Start now to meet the need for new automotive pervasive computing services.

IBM

IBM WebSphere™ Everyplace Suite Embedded Edition Solution Offering

Software and services enabling quick creation of automotive telematics applications

Highlights

Open application platform for delivery of multiple network-connected services to in-vehicle telematics devices

Leading-edge software frame-work to speed development of pervasive computing devices and services for automotive industry applications

Integrated with the Visual Age® Micro Edition development environment and Java™ runtimes, suitable for network-embedded devices

Tools and platforms engineered for a variety of intelligent in-vehicle functions, including navigational, remote diagnostics, security, e-mail and entertainment

Seamless integration with end-to-end WebSphere Everyplace Suite, including DB2®, MQ Series®, Tivoli®, ViaVoice™ and SecureWay® solutions

Gain a competitive advantage with proven expertise and open technology leadership from IBM

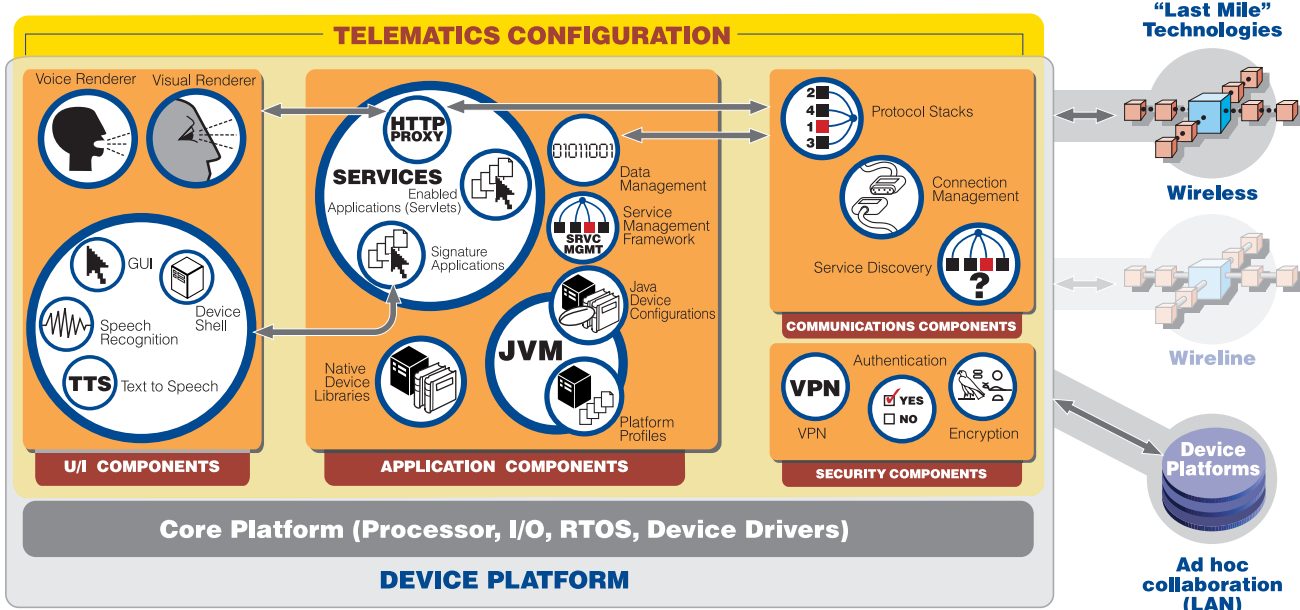## A competitive edge for automotive companies

The growth of pervasive computing in vehicles offers automotive manufacturers and their supplier partners enormous opportunities. Opportunities which can help differentiate their products, provide compelling new services to enhance customer appeal and satisfaction, and generate new revenue streams.

Embedded computer technology allows the placement of powerful microprocessors throughout a vehicle. As wireless Internet access becomes readily available, further advances will enable the development of what is called the in-vehicle information system (IVIS). In-vehicle navigation and mapping features already have become relatively common.

WebSphere™ Everyplace Suite Embedded Edition Solution Offering

○ Highly configurable
○ Tightly integrated

TELEMATICS CONFIGURATION

"Last Mile" Technologies

Voice Renderer   Visual Renderer

HTTP PROXY

SERVICES
Enabled Applications (Servlets)

Data Management

Signature Applications

SRVC MGMT

Service Management Framework

GUI

Device Shell

Speech Recognition

Java Device Configurations

TTS — Text to Speech

Native Device Libraries

JVM

Platform Profiles

U/I COMPONENTS

APPLICATION COMPONENTS

Protocol Stacks

Connection Management

Service Discovery

COMMUNICATIONS COMPONENTS

Wireless

Authentication

VPN — VPN   ☑ YES ☐ NO   Encryption

SECURITY COMPONENTS

Wireline

Device Platforms

Core Platform (Processor, I/O, RTOS, Device Drivers)

DEVICE PLATFORM

Ad hoc collaboration (LAN)

New software and hardware technology will produce a range of such useful new features as remote diagnostics and maintenance, security, traffic alerts, e-mail, education and entertainment. Drivers and passengers will be able to access information much as they do at work and at home.

Speed to market

Given the increasing use of electronics and software in vehicles, auto manufacturers are racing to implement advanced functions to gain a competitive advantage. Speed to market with innovative network-connected features that meet the growing expectations of consumers can help establish an automotive technology leadership position that promotes customer choice and brand loyalty.

Auto manufacturers can differentiate themselves from the competition and improve time to market by using IBM for IVIS implementation. Uniquely, IBM offers the in-vehicle software, IT infrastructure, technology integration skills, automotive industry experience and commitment to pervasive computing to enable end-to-end automobile network solutions. This 'one stop shopping' advantage allows auto makers to quickly design and develop in-vehicle services according to their own needs.

End-to-end IBM software solutions

While on-going advances in chip technology are providing a solid foundation for pervasive computing devices and services, the development of operating systems and embedded software that can deliver customized networked applications to millions of devices has been a more difficult challenge. Within the IBM WebSphere Everyplace Suite, IBM offers several levels of server and device software that comprise comprehensive end-to-end support for pervasive computing applications, providing the required communication, application and user interfaces, fully customizable, that are needed to add reliability, flexibility and security to your infrastructure.

IBM WebSphere Everyplace Suite Embedded Edition Solution Offering for In-vehicle Information Systems is an integrated set of device middleware components that enables next generation intelligent in-vehicle devices to provide Internet access and new value-add telematics applications that combine wireless voice and data communications with timely location-specific information. It includes:

• Robust embedded POSIX compliant Real-Time Operating Systems (RTOS), such as QNX Neutrino, that support multiple hardware platforms.

• IBM Visual Age Micro Edition: Tools and runtimes written in the Java language were built from the ground up for embedded environments. Includes built-in remote debugging capability.

- IBM ViaVoice Embedded for Multiplatforms: supports a variety of real-time operating systems and microprocessors, making the development of robust speech-activated solutions easy and practical.

- The IBM Service Management Framework™ (SMF) component, a standards-based architecture that is designed to comply with R1.0 specifications set forth by the Open Service Gateway Initiative (OSGi). SMF provides for the lifecycle management of networked delivered applications.

- Integrated support for both Java-based technology and native code environments.

- Network connection management for both wireless and wired connections.

- Core services, including HTTP Server/Proxy, DHCP, DNS and SSL, that can be tuned to user specifications.

Get started quickly

IBM WebSphere Everyplace Suite Embedded Edition Solution Offering for IVIS will enable you to rapidly prototype and test your in-vehicle solutions. IBM provides you with the key software components, services capabilities and education needed to get your solution up and running quickly and to help you increase your speed to market.

Complementing this offering is IBM WebSphere Everyplace Suite, which includes DB2, MQ Series, System Management Framework and Tivoli Subscription Manager. The IBM WebSphere Everyplace Suite provides a scalable, available and security-rich end-to-end environment for executing and managing pervasive computing applications.

Example of IVIS telematics

The IBM advantage

IBM recognizes the tremendous potential of extending pervasive computing to the vehicle. Working with major auto manufacturers and open-standards organizations, IBM is striving to make the network vehicle a reality. With its hardware and software leadership, unmatched expertise and long experience in the automotive industry, IBM is uniquely equipped to help you become a leader in the expanding the new world of in-vehicle information systems.

For more information:

To learn more about IBM's WebSphere Everyplace Suite Embedded Edition Solution Offering for In-vehicle Information Systems, visit our website at *www.ibm.com/pvc* or contact your IBM sales representative

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