Microsoft Windows Automotive 5.0 is an automotive-grade open software platform that provides OEMs, suppliers, and developers with the building blocks they need to quickly and reliably create a broad range of advanced in-vehicle solutions that meet the growing needs of automotive consumers.

Advantages for Automotive Applications

Original equipment manufactures (OEMs) and suppliers choose Microsoft Windows Automotive 5.0 to power a variety of in-vehicle devices for several reasons:

Stability and Reliability.

Windows Automotive is proven in production automotive applications today, including 30 preinstalled and aftermarket devices from 13 world-class automakers and suppliers including BMW, Citroën, DaimlerChrysler, Fiat, Honda, Hyundai, Toyota, and Volvo+Alpine, Clarion, Kenwood, Matsushita Electric Industrial, Mitsubishi Electric, Pioneer, and Tottori SANYO Electric. Our partners are demonstrating that the Windows Automotive platform provides automotive-grade software to power today's automotive needs.

Speed.

Windows Automotive is used today in hard, real-time applications. It is designed to meet key performance requirements such as system startup and application launch times.

Development Productivity.

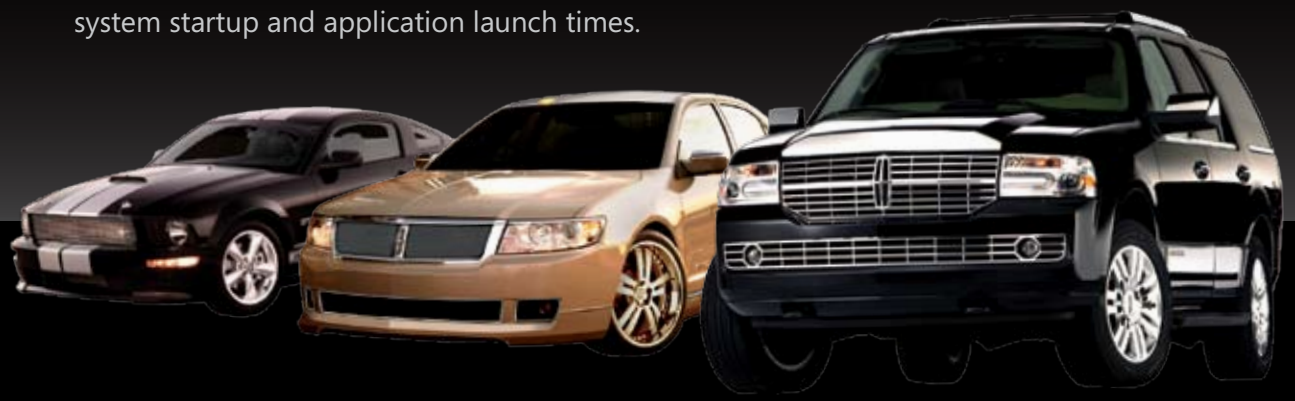
Windows Automotive empowers engineers with a sophisticated graphical development environment based on the highly successful Microsoft Visual Studio development system. It features an extensive selection of tools, configuration samples, and guidelines that improve productivity — from initial design to final testing and tuning. With the extensive selection of Windows Automotive features, development can stay focused on high-level functionality, not low-level code, which means you get more productivity from your development teams.

Rich Functionality.

Windows Automotive components enable rich user experiences that enhance brand image. The Automotive User Interface Toolkit (AUITK) is a sophisticated graphical user interface framework that makes it easy to create advanced user interfaces at a desktop PC and store them as XML markup. This separates the user interface from the functional part of the application program. Support for Microsoft Windows Media playback offers users a rich multimedia experience.

Cost-Effectiveness and Scalability.

Low upfront capital investment with free evaluation tools and low-cost licensing to reduce total cost of development means Windows Automotive ensures a lower-cost solution. It scales from small footprints to full-featured infotainment systems and enables cost-effective designs to meet the specialized needs of the automotive industry.



Windows® Automotive

Windows Automotive Feature Sheet

BUILDING DEVICES WITH WINDOWS AUTOMOTIVE

Windows Automotive 5.0 is highly configurable using the familiar Microsoft Windows CE 5.0 Platform Builder tool, which makes it possible to scale operating system functionality based upon needs. For example, operating system components that are not needed can be excluded from the final build, resulting in a low-footprint system. This enables a manufacturer to reduce hardware cost, size, and complexity. The graphical user interface can be customized, replaced, or removed altogether. Only Windows Automate 5.0 provides this level pf flexibility to meet the needs of the automotive industry.

PARTNERS FOR A CHANGING INDUSTRY

Microsoft, industry associations, and partners are playing a crucial role in advancing the market for flexible, integrated, in-car computing devices. These devices will serve to improve the in-car experience for the driver and passengers. Working closely with auto makers, automotive electronics manufactures, and consumers, Microsoft has developed the Microsoft Widows Automotive Platform to meet these requirements. Windows Automotive 5.0 dramatically enhances safety, communications, navigation, information, and the overall developer environment for in-car solutions while meeting the needs of partners and consumers.

FOR MORE INFORMATION

Please visit the Web site at:
www.microsoft.com/windowsautomotive

Microsoft Windows Automotive is built on the Microsoft Windows CE 5.0 operating system, a hard, real-time, 32-bit, memory-protected operating system kernel, with support for a variety of processor architectures. It features:

- A Win32 application programming interface (API) subset, including file and memory management, device and service management, threads and process management, and networking stacks.
- The Platform Builder and other best-in-class development tools.
- Multilanguage support.
- The Microsoft .NET Compact Framework.
- Microsoft Internet Explore Web Browser for Windows CE (based on Internet Explorer 6), with an OEM-replaceable user interface.
- Rich multimedia support through the Microsoft DirectShow API, with support for a variety of formats such as Windows Media Audio, MP3, and DVD.
- High-performance graphics support through the Microsoft Direct 3D Mobile API, the Microsoft DirectX® API, and GDI-Sub.

Windows Automotive goes beyond the base Windows CE operating system with additional automotive-specific features:

- A Virtual Memory expansion tool that allows DLLs to be loaded in shared memory, removing the previous limit of 32MB. Now, DLLs occupying up to a total of 96 MB can be loaded.
- Ongoing testing by the Microsoft Automotive Business Unit ensures that Windows Automotive is truly automotive grade.

Windows Automotive features the Automotive User Interface Toolkit (AUITK), a sophisticated graphical user interface framework design tool and a compact runtime environment.

- The AUITK enables designers who are not programmers to develop the user interface at a desktop PC.
- The AUITK facilitates the development of high-quality user interface "skins" that connect to the core application program.
- The AUITK eliminates the need to write user-interface code in most applications and shortens development time.

Windows Automotive provides the Automotive System Tools and documentation that speed up the development of automotive solutions. These include:

- The System Resource Sharing Toolkit, which measures memory and the use of CPU time in the system. It eases the troublesome tasks of system tuning to ensure that the system is performing at the best possible level.
- Development Environment Guidelines, a set of documents and sample applications that get an engineer up and running quickly with a development system optimized for Windows Automotive.
- Advanced Exception Reporting, which enables customizable system information logging, used for local and remote diagnostics.

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