE_OK	STRUCTURE_OK
temperature[9]	{ fahr = 0, celsius = 0 }	{ fahr = 90, celsius = 32 }	STRUCTURE_OK	STRUCTURE_OK

Test Case Editor View



```

TEST 1
TEST_TYPE normal
-- Tested Variables :
VARIABLES
!! Inputs
par_lower : 0 : init
par_upper : 100 : init
par_step : 10 : init
!! Output
temperature[0] : { fahr = 0, celsius = 0 } : { fahr = 0, celsius = 10 }
temperature[1] : { fahr = 0, celsius = 0 } : { fahr = 10, celsius = 20 }
temperature[2] : { fahr = 0, celsius = 0 } : { fahr = 20, celsius = 30 }
temperature[3] : { fahr = 0, celsius = 0 } : { fahr = 30, celsius = 40 }
temperature[4] : { fahr = 0, celsius = 0 } : { fahr = 40, celsius = 50 }
temperature[5] : { fahr = 0, celsius = 0 } : { fahr = 50, celsius = 60 }
temperature[6] : { fahr = 0, celsius = 0 } : { fahr = 60, celsius = 70 }
temperature[7] : { fahr = 0, celsius = 0 } : { fahr = 70, celsius = 80 }
temperature[8] : { fahr = 0, celsius = 0 } : { fahr = 80, celsius = 90 }
temperature[9] : { fahr = 0, celsius = 0 } : { fahr = 90, celsius = 100 }
END_VARIABLES
    
```

Host Compilers

Windows:
 Microsoft Visual C++ 6.0,
 C Borland 5.02,
 GCC 2.95.x, 3.2.x,
 3.3.x, 3.4.x;
 Green Hills MULTI
 for
 Windows x86

Target Compilers

GCC 2.95.x - 4.1.x
 Green Hills 4.0.x
 C VDSP 21161



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