IAR Systems adds analysis functionality to tools for Renesas RL78

Support for the static analysis tool C-STAT, as well as stack usage analysis, is introduced by new release of IAR Embedded Workbench for RL78

Uppsala, Sweden—December 18, 2015—IAR Systems® today introduces an updated version of its embedded development tools IAR Embedded Workbench® for Renesas RL78. The version includes major new functionality enabling simplified development and increased code quality control for applications based on Renesas low-power RL78 microcontrollers.

The add-on product C-STAT® for static analysis is now supported. C-STAT features innovative static analysis that can detect defects, bugs, and security vulnerabilities as defined by CERT C/C++ and the Common Weakness Enumeration (CWE), as well as help keeping code compliant to coding standards like MISRA C:2004, MISRA C++:2008 and MISRA C:2012. Static analysis enables developers to already at an early stage identify errors such as memory leaks, access violations, arithmetic errors, and array and string overruns. This makes it a lot easier for developers to ensure code quality. It also minimizes the impact of errors on the finished product and on the project timeline.

In addition, version 2.20 of IAR Embedded Workbench for RL78 introduces stack usage analysis. As the stack is a fundamental property of an embedded application, setting it up properly is essential for ensuring the application's stability and reliability. The task of calculating the stack space is, however, notoriously hard for all but the smallest of systems. This challenging task can be greatly simplified by having access to information about the worst case maximum stack depth of the application. Enabling stack usage analysis in IAR Embedded Workbench provides just that, adding listings of the maximum stack depth for each call graph root to the linker map file. The analysis process can be customized to take into account such constructs as calls via function pointers and recursion.

IAR Embedded Workbench for RL78 features world-leading code optimizations that create compact, fast-performing code. In order to achieve even higher execution speed, the 64-bit double-precision floating-point routines have been rewritten for the latest release.

Now included with the toolchain is Renesas AP4 for RL78. This standalone tool (formerly named

Applilet) can be used to automatically generate control programs for peripheral modules in accordance with user-defined settings. Renesas AP4 for RL78 fully supports code generation for IAR Embedded Workbench for RL78, and the generated modules are incorporated via the IAR Project Connection mechanism.

IAR Embedded Workbench for RL78 includes the IAR C/C++ Compiler, assembler, linker, library tools and the C-SPY® Debugger in a user-friendly integrated development environment. It is available in several editions, including a Functional Safety version with safety-certification from TÜV SÜD according to the requirements of IEC 61508, the international umbrella standard for functional safety, as well as ISO 26262, which is used for automotive safety-related systems. Learn more about IAR Embedded Workbench for RL78 at www.iar.com/iar-embedded-workbench/renesas/rl78/.

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Editor's Note: IAR Systems, IAR Embedded Workbench, IAR Connect, C-SPY, C-RUN, C-STAT, visualSTATE, IAR KickStart Kit, IAR Experiment!, I-jet, I-jet Trace, I-scope, IAR Academy, IAR, and the logotype of IAR Systems are trademarks or registered trademarks owned by IAR Systems AB. All other products names are trademarks of their respective owners.

IAR Systems Contacts

AnnaMaria Tahlén, Professional Communicator, Corporate Marketing, IAR Systems
Tel: +46 18 16 78 00   Email: annamaria.tahlen@iar.com

Stefan Skarin, CEO, IAR Systems
Tel: +46 18 16 78 00   Email: stefan.skarin@iar.com

About IAR Systems

IAR Systems provides developers of embedded systems with world-leading software tools for developing competitive products based on 8-, 16-, and 32-bit processors. Established in Sweden in 1983, the company has over 46,000 customers globally, mainly in the areas of industrial automation, medical devices, consumer electronics, telecommunication, and automotive products. IAR Systems has an extensive network of partners and cooperates with the world's leading semiconductor vendors. IAR Systems Group AB is listed on NASDAQ OMX Stockholm. For more information, please visit www.iar.com.