

Wind River Linux Platform for Infotainment

Compare the cabin of an average vehicle 10 years ago with one today—it illustrates the stark reality faced by automotive original equipment manufacturers (OEMs). The number of consumer devices invading the cabin presents a compelling challenge. These high-margin items may help sell the car, but the disparity between the vehicle life cycle and the device life cycle is measured in years, not months. Standards-based, open source software, such as Linux, helps in-vehicle device manufacturers anticipate future requirements and meet current design challenges: creating a reusable device platform that increases vehicle margins, accelerating product development, and improving quality to reduce service issues and recalls, all within a flexible architecture.

Wind River Linux Platform for Infotainment is a commercial-grade Linux solution fine-tuned for in-vehicle device development and deployment, including infotainment, telematics, navigation, rear-seat entertainment, and external gateway devices. The platform includes a fully tested and validated distribution based on the latest Linux 2.6 kernel technology; the Eclipse-based Wind River Workbench development suite; education services to help jump-start your projects; specialized professional services; and 24/7 global technical support.

Automotive-Enhanced Commercial Grade Linux

Wind River Linux Platform for Infotainment is specifically designed for in-vehicle device manufacturers and silicon vendors who need specialized Linux capabilities for automotive device projects.

At the core of the platform is the kernel.org Linux 2.6 kernel implementation, with integrated patches and packages for enhanced networking and multimedia requirements. Wind River Linux Platform for Infotainment includes an advanced cross-build system that incorporates a structured framework for managing device software components as independent “layers.” These layers act as building blocks for developers to manage and organize Linux packages, patches, or board support packages (BSPs); Linux source code or binaries; metadata or configuration files; test suites; or even extra files. The layered cross-build system reduces complexity and delivers added flexibility.

Wind River Linux Platform for Infotainment includes the ability to customize the root file system for memory-constrained devices and accelerated kernel boot time for “instant-on” capabilities. It also contains all the essential capabilities for processing diverse multimedia applications and multiple networking interfaces. The platform offers support for specialized automotive device processors from leading providers including Freescale and Intel.

All open source and integrated components—including the kernel, patches and packages, and the Wind River Workbench development suite and supported hardware architectures and boards—have been exhaustively tested and validated in our Linux test harnesses to deliver the highest quality, reduce your project risk, and ensure the shortest time-to-market.

Platform for Infotainment Enhanced for Automotive Requirements

Wind River has enhanced open source Linux to meet the stringent requirements of an automotive device. Wind River Linux Platform for Infotainment includes such in-vehicle optimizations as the following:

- Automotive power or program state management, with a robust file system, “instant-on” fast boot, and an enhanced systems infrastructure
- Built-in support for 2D and 3D graphics, multimedia playback, automotive
- Connectivity such as CAN and MOST, and connectivity for popular consumer electronics standards
- Rigorous engineering, integration, test, validation, and support
- Support by Wind River, the global leader in DSO

Optimized Development Suite

Wind River Workbench unlocks the power of Wind River Linux Platform for Infotainment for automotive device development teams. From hardware and board initialization to application development, Workbench offers deep capability across the development process in a single integrated environment, with complete platform integration and powerful tools for debugging, code analysis, and test. Through tight integration with Wind River Linux, Workbench delivers increased productivity for reduced cost and improved time-to-market.

Wind River Workbench benefits include the following:

- Eclipse-based to simplify application, OS, and hardware debugging
- Visual configuration, analysis, and testing tools to configure a Wind River Linux kernel with automatic import of dependent libraries
- Support for multiple target connections and process/task/thread debugging
- On-chip debugging capabilities for custom board bring-up, platform development, and application debugging
- Multicore support

Customer Support

Wind River Linux Platform for Infotainment is backed by Wind River Support, a Service Capability and Performance (SCP)–certified organization. Our customers have access to Internet-based support 24/7, augmented by the industry’s leading online knowledge base. To ensure that your team stays on track, additional support is available via telephone or email. Long-term, extended support can also be arranged to accommodate the entire life cycle of your production model.

Professional Services

A CMMI Level 3–certified organization, Wind River Professional Services offers extensive experience in automotive device systems integration. We apply expertise in graphics, digital media management, power management, and fast boot to provide services tailored to the needs of automotive device development, including subsystem integration, wireless technology integration, and legacy application migration. In addition, our specialized Linux Services Practice has a proven track record of delivering design, integration, and optimization services that successfully apply Wind River technology to automotive solutions.

Extensive Partner Ecosystem

To deliver a complete range of integrated technologies, Wind River has joined forces with world-class silicon and automotive software providers to integrate such technologies as speech recognition, GPS, navigation, and multimedia extensions. Our select partners extend the capabilities of Wind River Linux Platform for Infotainment, adding automotive capabilities including navigation, text-to-speech, speech control, and consumer electronics integration.

Flexible Business Options

Wind River complements the technical advantages of the Platform for Infotainment with flexible options for technology access. You can structure a market risk mitigation model, license only essential technology, or subscribe to technology and services in a traditional business relationship.

Why Wind River Linux Platform for Infotainment?

- Preintegrated, tested, and validated Linux-based platform reduces time-to-revenue
- Pristine source code transparency and build system offer maximum flexibility to customize platform
- Automotive enhancements deliver on specific in-vehicle device requirements from day one
- Complete end-to-end development suite enables developer efficiencies and standardization
- Small footprint optimizations meet automotive device requirements
- Commercial-grade solution eliminates the costs of supporting and maintaining your own Linux distribution
- Leveraging standard technologies frees up engineering resources for competitive differentiation
- Wind River Professional Services offers access to a global team of automotive domain and Linux experts
- Going to market with a proven and trusted partner increases confidence