Polyspace® Bug Finder™ Release Notes

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Contents

R2013b

Introduction of Polyspace Bug Finder 2
Detection of run-time errors, data flow problems, and other defects in C and C++ code 2
Fast analysis of large code bases 3
Compliance checking for MISRA-C:2004, MISRA-C++:2008, JSF++, and custom naming conventions 3
Cyclomatic complexity and other code metrics 3
Eclipse integration 4
Traceability of code verification results to Simulink models 4
Access to Polyspace Code Prover results 4

R2013b

Version: 1.0

New Features: Yes

Bug Fixes: No

Introduction of Polyspace Bug Finder

Polyspace® Bug Finder™ is a new companion product to Polyspace Code Prover™. Polyspace Bug Finder analyzes C and C++ code to find possible defects and coding rule violations. Bug Finder can run fast analyses on large code bases with low false-positive results. Polyspace Bug Finder also calculates code complexity metrics with Polyspace Metrics.

Bug Finder integrates with Simulink®, Eclipse™, Visual Studio®, and Rhapsody® to help you analyze code from within your development environment.

Detection of run-time errors, data flow problems, and other defects in C and C++ code

Polyspace Bug Finder uses static analysis to find various defects for C and C++ code with few false-positive results. The analysis does not require program execution, code instrumentation, or test cases.

Some categories of defects are:

- Numeric
- Programming
- Static memory
- Dynamic memory
- Data-flow

To see a list of all defects found, see “Polyspace Bug Finder Defects”.

Bug Finder analysis runs quickly, so you can fix errors and rerun analysis.

For information about running analyses, see “Find Bugs”.

Fast analysis of large code bases

Polyspace Bug Finder uses an efficient analysis method which produces results quickly, even from large code bases. Therefore you can fix errors and rerun the analysis without having to wait. You can find more issues early on in the development process and produce better quality code overall.

Compliance checking for MISRA-C:2004, MISRA-C++:2008, JSF++, and custom naming conventions

Polyspace Bug Finder can also check for compliance with coding rules. There are four industry-defined rules you can select:

- MISRA® C
- MISRA AC-AGC
- MISRA C++
- JSF® C++

In addition, you can define rules to check for naming conventions.

You can run the coding rules checker separately, or at the same time as your analysis.

For more information, see “Check Coding Rules”.

Cyclomatic complexity and other code metrics

Using Polyspace Metrics, Polyspace Bug Finder calculates various code metrics, including cyclomatic complexity. These statistics are displayed using Polyspace Metrics, an integrated Web interface. You can use these results to track code quality over time. You can also share the code metrics, allowing others to track your project’s progress.

Eclipse integration

Polyspace Bug Finder comes with an Eclipse plug-in that integrates Polyspace into your development environment. You can set up options, run analyses, view results, and fix bugs all in the Eclipse interface. Using the Polyspace plug-in, you can quickly find and fix bugs as you code.

For a tutorial on using the Polyspace Bug Finder plug-in, see “Find Defects from the Eclipse Plug-In”.

Traceability of code verification results to Simulink models

For generated code from Simulink models, Polyspace analysis results link directly back to your Simulink model. You can trace defects back to the block that is causing the bug.

In the Source Code view of the Results Manager, the block names appear as links. When you select a link, the corresponding block is highlighted in Simulink.

For a tutorial on using Polyspace Bug Finder with Simulink models, see “Find Defects from Simulink”.

Access to Polyspace Code Prover results

A Polyspace Bug Finder installation also includes the Polyspace Code Prover user interface. With only a Polyspace Bug Finder license, you cannot run local Polyspace Code Prover verifications in the Polyspace Code Prover interface. However, you can use the Polyspace Code Prover interface to review results and upload comments to Polyspace Metrics.

For more information, see the “Polyspace Code Prover Documentation”.