atollic

Embedded Passion

A complete set
of world-class tools
for development and testing
of embedded systems

TrueSTUDIO® for ARM®

The embedded systems development tool for the next decade!

TrueSTUDIO® for ARM®

Atollic TrueSTUDIO® is the premier C/C++ development suite for embedded systems design, thanks to its unrivaled feature set and unprecedented integration. Atollic TrueSTUDIO arms you with tools to enhance software implementation efficiency, team collaboration and code quality. Shorten your time to market and shrink development costs by deploying Atollic TrueSTUDIO for your next embedded project!

- Powerful IDE based on ECLIPSE™
- C/C++ build and debug tools for ARM® development
- C/C++ build and debug tools for host PC development
- Parallel compilation reduces build times
- Single-core, multi-core and multi-processor debugging
- RTOS-aware debugging for most popular RTOS's
- System analysis and real-time tracing
- Integrated features for source code reviews
- Integrated bug database clients
- Integrated version control system clients
- Supports over 1000 ARM devices!
- Over 900 free example projects one click away at the Atollic TrueSTORE®!

Ensure coding standards compliance with code inspection!

TrueINSPECTOR® for ARM®

Atollic TrueINSPECTOR® improves your software quality by performing static source code analysis. Atollic TrueINSPECTOR automatically detects potential coding problems and guides you on compliance with "best-practice" coding standards, enabling you to develop a higher quality product in reduced time. Atollic TrueINSPECTOR also performs code quality reviews, generating reports listing quality metrics, including code complexity measurement.

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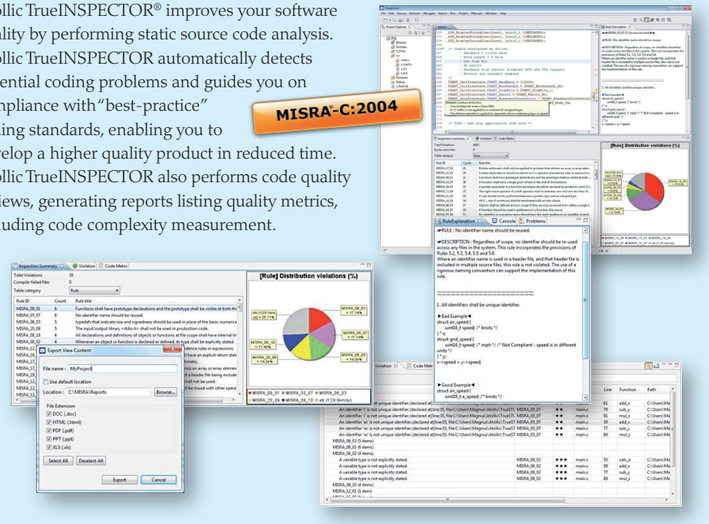


Summary – Static source code inspection

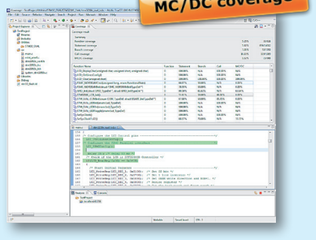
What is it?	Static source code inspection is the process of analysing the source code of a program, in order to find potential problems automatically. Code metrics and code complexity analysis are often included.
Why do it?	By performing static source code inspection, development, testing and maintenance costs are reduced, and software quality is improved.
How does it work?	A tool build a parsing tree of the application, analyze the meaning of the code, and verify the code constructs using rules from a coding standard database. Code metrics and complexity measurements are gathered during this process.

Measure test quality with dynamic execution flow analysis!

TrueANALYZER® for ARM®

Atollic TrueANALYZER® ensures test confidence by measuring test quality and performing in-target verification using dynamic execution-flow analysis to guarantee rigorous coverage measurement. Atollic TrueANALYZER supports different strengths of coverage analysis, even up to Modified Condition/Decision Coverage (MC/DC) level, which for example is required for the majority of safety-critical aircraft software.

MC/DC coverage

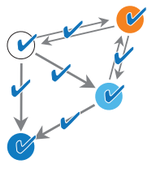


Even trivial code is difficult to test rigorously

```
MyFunc();
...statements...
if( (a || b) && c )
{
  MyFunc();
  ...statements...
}
...statements...
```

For MC/DC all subexpressions must have affected the branch decision independently of other subexpressions.

a	b	c
TRUE	FALSE	TRUE
FALSE	FALSE	TRUE
FALSE	TRUE	TRUE
FALSE	TRUE	FALSE



All code blocks and alternative branch paths should be excercised for a complete test.

Test quality can be measured automatically with dynamic execution flow analysis.

Summary – Code coverage analysis

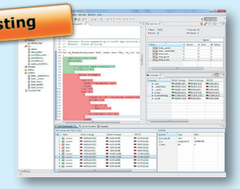
What is it?	Code coverage analysis gives information on what parts of a program have been executed during a test session.
Why do it?	With knowledge on what execution paths have been exercised during test, you also know what parts of the program is untested and needs to be tested better.
How does it work?	A tool analyze an application, instrument it, and execute it with execution-path monitoring. Once a test session is completed, code coverage information is presented to the developer or tester.

Get superior software quality with embedded test automation!

TrueVERIFIER® for ARM®

Atollic TrueVERIFIER® enables you to achieve the highest level of software quality with minimum effort through automated embedded testing; analyzing your source code, generating Unit Test suites and automatically running them in your target board. Assure software quality by deploying Atollic TrueVERIFIER in your product development!

Unit testing



Example code to be tested

```
int MyFunc( char x )
{
  if( x < 50 )
    return 0;
  else
    return 1;
}
```

Auto-generated unit tests (function calls)

Important parameter values are found by analysing the code

```
MyFunc( -128 );   Test minimum value of datatype

MyFunc( -2 );
MyFunc( -1 );
MyFunc( 0 );      Test values around 0
MyFunc( 1 );
MyFunc( 2 );

MyFunc( 49 );
MyFunc( 50 );     Test values around 50
MyFunc( 51 );

MyFunc( 127 );    Test maximum value of datatype
```

Summary – Test automation

What is it?	The means by which a software tool analyse the source code of a program, generates suitable test cases and run them automatically.
Why do it?	With auto-generated test cases, the source code and unit tests are always synchronized, test cases cover a much larger set of potential execution paths, and good testing becomes much easier and faster.
How does it work?	A tool analyze an application, generate test cases, and execute them with execution-path monitoring. Once a test session is completed, test results and test coverage information is presented to the developer or tester.

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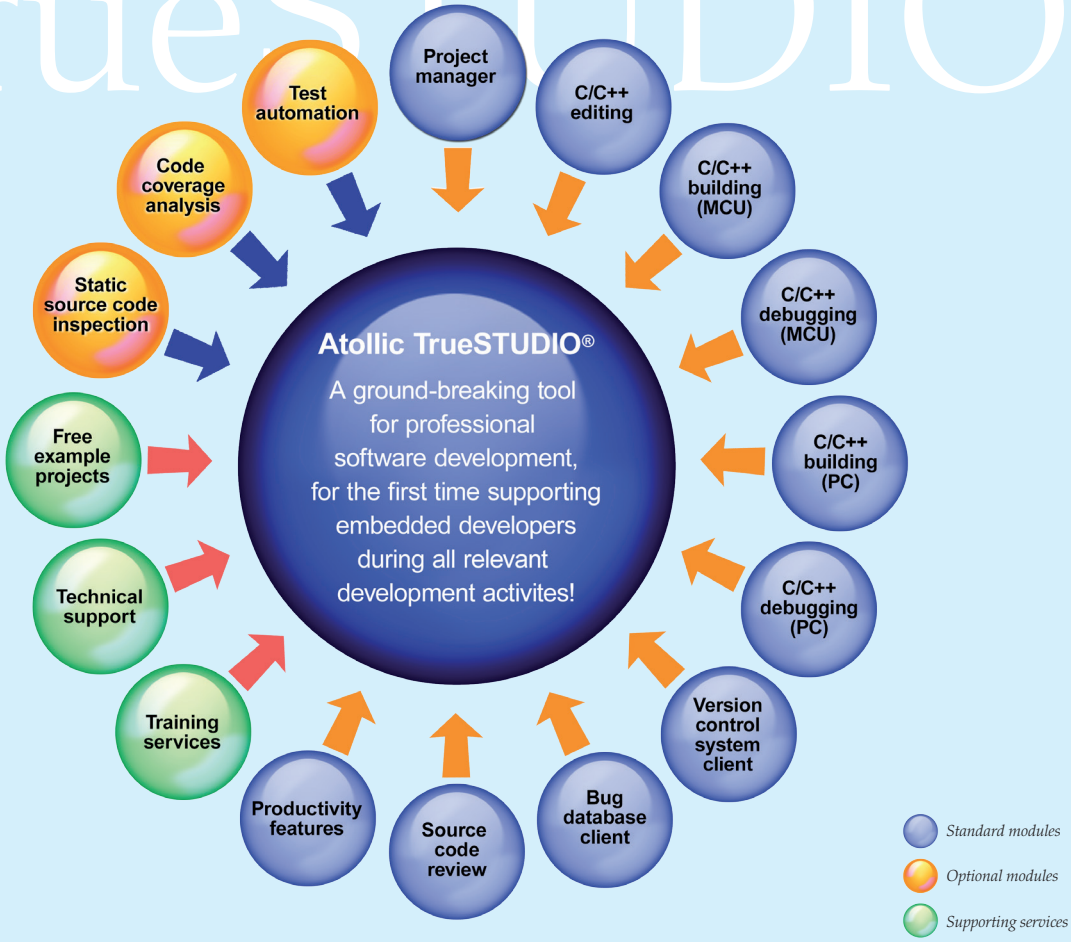
From code to market.



Atollic is a privately held software design centre dedicated to the success of our clients. We provide a wide range of products, development tools and expert services. Our products are innovative, interoperable, highly integrated and easy to use.

The company has offices in Europe and the United States. We operate globally on the embedded systems and technical software market.

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