



A Complete Cost Savings Solution for Avionics Validation

DO-178C, ED-12C, DO-278A and ED-109A Certification Evidence for Micrium's μ C/OS-II & μ C/OS-III

Validated Software Corporation and IAR Systems have teamed up to address one of the biggest challenges of Avionics/Military/Defense system designs: The high cost of the DO178C validation.

Validated Software Corporation (VSC) released the first DO-178 (Level A) Validation Suite for Micrium's μ C/OS real-time operating system (RTOS) in 1999. Since that time, many more development teams have enjoyed the benefits brought by the combination of real-time micro-kernel and the VSC Validation Suite. Validation Suites contain all software development life-cycle documents, test results and essential evidence demonstrating that the μ C/OS-II or μ C/OS-III kernel embedded in your hardware meets the strict standards set forth by RTCA DO-178C.

Thanks to the strategic alliance with IAR Systems (established in 1983), Validated Software has standardized on the Embedded Workbench® Toolchain to streamline its DO178C validation and test results, enhancing each validation suite, while ensuring customers the highest level of trust. Developers using Embedded Workbench can now also rely on the toolchain compliance to coding standards such as ANSI C/C++, MISRA or CERT C, accompanied by TUV IEC 61508 & ISO 26262 tools certification requirements for safety critical applications.

The use of code analysis to help DO178C systems certification efforts is highly recommended. Using a combination of static analysis where developers can report potential errors by just analyzing the source with runtime/dynamic analysis, and reports enabling users to see potential errors with high probabilities of being actual errors in the application assures developers reliable and safe military/avionics systems.

Bringing all together! The Embedded Workbench C/C++ compiler and comprehensive debugger IDE with fully integrated static/runtime analysis enables developers to take full control of their product development, gain efficiency by producing the smallest code footprint, with remarkable execution speed that when used in the Validated Software Validation Suites makes it the ideal choice for energy-efficient, reliable, time and safety critical applications for Avionics/Military/Defense.

Please visit www.validatedsoftware.com and www.iar.com for more information about our products.

For more information and pricing on this offering, please contact:

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Features and Benefits



Validated Software's Avionics Suite

- You choose any 8/16/32-bit processors that IAR supports and assurance level - VSC delivers in 60 days or less
- Extensive hardware testing of μ C/OS APIs and services assure robustness of test results across multiple OS configurations
- Complete μ C/OS life-cycle documentation for certification through DO-178C Level A
- Project, planning process and procedure documents
- Software requirements, design documents, development standards and source code
 - All reviews, checklists and audit trails
 - Unit, integration, coverage test code
 - All unit, integration, coverage results generated on your target hardware
 - Configuration index, Software accomplishments summary, trace matrices, user manual and full documentation
- No-questions asked DO-178C compliance guarantee.

IAR Systems Embedded Workbench

- Modular and extensible IDE
- Comprehensive 8/16/32-bit support (11,288 devices)
- Extensive coverage for all 32-bit ARM devices (Cortex-A/R/M series)
 - Compliant with ARM Binary Interface (EABI), and CMSIS
 - MISRA C
 - NEON intrinsic
 - Multicore (SMP/AMP)
 - 32-bit/64-bit floating point in standard IEEE format
 - Position Independent Code and Data
 - IEC61508 / ISO26262 Certified
- State-of-the-art C-SPY® Debugger
 - Complete code and data breakpoints
 - Profiling and code coverage performance analysis tools
 - Power debugging, integrated monitoring of power consumption correlated to the source code
 - FLASH/PROMable code
- Micrium uC/OS Kernel Awareness
 - Full-featured RTOS with full networking and file system. Support for TCP/IP, USB, CAN bus, and Modbus. It includes complete documentation, full source code
 - Ease-of-use, small memory footprint, remarkable energy efficiency
 - uC/TimeSpaceOS, enabling complex segments of software with a variety of safety levels to be executed on a single core – ideal for Avionics/Military applications

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