



IBM Software Group

IBM® WebSphere® Everyplace® Deployment Version 6

End-to-End Applications



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This presentation explains how to support end-to-end applications with IBM WebSphere Everyplace Deployment Version 6.

Goals

- Understand end-to-end applications

The goal of this presentation is to understand end-to-end applications and how IBM WebSphere Everyplace Deployment Version 6 supports the development of these applications.

Agenda

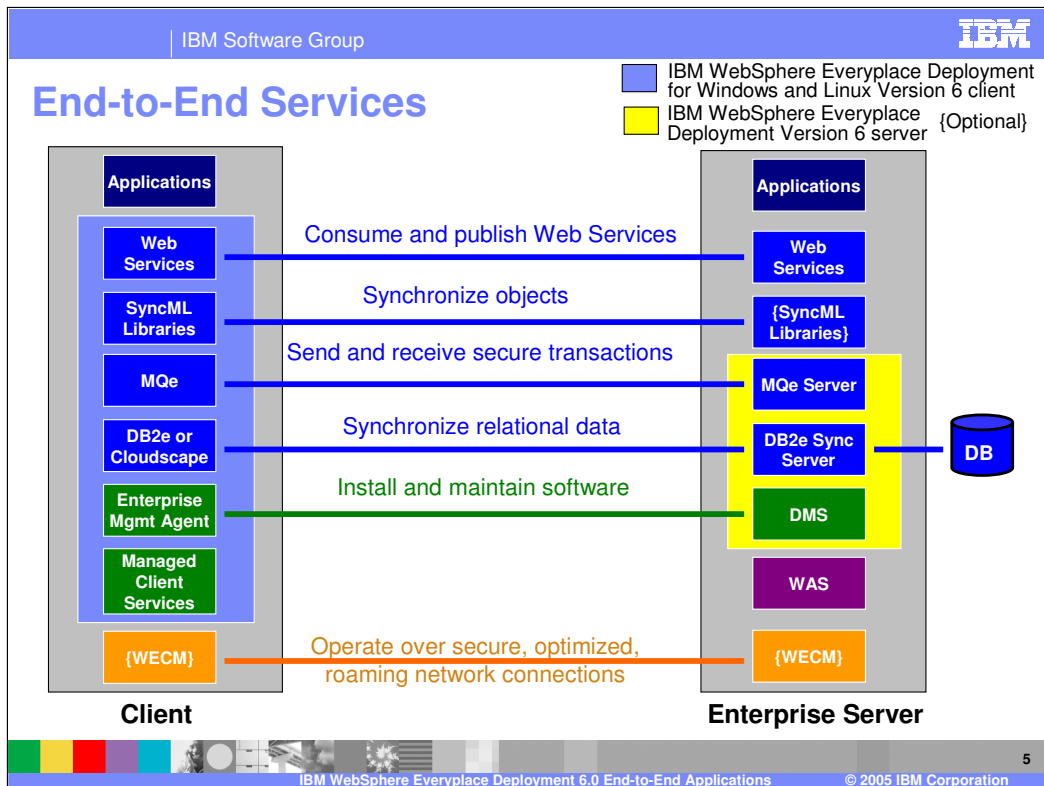
- End-to-End Services
- Scenario
- New End-to-End Samples

The agenda of this presentation is to explain the end-to-end services provided by IBM WebSphere Everyplace Deployment Version 6, a scenario and an example of how you can compose an application by using IBM WebSphere Everyplace Deployment Version 6, and new end-to-end application samples.

Section

End-to-End Services

Let's start with an explanation of the end-to-end services provided by IBM WebSphere Everyplace Deployment Version 6.



In this picture we now see the complete set of end-to-end connections supported between client and server applications. The IBM WebSphere Everyplace Deployment Version 6 server installs the WebSphere MQe Server, DB2e Sync Server, and the Tivoli Device Management Server. Web Services are supported on the server through WebSphere Application Server, which is a prerequisite to the IBM WebSphere Everyplace Deployment Version 6 server.

An additional capability which some of our customers have chosen to implement is the WebSphere Everyplace Connection Manager (WECM). WECM enables client applications to operate over secure, roaming network connections on wireless and wireline networks. WECM installs below TCP/IP API's so TCP/IP applications can continue to run without change and benefit from these capabilities.

Section

Scenario

Next, let's review a scenario and an end-to-end application that shows how customers can use IBM WebSphere Everyplace Deployment Version 6 to improve their business.

Scenario

- **“Spacely Sprockets, Inc.”** provides a suite of **e-Commerce web applications** for business partners to create and submit orders for Sprockets online. The catalog of available Sprockets, current inventory, and prices are quite volatile, changing daily.
- **“Spacely Sprockets, Inc.” Business Partners** would like better response time for the Web Applications and would like a richer user experience. They also require more direct face time with their customers. They would like to **run the e-Commerce application suite while at these customer sites**. Some of the representatives have **laptops** that they can take to their customer sites. Most of the customers of the “Spacely Sprockets, Inc.” business partners **do not have network connectivity**.
- The **Business Partners are non-technical** and do not have an IT shop.



A business provides a suite of online e-Commerce web applications for their business partners. The catalog of available products, current inventory, and prices are quite volatile, changing daily. The business partners operate, essentially, as an intermediary call center, on behalf of their customers, helping them sort out what combinations of products they should order.

Since the business partners operate on commission and sales are relatively simple to execute, they would like better response time from the Web applications to increase their throughput. Some of the business partners would like to have a more interactive user experience than they can get via their current browser interface, to further improve their productivity. The business partners do not have an IT organization.

The business partners and the end customers feel somewhat disconnected from each other as they are interacting primarily via the phone. The end customers are now requesting the business partners to spend more direct face time with them. In response, the business partners would like to run the e-Commerce application suite while at their customers' sites. Some of the business partner representatives have laptops and so they are ready to “go mobile”; however, they cannot currently run their e-Commerce web applications at their customers' sites because many of these sites do not have network connectivity.

Scenario Requirements

▪ Spacely Sprockets

- ▶ Leverage existing J2EE Web e-commerce applications
- ▶ Extend the application to support
 - richer Web Applications on desktop/laptop
 - disconnection
- ▶ Minimize the TCO for both Spacely Sprockets and it's Business Partners

▪ Business Partners

- ▶ Purchase and utilize existing laptops to support the field
- ▶ Continue to deliver accurate and timely orders from their customers

▪ End customers

- ▶ More face time with their Suppliers (the Spacely Sprockets Business Partners)
- ▶ Better pricing and timely delivery of sprockets

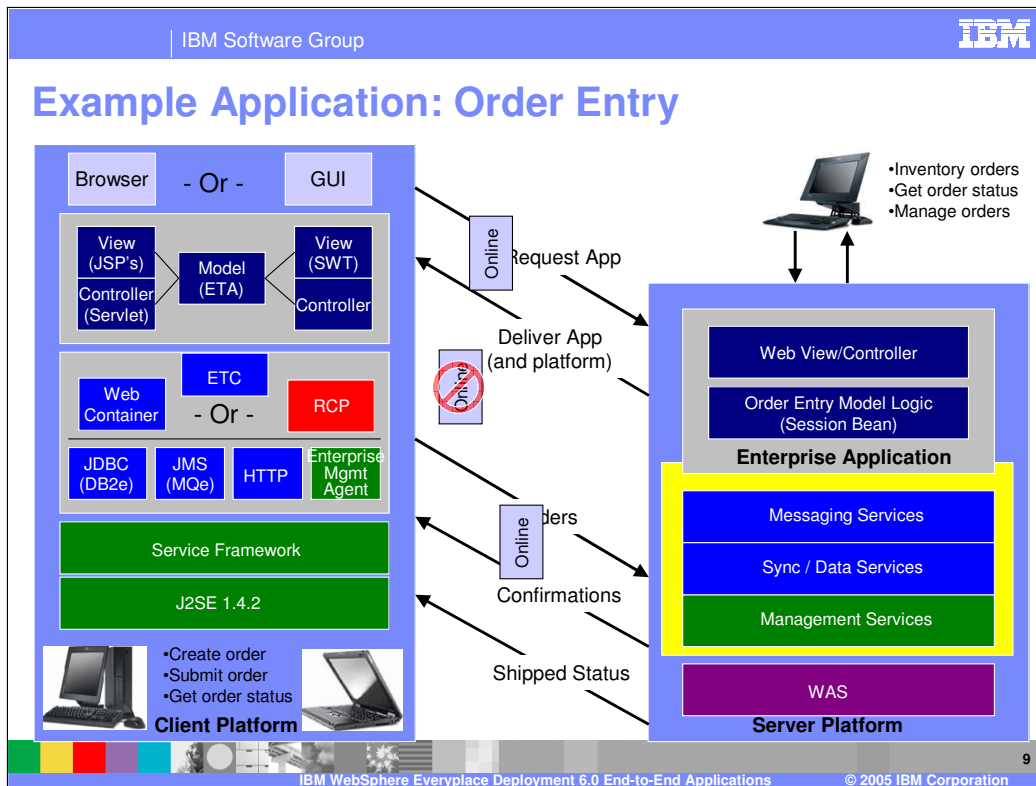


So let's review the key requirements from this scenario.

First, the business wants to extend their e-commerce Web applications to mobile laptops. To do so, they must utilize the existing skills of their Web application developers and re-use their existing software components as much as possible. These applications must also support online and offline operations so the business partners can be productive when meeting with customers in areas that do not have network connectivity. Therefore, these applications, including business logic, must run on laptops.

Second, the business partners want to deploy laptops to their sales representatives so they can deliver accurate and timely orders directly to their customers.

And lastly, the customers require more face time with the business partners and want better pricing and timely delivery of products.



So what does the application look like? Here you can see much of the existing Web application code can be migrated to the client platform so the application can run on a desktop or laptop.

A servlet controls the flow of the application and JSP's display the user interface of the application on the local Web browser. An Embedded Transaction Application (ETA) implements the business logic. The ETA uses JDBC with DB2 Everyplace to record each order and its current status. The ETA also uses JMS with MQ Everyplace to queue and transfer orders to the Enterprise application on the server. If the client is offline, these messages are queued on the client and then transferred to the Enterprise application when the client goes online. The Enterprise application also uses MQ Everyplace to queue and transfer the status of orders to the client application. If the client is offline, these messages are queued on the server and then transferred to the client application when the device goes online.

What if the business partners subsequently require a richer graphical user interface?

The service-oriented architecture of IBM WebSphere Everyplace Deployment Version 6 enables you to extend this application to use the Eclipse Rich Client Platform to support a rich GUI while continuing to use the existing business logic provided by the ETA.

Here is a practical example of how a business can use IBM WebSphere Everyplace Deployment Version 6 to extend one of their e-commerce Web applications to server-managed clients.

Benefits

- Support mobile users (online/offline)
- Improve application response time
- Reduce network traffic
- Distribute application workload
- Provide the appropriate user experience
- Access Enterprise applications, services and data

Moving application components to run on a client can have dramatic results for business. End-users benefit from improved application response time because applications perform business operations locally on the client. As a result, there is a reduction in network traffic between clients and servers, and in server workload. Furthermore, mobile end-users can continue to productively use their applications from their clients even when they are at a location that does not have network connectivity, such as a customer site. You can also utilize the local graphical user interface (GUI) capabilities of the client devices to deliver a richer user experience than can be supported by a Web browser. Through support of Access Services, client applications can access mission-critical applications, services and data in the Enterprise.

Section

New End-to-End Samples

Next, let's discuss the new end-to-sample applications provided by IBM WebSphere Everyplace Deployment Version 6.

New End-to-End Application Samples

- **Open Financial Network**
 - ▶ Demonstrates bank branch teller capabilities and coding best-practices using IBM WebSphere Everyplace Deployment Version 6
 - ▶ Implements the rich client user interface pattern
 - ▶ Uses Web Services, DB2e with ISync, and MQe end-to-end services
 - ▶ Provides documentation on installation / configuration and application design
- **Mobile Adjuster**
 - ▶ Demonstrates insurance industry capabilities and coding best-practices using IBM WebSphere Everyplace Deployment Version 6
 - ▶ Implements the browser user interface pattern
 - ▶ Uses Web Services, DB2e with ISync, and MQe end-to-end services
 - ▶ Provides documentation on installation / configuration and application design



To assist in the development of your applications, we have provided two new show case sample applications that demonstrate how to write end-to-end applications. The Open Financial Network is a sample application that demonstrates an end-to-end bank branch teller application, which utilizes the capabilities of the client and server platforms, including Web Services, DB2e Everyplace with synchronization, and WebSphere MQ Everyplace transaction messaging. This sample application uses the Eclipse RCP to implement the rich client user interface pattern.

Mobile Adjuster is a sample application that demonstrates an end-to-end insurance application that also utilizes the capabilities of the client and server platforms. This sample application is a Web application that implements the browser user interface pattern.

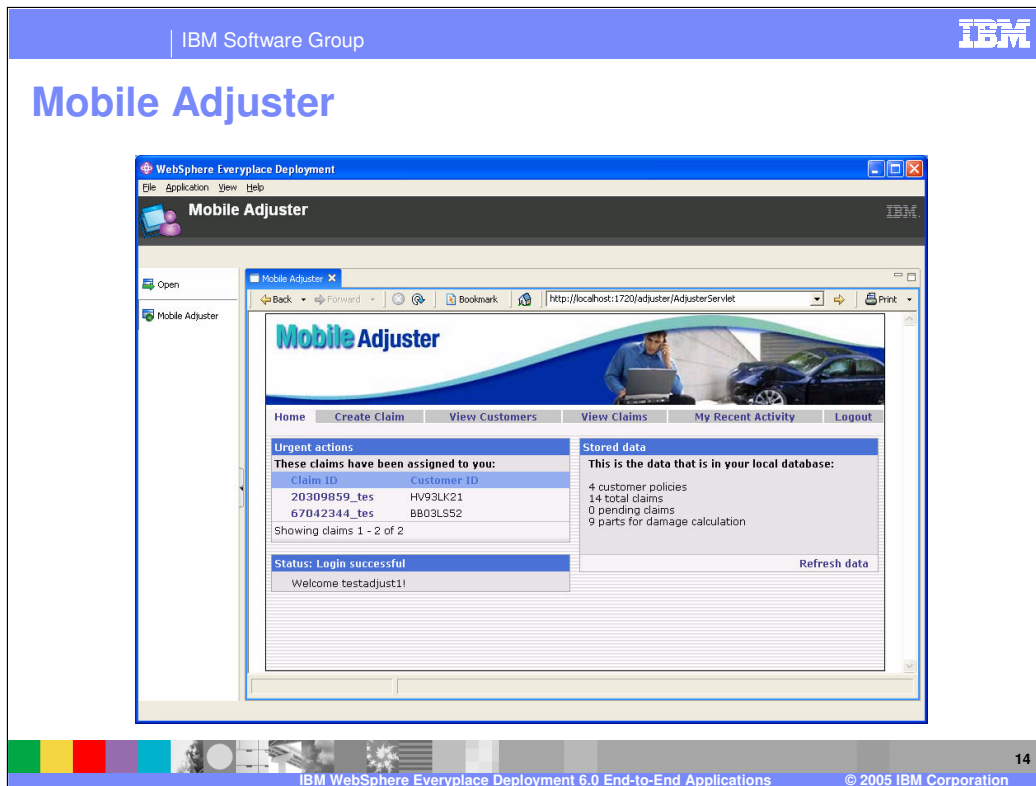
Both sample client applications can run on the on the same JVM, on the same WebSphere Everyplace Deployment for Windows and Linux client. Both server applications can run on the same WebSphere Everyplace Deployment server. With that said, these sample applications are not NLS enabled and translated.

Open Financial Network

The screenshot shows the 'Open Financial Network Teller' application interface. The top navigation bar includes 'Customer Profile', 'Account Details', 'Browser', 'Send Brochure', and 'About the OFN Teller Application'. The main content area displays the customer profile for Alice Sheen, with a star rating of five stars. Her address is 123 Anderson Lane, New York, NY-10001, USA. Her email is asheen@nyz.com, Home Phone is 123-456-7890, and Work Phone is 243-178-9527. Below the profile, there are two accounts listed: 29431110535 (Savings) and 29431110936 (Checking). A 'Journal' section is also present, showing a table of transactions for user 'sallyt' on business day '7/18/05'.

| Date | Datatype | Data | Description | Status | Result |
|------------------|--------------|--------------------------|------------------------------------|-----------|------------------|
| 7/18/05 11:40 AM | Logged In | Teller sallyt logged in. | sallyt has successfully logged in. | Completed | |
| 7/18/05 11:41 AM | Customer ... | Alice Sheen | Session Opened. | Completed | |
| 7/18/05 11:41 AM | Transaction | 29431110535 | Deposit \$2,000.00 | Completed | Trans:1141 |
| 7/18/05 11:42 AM | Transaction | 29431110535 | Withdrawal \$1,000.00 | Completed | Trans:1142 |
| 7/18/05 11:42 AM | Transaction | 29431110535, 29431110936 | Transfer \$500.00 | Completed | Trans:1143, 1144 |
| 7/18/05 12:49 PM | Logged In | Teller sallyt logged in. | sallyt has successfully logged in. | Completed | |
| 7/18/05 12:49 PM | Customer ... | Alice Sheen | Session Opened. | Completed | |

The Open Financial Network sample application demonstrates an end-to-end bank teller application running on the WebSphere Everyplace Deployment for Windows and Linux client platform and the WebSphere Everyplace Deployment server platform. It is a distributed application, consisting of a rich client teller application running on the client platform and a J2EE enterprise application running on the server platform. The client application supports customer/account queries and transactions (deposit, withdrawal & transfer). The server application manages customer and account data, which are stored in a persistent database, using Enterprise Java Beans (EJB). This end-to-end application utilizes key Access Services, including Web Services, transactional messaging, and data synchronization.



The Mobile Adjuster sample application demonstrates how an end-to-end enterprise Web application can run on the WebSphere Everyplace Deployment for Windows and Linux client platform and the WebSphere Everyplace Deployment server platform using IBM middleware. It includes DB2 Everyplace (DB2e) for data synchronization, WebSphere MQ Everyplace (MQe) for transactional messaging, and web services to employ a modular services-oriented architecture.

In the Mobile Adjuster sample scenario an insurance agent working in the office receives calls from customers who have had automobile accidents, creates claims, and assigns them to an adjuster. The insurance adjuster is mobile and travels around to see the cars and assess the damages. While on the road, the adjuster can review claim and customer information, create new claims or update existing claims, specify which parts have to be repaired or replaced, attach photos of the damages, and submit the claims for processing. If necessary, the adjuster can work while disconnected and then synchronize when reconnected to send and receive data from back-end servers.

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