



IBM Software Group | Lotus Expeditor 6.1.1 Education

# IBM Lotus® Expeditor Client for Desktop

## Access services

**Lotus** software



@business on demand software

© 2007 IBM Corporation

This presentation introduces the Access Services provided by the IBM Lotus Expeditor Client for Desktop.

## Goal

- Understand the access services provided by the IBM Lotus Expeditor Client for Desktop

The goal of this presentation is to understand the Access Services provided by the IBM Lotus Expeditor Client for Desktop.

## Agenda

- Access services
  - ▶ Web container
  - ▶ Portlet container
  - ▶ Web services for remote portlets
  - ▶ Transaction container
  - ▶ JNDI
  - ▶ Messaging
  - ▶ Database
  - ▶ Web services
  - ▶ Data sync framework
  - ▶ Security
  - ▶ Network awareness
  - ▶ Synchronization manager
  - ▶ Database life cycle

The agenda of this presentation is to provide an overview of the Access Services provided by the Expeditor Client for Desktop.

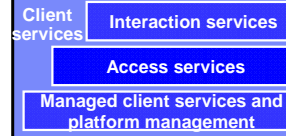
## *Section*

# ***Access services***

Here is the overview of the Access Services provided by the Expeditor Client for Desktop.

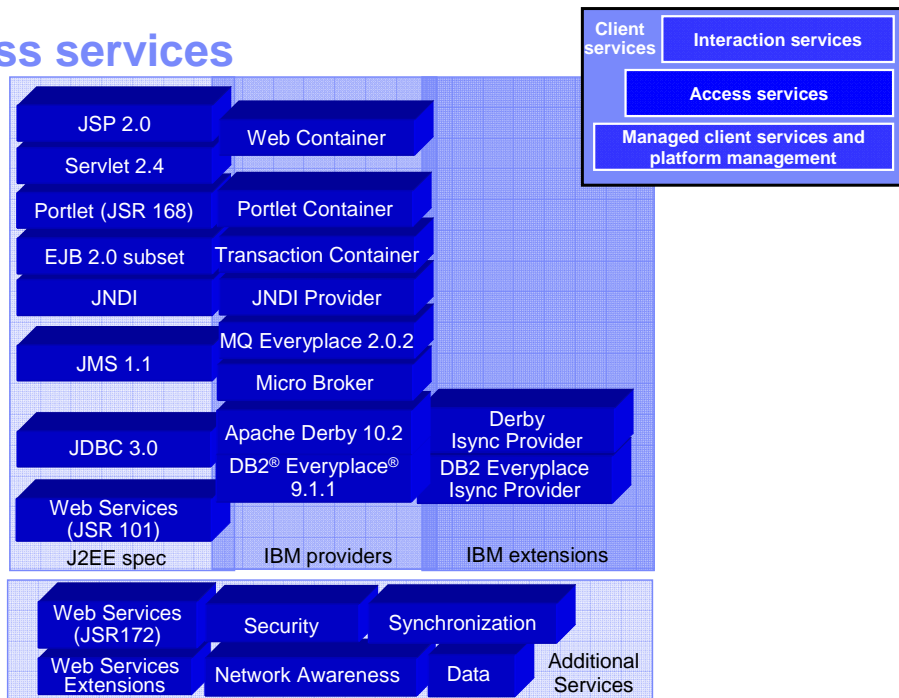
## Access services

- Value
  - ▶ Extend backend programming model “out” to desktops and devices
- Services
  - ▶ Web container
  - ▶ Transaction container
  - ▶ JNDI
  - ▶ Messaging
  - ▶ Database
  - ▶ Web services
  - ▶ Data sync framework
  - ▶ Synchronization manager
  - ▶ Portlet container
  - ▶ Network layer
  - ▶ Security
  - ▶ DB life cycle management
- Standards
  - ▶ Java™ 2 Enterprise Edition (J2EE) subset, J2SE, J2ME
  - ▶ W3C
  - ▶ Web services
  - ▶ OMA



Access Services provides the ability to extend the backend programming model “out” to desktops and devices. The access services provided by Expeditor client platform are Web Container, Embedded Transaction container, Portlet container, Messaging, Database, Web Services, Security, Synchronization, and others.

## Access services



Access Services provide a familiar programming model for J2EE developers so they can reuse their skills to develop applications that run on clients. Additionally, Access Services enable client applications to support offline operations. Access Services also enable you to move key components of your application to the client platform through the use of standard APIs.

This slide shows the access services included in the Expeditor client, and when applicable the J2EE specification they adhere to.

More details on each of the individual components in the next two slides.

IBM Software Group | Lotus Expeditor 6.1.1 Education IBM

## Access services

### J2EE affinity components

- Web container
  - ▶ Servlet 2.4 / JSP 2.0
  - ▶ Servlet 2.3 / JSP 1.2
  - ▶ JSF, JSTL, and Struts
- Embedded transaction container
  - ▶ EJB 2.0 subset
- Portlet container
  - ▶ JSR 168 Portlets
- Database
  - ▶ JDBC 3.0
  - ▶ DB2e or Derby
  - ▶ Supports offline operation by way of sync with enterprise databases

Client services

- Interaction services
- Access services
- Managed client services and platform management

7 Access services © 2007 IBM Corporation

Here are the specific Access Services that support affinity with the J2EE / WebSphere® programming model.

The client platform provides an embedded **Web container** from WebSphere Application Server to run Web applications that consist of JSP's and servlets. The Web container also supports applications that use Java Server Faces (JSF), JSP Standard Tag Library (JSTL), and Struts. As a result, the Web container enables you to move your Web applications from the server to clients to preserve the existing browser user interface, leverage your existing Web components, and provide a richer user experience through support of local and offline operations.

The client platform also provides an **embedded Transaction Container** to run Embedded Transaction Applications that conform to a subset of the EJB 2.0 specification, which includes support for stateless session beans and entity beans. This container enables you to move your business logic from the server to clients so you can leverage your existing beans to make business logic available to client applications, and support local and offline operations.

The client platform provides a **portlet container** to run JSR 168 portlets.

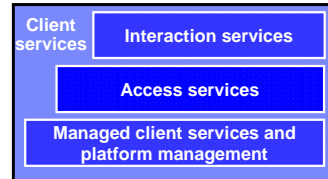
There are key services that support local and offline operations.

You can use the **JDBC 3.0** API with DB2 Everyplace or Derby as a local SQL database when more advanced data manipulations are required than can be supported by placing data in a local file store. These databases can periodically synchronize with Enterprise databases to capture data on the client for use by the client application when the user is offline. These databases can also protect local data through data encryption.

## Access services

### J2EE affinity components

- Point-to-point messaging
  - ▶ JMS 1.1
  - ▶ WebSphere MQe
  - ▶ Supports offline operation through local queuing of messages
  - ▶ Provides bridge to WebSphere MQ
- Publish and subscribe messaging
  - ▶ MQ Telemetry Transport (MQTT)
  - ▶ Micro Broker
  - ▶ Provides bridge to WebSphere MQ
- JNDI



Here are more of the specific Access Services that support affinity with the J2EE / WebSphere programming model.

You can use the Java Message Service (**JMS**) 1.1 API with WebSphere MQ Everyplace (MQe) to send and receive messages. MQe provides once-only, assured messaging and supports offline operations with local message queues that hold messages when the device is offline and then sends these queued messages to Enterprise applications when the device is back online. Similarly, messages destined for client applications are held in server-side message queues and then sent to the client applications when the device is back online. MQe encrypts messages to protect content over the network. As a result, the client platform enables your users to conduct secure e-business transactions.

WebSphere MQe provides a bridge to WebSphere MQ to connect your client applications to the Enterprise Service Bus.

The client platform provides both enterprise class messaging through the Java Message Service (JMS) with WebSphere MQ Everyplace (MQe) and the Micro Broker with the MQ Telemetry Transport (MQTT) Java client APIs.

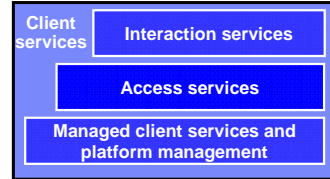
Micro Broker supports publish and subscribe messaging.

**JNDI** provides a name space so applications can utilize named objects.



## Access services Additional components

- Axis Web services
  - ▶ Apache Axis 1.4
  - ▶ JAX-RPC compliant
- Mobile Web services
  - ▶ Web services client (similar to JSR 172)
  - ▶ Web services provider (host Web services)
  - ▶ WS-Security
  - ▶ Enables support of additional data types



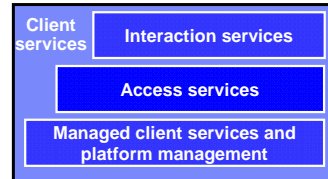
Some additional Access services components are listed on this slide.

For online operations, the client platform supports **Web Services** so client applications can consume and provide Web Services in a secure manner. As a result, your users have access to a broad range of business data and consumer information. The client platform implements Web Services similar to those defined in JSR 172 and provides support for document literal encoded streams that exchange well-typed data objects so client applications can consume Web Services. You can also develop an OSGi service and, during registration of the service, indicate that it is also available as a Web Service. For the desktop client, you can also use Axis Web Services so client applications can consume Web Services, with full support for JAX-RPC (JSR 101).

## Access services

### Additional components

- SyncML4J Framework
  - ▶ Open Mobile Alliance SyncML specification
- Network layer
  - ▶ Status of the network
- Security
  - ▶ Keystore
  - ▶ Accounts
  - ▶ Single sign-on
- Synchronization manager
  - ▶ Initiate, control, and monitor synchronization of local data stores using one or more synchronization services.
- DB life cycle management
  - ▶ Uniform interoperability with different relational databases



More of the Access services available include: The **SyncML4J** (SyncML for Java) toolkit, which enables you to develop data synchronization client applications.

The **Network Layer** API, which enables you to determine the status of the network and remote resources when running your applications.

**Security** services support, which includes: a key store, which provides an encrypted local repository for user security information; accounts, which allows access to user account information (for example, user ID and password); and single sign-on, which minimizes logon prompts.

Additional services include: **database lifecycle management**, which provides uniform interoperability with different relational databases; and **synchronization manager**, which allows users and applications to initiate, control and monitor synchronization of local data stores using one or more synchronization services.

## For more information...

- To get more information on specific access services, select from the following sub-topics:
  - ▶ Web container and applications
  - ▶ Embedded transaction container and JNDI
  - ▶ Messaging
  - ▶ Database
  - ▶ Web services
  - ▶ Portlet container and WSRP
  - ▶ Composite applications
  - ▶ Synchronization manager
  - ▶ Network layer
  - ▶ DB life cycle management
  - ▶ Security

More information can be found on specific Access Services in the listed sub-topic education sessions.

## Feedback

### Your feedback is valuable

You can help improve the quality of IBM Education Assistant content to better meet your needs by providing feedback.

- Did you find this module useful?
- Did it help you solve a problem or answer a question?
- Do you have suggestions for improvements?

Click to send e-mail feedback:

[mailto:iea@us.ibm.com?subject= Feedback about xpdv6.1.1\\_access\\_services.ppt](mailto:iea@us.ibm.com?subject= Feedback about xpdv6.1.1_access_services.ppt)

You can help improve the quality of IBM Education Assistant content by providing feedback.

## Trademarks, copyrights, and disclaimers

The following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both:

DB2            Everyplace        IBM            Lotus            WebSphere

Access, and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

EJB, J2EE, J2ME, J2SE, Java, JDBC, JSP, and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Product data has been reviewed for accuracy as of the date of initial publication. Product data is subject to change without notice. This document could include technical inaccuracies or typographical errors. IBM may make improvements or changes in the products or programs described herein at any time without notice. Any statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. References in this document to IBM products, programs, or services does not imply that IBM intends to make such products, programs or services available in all countries in which IBM operates or does business. Any reference to an IBM Program Product in this document is not intended to state or imply that only that program product may be used. Any functionally equivalent program, that does not infringe IBM's intellectual property rights, may be used instead.

Information is provided "AS IS" without warranty of any kind. THE INFORMATION PROVIDED IN THIS DOCUMENT IS DISTRIBUTED "AS IS" WITHOUT ANY WARRANTY, EITHER EXPRESS OR IMPLIED. IBM EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IBM shall have no responsibility to update this information. IBM products are warranted, if at all, according to the terms and conditions of the agreements (for example, IBM Customer Agreement, Statement of Limited Warranty, International Program License Agreement, etc.) under which they are provided. Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products in connection with this publication and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products.

IBM makes no representations or warranties, express or implied, regarding non-IBM products and services.

The provision of the information contained herein is not intended to, and does not, grant any right or license under any IBM patents or copyrights. Inquiries regarding patent or copyright licenses should be made, in writing, to:

IBM Director of Licensing  
IBM Corporation  
North Castle Drive  
Armonk, NY 10504-1785  
U.S.A.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

© Copyright International Business Machines Corporation 2007. All rights reserved.

Note to U.S. Government Users - Documentation related to restricted rights-Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract and IBM Corp.

