



ENABLING RUST FOR CRITICAL SYSTEMS

Wind River®, a global leader in delivering software for mission-critical intelligent systems, and AdaCore, a trusted provider of software development and verification tools, have teamed up to offer GNAT Pro for Rust for VxWorks® 7, a qualifiable Rust toolchain for critical Rust applications. GNAT Pro for Rust plus VxWorks 7 provide the following to embedded development teams:

- A proven development environment for native, x86, and Arm® architectures
- A commercially supported, industrial-strength toolchain, including a compiler (rustc), a build and package manager (cargo), and a debugger (gdb) delivered with SLSA Level 3 compliance
- VxWorks 7 RTP: full support via native APIs
- VxWorks 7 DKM: no-std target support
- A clear path to certifiable Rust software

WHY RUST FOR EMBEDDED?

Rust is a programming language designed for performance and safety, created to help developers build dependable, efficient software. Its syntax is easy to understand for people with a C or C++ background. However, like Ada, it has a greater emphasis on code safety, including areas such as safe concurrency, vulnerability prevention, and memory management.

WIND RIVER PARTNER PROGRAM: BETTER TOGETHER

Wind River works with partners to integrate, validate, and jointly market their products that support the Wind River portfolio of software and services for building safe, secure, and reliable software. Together we can effectively meet and exceed our joint customers' needs.

AdaCore

Solutions

- GNAT Pro for Rust
- Dynamic analysis (roadmap)

Value

- Yearly updates providing stable, tested releases
- Long-term support of sustained versions with critical backport fixes and known-problem reports
- Interoperability with Ada, C, and C++
- AdaCore warranty and software bill of materials addressing software supply chain vulnerability
- Professional technical support; can work with ITAR if needed
- Suitable for applications that require safety certification, such as avionics (DO-178), rail (EN-50128), space (ECSS-E-ST-40C and ECSS-Q-ST-80C), and others

DRIVING DEVELOPER PRODUCTIVITY WHILE PROTECTING YOUR CUSTOMERS

Wind River and AdaCore are dedicated to helping you develop your embedded solutions with a robust, standards-based, and proven platform developed for Rust. Beyond ensuring that you have access to a secure, high-performance platform, both AdaCore and Wind River maintain a close watch on the latest security threats to Rust and get the patches and bug fixes you need to keep your customers secure. GNAT Pro backports bug fixes and security updates quarterly to prior versions of Rust, and it can also address critical updates and known-problem reports to address any key customer issue.

ADACORE: GNAT PRO FOR RUST

For nearly 30 years, AdaCore has committed to supporting the needs of the safety-critical and mission-critical industries. AdaCore initially focused on Ada, a state-of-the-art programming language designed specifically for developing long-lived, safety-critical, certified software. Over the years, this focus has extended beyond the Ada language to its formally verifiable SPARK subset, C and C++, and Rust.

GNAT Pro for Rust is a stable and secure Rust development environment designed for safety-critical and mission-critical industries. In addition to VxWorks 7, GNAT Pro for Rust is also available for common native targets and relevant embedded/cross-target platforms as well as custom ports. AdaCore is a NIST SP 800-171 organization targeting SLSA Level 3 compliance. That gives you the confidence that our software hasn't been tampered with and can be traced securely back to its sources. When we deliver GNAT Pro for Rust to you, you will have full access to relevant security-related documents — including a software bill of materials.

WIND RIVER: VXWORKS 7

VxWorks enables the cost-effective development of high-performance, reliable, secure, robust, safety-certified mission-critical systems, incorporating AI/ML functionality and leveraging the latest processor advancements. Teams can use popular programming languages and can integrate with cloud-based DevSecOps for development, testing, deployment, and updates, including software container technology — significantly reducing time-to-market and driving innovation, new business, and revenue.

SUMMARY

The AdaCore and Wind River partnership enables product managers and developers of embedded systems to deliver best-in-class performance on a proven, robust, and cost-effective open source platform, enabling the rapid creation of innovative and reliable systems.

MORE INFORMATION

Additional information about AdaCore can be found at www.adacore.com/gnatpro-rust, or contact sales@adacore.com.

Detailed information about Wind River VxWorks 7 can be found at www.windriver.com/products/vxworks, or contact salesinquiry@windriver.com.

Additional information about the Wind River Partner Program can be found at www.windriver.com/partners/partner-program.

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