Product News

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IAR Systems provides Stack Usage Analysis

Uppsala, Sweden—October 26, 2011—IAR Systems® today announced stack usage analysis functionality in its popular product IAR Embedded Workbench® for ARM®. The stack is a fundamental property of an embedded system. A proper setup of the stack is essential to system stability and reliability. Incorrectly used it may cause your system to wreak havoc in the strangest ways. Calculating the stack space is notoriously hard for all but the smallest embedded systems. Worst case maximum stack depth is very useful information in most embedded projects, as it greatly simplifies estimates of how much stack an application will need.

With stack usage analysis enabled, the linker will accurately calculate the maximum stack usage for each call graph root. A stack usage section will be added to the linker map file, with listings of the particular call chain that results in the maximum stack depth for each call graph root. The tool can also produce this information in XML format for post-processing activities. The compiler will generate this information for each separate C function. If there are indirect calls in your application, you can supply a list of the functions that are possible to call from each indirect call. If the application uses recursion, and for functions in modules that do not have stack usage information, you need to provide this information to the linker. This can be done by using a stack usage control file.

Stack usage analysis is available in IAR Embedded Workbench for ARM v 6.30 and beyond. Evaluation versions of IAR Embedded Workbench for ARM v. 6.30 are available at www.iar.com/downloads

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About IAR Systems

IAR Systems is the world's leading supplier of software tools for developing embedded systems applications. The software enables over 14 000 large and small companies to develop premium products based on 8-, 16-, and 32-bit microcontrollers, 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