Transform the in-vehicle experience

Windows® Embedded Automotive 7 leads the automotive infotainment industry by enabling vehicle-centered, connected software-plus-services designed to transform driver and passenger experiences. In today's competitive in-vehicle technology space, Windows Embedded Automotive 7 provides a flexible, robust, high performance platform that enables manufacturers and suppliers to create differentiated, market-driven solutions. The platform's built-in features and streamlined developer experience represent a smart investment to bring infotainment solutions to market faster with lower costs.

Windows Embedded Automotive 7 Hardware and System Specifications

PROCESSOR SUPPORT:
Support for multi-core IA, ARM v7 and SH4 architectures, allowing devices to take advantage of the latest innovations in hardware.

OPERATING SYSTEM:
Native real-time OS, based on Windows Embedded Compact 7, that builds on industry proven capabilities of previous versions.

Improved unified kernel architecture
- Improves system performance
- Increases security and robustness
- Offers high degree of backward compatibility
- New Internet Explorer browser
- Hundreds of software components

Support for more concurrent processes and improved virtual memory per-process
- Allows more robust user features
- Enables device upgrades as end-user requirements change

IP Indemnification
- Provides intellectual property defense, subject to licensing agreement terms, from Microsoft

Improved driver support
- Enhances performance with kernel mode drivers
- Increases robustness with user mode drivers

Enhanced tools
- Next-generation Automotive System Tools (AST) accelerates time-to-market and manages development costs

Integrated board support
- Significantly reduces development time
- BSPs and drivers are available in the Windows Embedded Compact 7 Platform Development Kit (PDK) and through hardware suppliers.

BOOT TIMES:
- First drivers: 440 ms
- Radio: 680 ms
- Minimum shell: 1.4 seconds
- Full (sample) applications: ~5 seconds

SYSTEMS AND NETWORKING:
- IEEE 1394
- AEC/NS
- Audio Management (arbitration, mixer, and more)

Windows Embedded Automotive 7 Bluetooth Phone

PHONE SUPPORT:
- Bluetooth® 2.1 + EDR (with SSP)
- Message Access Profile (MAP) 1.0
- Calendar download from mobile phone:
    - vCal 1.0 / iCal 2.0 supported formats
- Phonebook download using PBAP, SyncML, GSM AT, and OBEX
- Send and receive text messages
- Audio streaming over Bluetooth
- HFP 1.5 and 1.0 support
- Data connection using DUN
- Twice yearly device compatibility updates

BLUETOOTH PROFILES:
- Generic Object Exchange Profile (GOEP) 1.1
- Object Push Profile (OPP) 1.1
- Serial Port Profile (SPP) 1.1
- Phonebook Access Profile-PCE (PBAP) 1.0
- Advanced Audio Distribution Profile (A2DP)-SNK 1.2
- Audio/Video Remote Control Profile (AVRCP)-Controller 1.4
- Hands-Free Profile (HFP)-HF 1.5 (backward compatible to HFP 1.0)

- Dial-Up Networking Profile (DUN)-DT & GW 1.1
- Message Access Profile (MAP) 1.0

Simplified extensibility model for new Bluetooth profiles

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Windows Embedded Automotive 7 HMI Development

EXTENSIBLE UI FRAMEWORK VIA SILVERLIGHT FOR WINDOWS EMBEDDED:
- Silverlight enables dynamic user interfaces and applications on devices
- User experiences can be refined rapidly with the Expression Blend-Visual Studio toolset on the desktop and deployed unchanged to the target device
- Access to a large ecosystem of Silverlight developers and designers
- Executable Specifications mean no loss of fidelity from design reviews. Design and review in Silverlight

- Reuse of assets from design to implementation
- Working prototypes quickly built and easily modified
- Integration of Elektrobit state management tools in Expression Blend

SPEECH ENGINE SUPPORT:
- State-of-the-art Microsoft Tellme Speech technology
- Support for a broad set of speech solutions and worldwide languages, including US and UK English, N.A. and European Spanish, European and Canadian French, German, and Korean
- SAPI 5.41 support creates a pluggable architecture for choice of speech recognition and text-to-speech engines

IMMERSIVE EXPERIENCES WITH NATURAL INPUT:
- HMI Bezel simulator
- Integrated Multi-touch input capabilities throughout the OS to deliver highly interactive device experiences
- Customizable gesture input engine

Windows Embedded Automotive 7 Media and Radio

AUDIO FILE TYPES:
Playlists: WPL, ASX, M3U, Zune, iPod, MTP
Media Files: .WMA, .MP3, .MP4, .AAC, .WAV
Codecs: .WMA, .MP3, .AAC, .PCM, .WAV
Extension interface for additional file types

MEDIA SUPPORT:
- Technology Preview of upcoming support for DLNA media device integration
- Acts as a DMP attached to a DMS or M-DMS with LPCM, MP3, or AAC audio streaming
- Media Core Browse API support
- Device identification for future device interoperable behaviors
- Playlist support

- Multi-application access to media index
- iPhone/iPod Touch Firmware 3.x support
- Fourth generation and newer iPod, iPhone, and iPod Touch support, 1- and 2-wire
- Video browsing and playback supported on iPod and iPhone devices and Microsoft Zune® (1.0, 2.0, and Zune HD devices)
- Devices certified for Windows Vista® or compatible with Windows® 7 (includes most popular players from Creative, SanDisk, Philips, Samsung, Archos, and others)
- Album art across player types
- "Tag to Purchase" support for iPod/iPhone
- CDs, data CDs, and DVDs
- CD ripping to local storage, including plug-in interface for metadata database

RADIO SUPPORT:
- AM, FM, and HD Radio
- Data from RDS, TMC
- HD Radio support for MPS, SPS, SIS, and PSD
- Multiple tuners, Phase Diversity tuning, and Scanning Antenna diversity
- Extensible architecture for additional radio types

Windows Embedded Automotive 7 Additional Features

SPECIAL PAIRING FEATURES AND SSP:
- Secure Simple Pairing Support:
  - Tuned through testing against more than 100 shipping SSP devices and at worldwide Bluetooth UPF events
  - Numeric Compare Pairing
  - Out-of-Band Pairing
  - Just Works Pairing

PHONEBOOK IMPLEMENTATIONS:
- Phonebook SyncManager:
  - Utilizes both Pocket Outlook Object Model and a cache mechanism to improve contact download performance
  - Contact number/memory budgeting
  - Supports public and private OBEX phonebook strategies
  - Fully tested with devices for complete "legacy" compatibility
  - Multi-number handling

- Qualified Message Access Profile:
  - Bluetooth SIG-qualified Message Access Profile implementation
  - MAP provides functionality for new message notifications, folders for incoming and send, etc.
  - Windows Embedded Automotive 7 automatically supports SMS download and storage via MAP

Find out more about Windows Embedded Automotive 7 at:
www.windowsembedded.com/auto

Find or become a **Windows Embedded Automotive 7 partner: www.windowsembedded.com/auto/partners.mspx.**

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