WebSphere software

IBM WebSphere Everyplace Embedded Software for Telematics

Highlights

- ***IBM WebSphere® embedded software supports the entire automotive product lifecycle from initial concept to end of life***
- ***Software Development Kit (SDK) enables application development for telematics reference designs based on the Intel® XScale architecture***
- ***SDK provides a full set of development tools, including run times for evaluation***
- ***Brings open, standards-based technologies to automotive telematics applications***
- ***Includes voice-enabling software and remote software management***

On the road and in demand

As demand for in-vehicle information systems continues to grow, so does the desire for more end-user services, more entertainment content and more stable system performance. These changing market realities present a tremendous opportunity for developers—by streamlining the development of applications and devices, they can generate more revenue and differentiate themselves from the competition.

IBM pervasive computing software enables you to capitalize on these new opportunities and respond to industry demands. Built from the ground up, our software is designed for the embedded environment. We can provide you with a pervasive device platform based on open standards, making it easier to adapt new devices to any mobile environment, now and down the road.

The right platform, the right provider

IBM offers a range of services to expedite and simplify the development of embedded devices. A key component of these services is the SDK—a toolkit used to create applications for a specific operating platform. The latest of these SDKs supports telematics application development for the Intel XScale PXA250 Application Processor.

This telematics reference platform consists of a development board containing reference hardware, including an Intel XScale processor with input-output circuitry supporting a variety of automotive solutions such as diagnostic, fleet management, navigation and entertainment applications.

Contents of IBM WebSphere Everyplace Software for Telematics SDK

Board Evaluation CD	• Boot image (enabling software, including device drivers) • Automotive Frameworks (Device Kit, Device Agent, WebSphere Everyplace Wireless Gateway Embedded Client, MQe Embedded Client, DB2e Embedded Client)
WebSphere Studio Device Developer CD	• SmartLinker • Build and launch • MicroAnalyzer • WebSphere Custom Environment
Speech CD	• Embedded ViaVoice Enterprise Edition • JSAPI Release 1.0 compliant interfaces
QNX® Evaluation CD	• QNX Neutrino® RTOS • Photon® microGUI Windowing System • Multimedia-ready • Development Environment • C Development Tooling

This SDK is employed as a component of an IBM telematics enablement services contract, which can encompass a range of services including general telematics consulting, prototype development, full-scale production and long-term maintenance. The SDK includes deliverables such as run time modules and other tools that enable a developer to get an application up and running on the reference hardware in a development environment for pre-production projects.

The Device Kit provides tools and run times that support the rapid development of modular, portable and hardware independent software.

In conjunction with the Tivoli® Device Management Server, the Device Agent provides support for highly scalable remote device configurations, Open Services Gateway (OSG) bundle installation and native code installation.

The WebSphere Everyplace Wireless Gateway Embedded Client provides an optimized and secure Internet Protocol (IP) tunnel for communication with the IBM Everyplace Wireless Gateway using a variety of wireless and wireline networks.

The MQe Embedded Client provides an assured messaging infrastructure where small footprints and optimized communication protocols are required.

Support throughout the automotive lifecycle

IBM telematics services support and enable end-to-end telematics design and development throughout the automotive lifecycle (Figure 1), starting with the proof of concept. During the development phase, shown here as Pilot & Prototypes ("A" Sample) and Trials ("B" and "C" Samples), the services and SDK help developers build software applications on the underlying stack. When the hardware and software are ready for production, IBM negotiates the licensing of software run times to the device manufacturer.

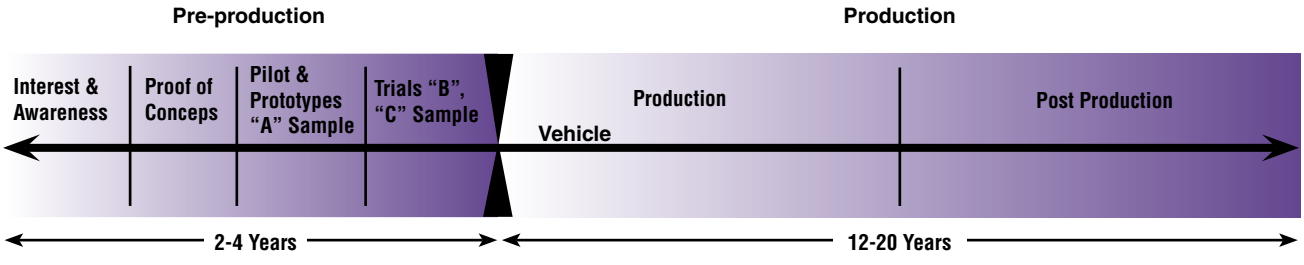

Figure 1—IBM telematics enablement services support the entire automotive lifecycle

IBM services contracts span the pre-production and production phases of the product lifecycle, providing support and expertise for all aspects of a telematics system and for all elements of the supply chain. SDK tools and components enable embedded device manufacturers to create new telematics applications. Open standards and industry partnerships drive the process.

An essential combination of services and long-term support span the automotive telematics development and product lifecycles, backed with high performance software technologies.

WebSphere Everyplace Embedded Software: building on a firm foundation

The WebSphere Everyplace Embedded product group is part of the IBM WebSphere software platform—a comprehensive set of integrated, award-winning e-business solutions. At every step in the e-business cycle, the WebSphere software platform delivers the flexibility needed for growth.

This robust platform supports the building of diverse information technology environments, using industry-standard Java™ and Extensible Markup Language (XML) technology to create next-generation applications that differentiate them from the competition.

Advance to a powerful platform for integrated e-business—the WebSphere software platform.

SDK Hardware

Platform	• Intel PXA250TMDP board with Intel XScale PXA250 Application Processor: 200 MHz, 32 Mb Flash, 32 Mb RAM
Peripherals	• Ethernet: Davicom chipset, Serial (COM) port, Touch, Audio In/Out, LCD

SDK Software

OS/System Services	• QNX RTOS, POSIX file system
VM/Class Libraries/SMF	• WebSphere Custom Environment • Gateway Plus Class Libraries—an implementation of a subset of the Java 2 (JDK 1.3) specifications, Security, Service Management Framework (SMF) (Compliant with OSGi 2.0—device access, configuration and user administration, Event Manager, SMF Administrative Services, Preference Services, Logging Services)
Networking Services	• Tiny TCP/IP stack, TCP/IP utilities subset (FTP, Telnet, NFS, TFTP)
WAN Support	• Any IP-capable PCCARD device with driver support on QNX/Intel Xscale architecture
LAN Support	• Any IP-capable PCCARD device with driver support on QNX/Intel XScale architecture
Product Documentation	• Install, configuration and reference
Browser/Plug-ins	• P3ML browser components available for building into client application
User Interface	• Components for touch and voice available for client applications
Remote Management	• Client function only: device configuration, software distribution, native install/uninstall, prescripts (dependency-checking and resource evaluation)
Other Utilities and Functions	• DB2,® MQe, embedded text-to-speech, voice recognition, WebSphere Everyplace Wireless Gateway Client (GPRS, 3DES Encryption, payload compression)

Meeting your needs

IBM is a worldwide, leading e-business company, offering a wide range of services and technologies that help businesses take full advantage of emerging innovation. Through pervasive computing, we are extending e-business applications to the new class of connected embedded devices. We understand your business, and we can provide you with an end-to-end solution that can help you get to market quickly—at the speed your customers demand.

For more information

To learn more about IBM telematics solutions, please visit our Web site at **ibm.com**/pvc. Inquiries can be sent via e-mail to telematx@us.ibm.com

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Boca Raton, Florida 33487

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