First integrated end-to-end software solution for extending e-business to pervasive devices

IBM WebSphere™ Everyplace Suite Embedded Edition For Internet Web Terminal Applications

Enables device manufacturers to quickly develop and bring to market a spectrum of Internet access appliances

Highlights

Industry-leading device middleware framework to speed development and availability of pervasive computing devices and services

Embedded architecture to enable device manufacturers, to economically build and deploy a wide variety of network capable devices

Open application platform for remote management of customizable network delivered services to e-business and consumer appliances

Integrated runtime and development environment visualized with IBM Visual Age® Micro Edition for network-embedded devices

Tools and and middleware designed to span a large variety of intelligent devices, including Internet-connected handheld computers, cell phones, set-top boxes, and in-vehicle devices

Seamless integration with IBM's new WebSphere Everyplace Suite server software which is designed to extend e-business to mobile phones and other pervasive devices

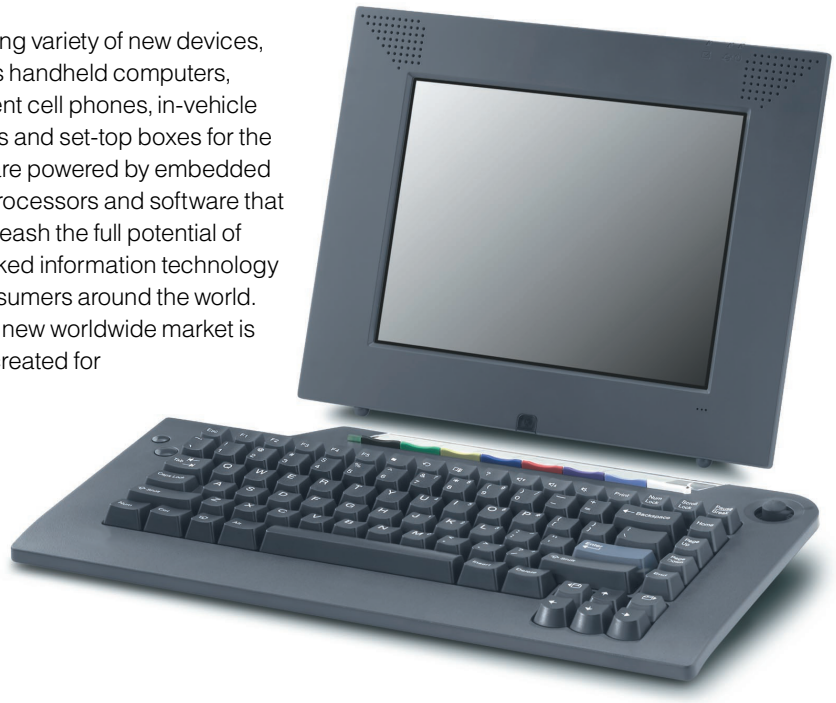
The competitive advantage of IBM's proven expertise and open technology leadership

The opportunities of pervasive computing

Pervasive computing is the next major step in the evolution of the Information age. It frees information from laptop and desktop devices and makes it more useful and available. A new class of "intelligent" devices are supported to provide people the convenience of instant wired and wireless access to important information stored on powerful networks. The extension of network-based information to a new class of "intelligent" appliances opens up a world of exciting applications that will enable millions of people to gain convenient and instant access — anytime, anywhere — to important information.

A growing variety of new devices, such as handheld computers, intelligent cell phones, in-vehicle systems and set-top boxes for the home are powered by embedded microprocessors and software that can unleash the full potential of networked information technology for consumers around the world. A huge new worldwide market is being created for makers of intelligent devices and information service providers. Estimates of this market indicate that by 2003 about 50% of all access to the Internet will be made from pervasive devices.

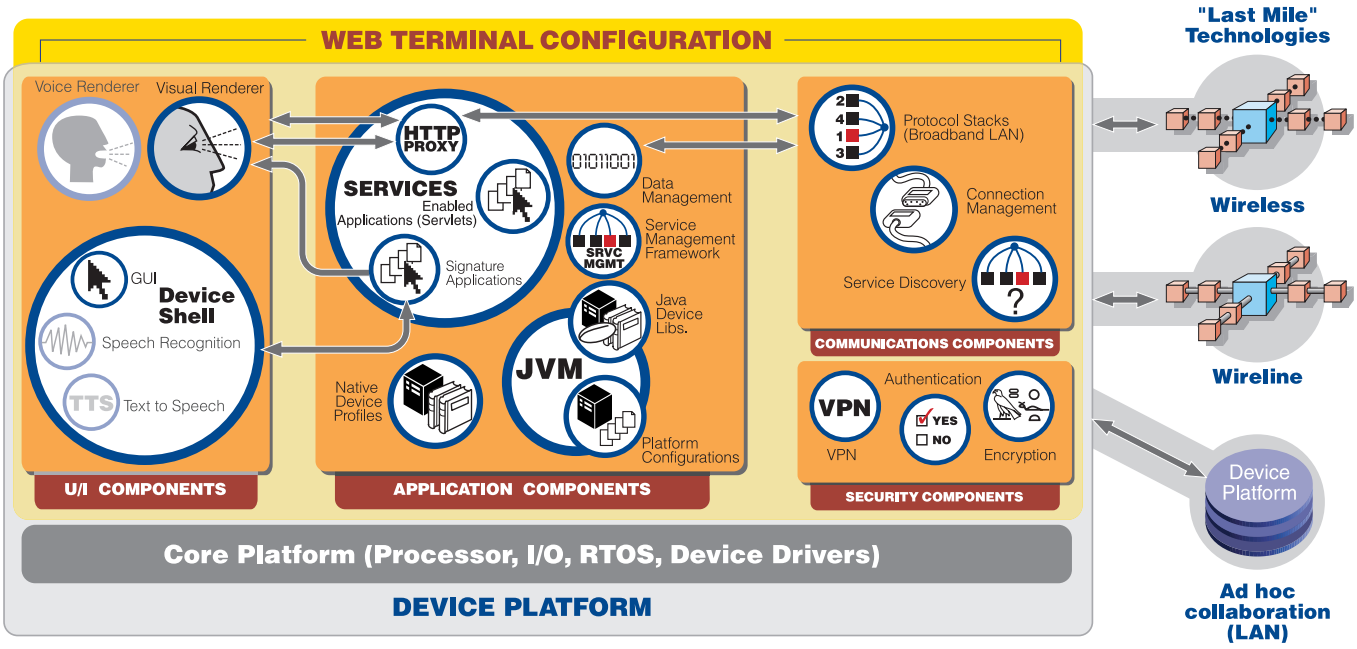
The opportunities for device developers and manufacturers to find new customers and revenue from pervasive network-connected devices are enormous, and the competition will be intense. The challenge of meeting these opportunities is in combining a sophisticated application platform that can adapt rapidly to offer new device services with simplicity and reliability.



How do the pieces fit?

WebSphere™ Everyplace Suite Embedded Edition

- Highly configurable
- Tightly integrated



The software challenge

While ongoing 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. The need is to create open application platforms scaled to provide cost-effective gateways that can serve complex data and device management, client access and security and address the flexibility requirements of pervasive computing networks.

IBM WebSphere Everyplace Suite Embedded Edition provides the industry's first integrated end-to-end software solution for extending e-business to pervasive devices. The WebSphere Everyplace Suite middleware is designed to provide a secure, reliable and flexible IT infrastructure that can scale to the enormous number of new network-connected pervasive devices that are coming.

End-to-end software solutions

Within the IBM WebSphere Everyplace Suite Embedded Edition, IBM offers several levels of server and device software that comprise complete end-to-end support for pervasive computing applications, providing all the required communication, application and user interfaces — fully customizable — that are needed for the next generation of pervasive devices. It is an integrated set of device middleware components that enables next generation intelligent devices to provide value-add services, Internet access and trusted transaction processing. Components include:

- The IBM Service Management Framework™ (SMF), a standards-based architecture that is designed to be compliant with specifications developed by the cross-industry Open Services Gateway Initiative (OSGi). SMF provides for the lifecycle management of network delivered applications.
- Embedded open standards compliant Real-Time Operating Systems (RTOS), - such as QNX Neutrino, a fully POSIX compliant RTOS - that support multiple hardware platforms.
- IBM Visual Age Micro Edition: Java-based tools and runtimes built from the ground up for the embedded environment. Includes built-in remote debugging capability and advanced team development support.
- Integrated support for hybrid Java and native-code environments.
- Network connection management for both wireless and wired connections
- Core services, including HTTP Server/ Proxy, and SSL, that can be tuned to user specifications.

One component of particular interest to the designer of Internet Access Appliances is the PvC Application Manager/Device-Shell. It greatly facilitates the development of hybrid Java/native-code appliances, and optimizes your use of development language to best fit your needs.

The Manager is a graphics interface application. The primary functions of the Manager are:

- Logon users.
- Launch and control applications.
- Receive and route selected Graphical User Interface (GUI) events to any application - Java or native-code.
- Receive and route selected hardware events to any application - Java or native-code.
- Read Theme and Button configuration files, and partition the display into Application Areas and Button Bars according to a Theme.
- Control what application buttons are displayed on the Button Bars.

The IBM advantage

IBM has joined forces with other industry leaders to develop key initiatives in pervasive computing, and the opportunities for new partnerships are just beginning. A quick start with IBM for implementing WebSphere Everyplace Suite Embedded Edition will enable you to rapidly prototype and test your pervasive device 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.

The IBM WebSphere Everyplace Suite is a server-based solution framework — including DB2®, MQSeries®, Appliance Manager, Tivoli, and SecureWay® software — that provides a scalable, available and secure end-to-end environment for executing and managing pervasive service offerings. With its hardware and software leadership, unmatched expertise and experience, IBM is uniquely equipped to help you become a leader in expanding the new world of pervasive computing.

For more information:

To learn more about IBM's WebSphere Everyplace Suite Embedded Edition, visit our website at *www.ibm.com/pvc* or contact your IBM sales representative.

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