



IBM Software Group

WebSphere Portlet Application Integrator

WebSphere Portal Server v5.1

Lotus software



IBM Proof of Technology

IBM Product Introduction + Exploration

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Session Objectives

- After completing this session, you should be able to:
 - ▶ Provide an overview of WPAI.
 - ▶ Review existing architecture and benefits.



Agenda

- Introduction to WebSphere Portal Application Integrator
- Benefits
- Architecture
- Using the WPAI
- Portlet Builder



WPAI Overview

- WPAI designed for rapidly creating Portlets for:
 - ▶ Back-end business applications and data:
 - Enterprise Information Systems – SAP, Siebel, PeopleSoft, Oracle, etc.
 - Relational Databases – DB2, Oracle, Informix, SQL Server, etc.
 - Other applications – Domino, Ariba, Documentum, etc.
- WPAI Goals
 - ▶ Large number of portlets providing access to data and applications from major enterprise applications
 - ▶ Simple and easy to use portlet builder **for Business Power Users**
 - Creation of new portlets
 - Configuration and customization of portlets without programming
 - ▶ Provide similar function in Studio **for Developers**
 - Provide a good starting point for development
 - Allow for complete customization of portlets



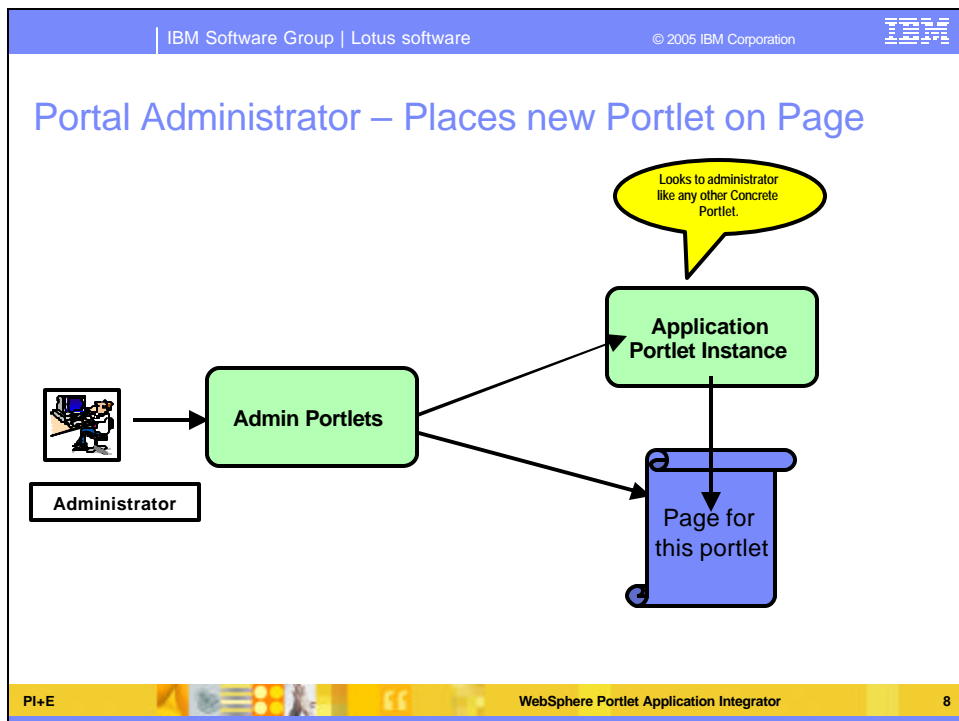
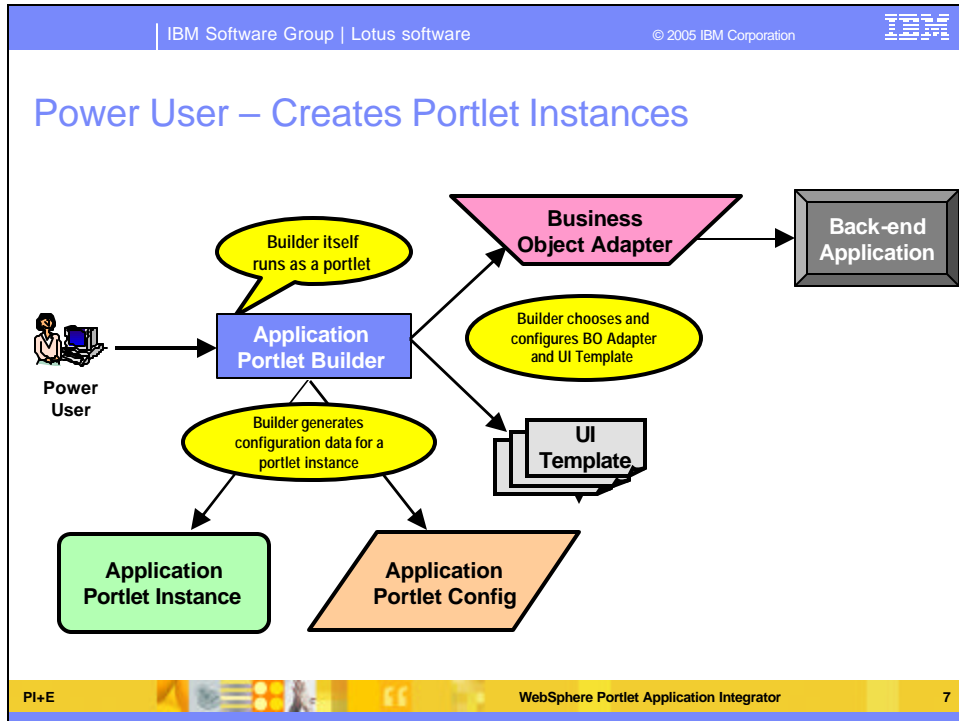
Deliverables

- Out-of-the-box portlets
 - ▶ Portlets can be installed and used immediately
- Portlet Builders
 - ▶ Business power users use these portlets to create new portlets.
 - ▶ No need for programmers to write low-level functions for connections, security, data beans, etc.
- Improved usability and security
 - ▶ Single sign-on using the portal credential vault
 - ▶ Automatic support for Click-2-Action and People Awareness
 - ▶ Enabled for pervasive access



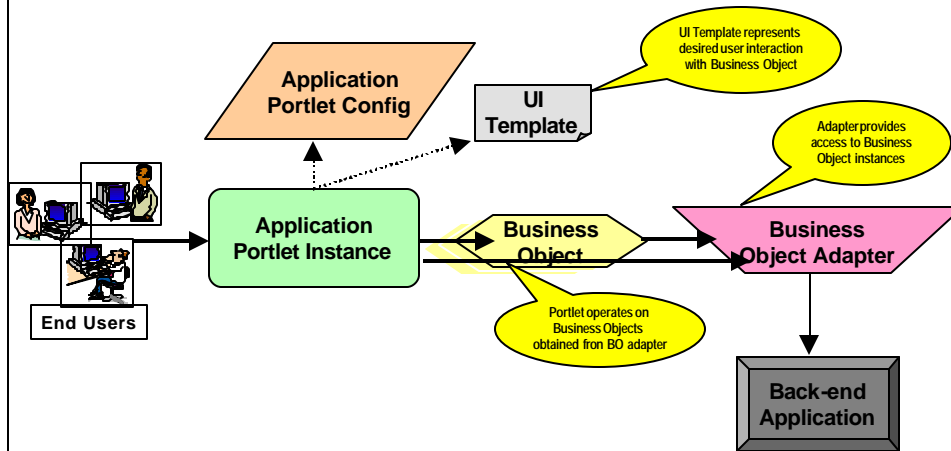
Architecture

- Two-layered architecture
 - ▶ Business Object Adapter Layer
 - Encapsulates back-end specifics
 - As repositories of business objects with a common set of methods for accessing and manipulating
 - ▶ UI Template Layer
 - Implements generic user interfaces that allow users to work with business objects in different ways
- Looser coupling between user interface and back-end specifics
 - ▶ Allows user interfaces to be reused across back-ends





End User – Executes Portlet Instances



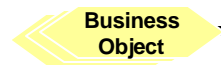
Business Object Adapters

**Business
Object Adapter**

- Adapters are implemented per back-end application
- Are responsible for communication to back-end by using J2EE resource adapters (J2EE Connector Architecture - JCA) in WAS etc.
- Are used by Portlet Builders to discover and explore the Business objects available, and to determine the parameterization needed
- Are used by the Application Portlet instances as Business Object factories
- WebSphere Portal supplies Business Object Adapters for
 - ▶ SAP
 - ▶ Siebel
 - ▶ JDBC
 - ▶ Domino
 - ▶ PeopleSoft



Business Objects – what are they ?



- Business Objects are representations of objects in a “Back-End” system, all Business Objects, of whatever Type (JDBC, Domino etc) have certain common characteristics
- They have a fixed set of valid operations associated with them
 - ▶ Create, Retrieve, Update and Delete
- They consist of collections of properties and metadata about the properties
 - ▶ Name
 - ▶ Label (locale specific)
 - ▶ Type – String, Integer, Float, etc.
 - ▶ Including WPAI Compliant Model – we allow for nested Models
 - ▶ Is a key field
 - ▶ Is a primary key field
 - ▶ Is a required field
 - ▶ Is a computed field
 - ▶ Can have multiple values



UI Templates



- UI Templates are generic user interfaces that allow users to work with Business Objects; e.g.,
 - ▶ Self-service template allows users to view Business Object instances they are permitted to see and update them if allowed
 - ▶ Search-and-browse template allows users to search and view details of Business Object instances to locate information they require
- UI Templates rely on homogeneity of Business Objects:
 - ▶ All Business Objects support the same fixed set of methods
 - ▶ All Business Objects have the same set of meta-data attributes
- UI Templates may allow for customization in a manner that is specific to them; e.g.,
 - ▶ Different look-and-feel schemes
 - ▶ Ability to disable/enable sub-functions



Application Portlet Instance

Application Portlet Instance

- Portlet instances bind the following:
 - ▶ A customized UI Template
 - ▶ A customized Business Object type obtained from a specific Adapter
- Customization of Business Objects involves overriding and/or augmenting meta-data attributes associated with its fields; e.g.,
 - ▶ Making some fields invisible
 - ▶ Selecting which fields appear in a summary view
- WPAI ships with a number of pre-built instances with Adapters
 - ▶ Provide out-of-the-box function for customers
 - ▶ Cover commonly used functions of back-end applications



Application Portlet Builder

Application Portlet Builder

- Designed for Business Power Users
 - ▶ No coding effort
 - ▶ Point-and-click interface
- One builder per back-end application
 - ▶ E.g., Siebel builder, PeopleSoft builder, etc.
 - ▶ Manages all portlet instances corresponding to back-end application
- Can customize pre-built portlet instances
 - ▶ Change UI Template settings
 - ▶ Change Business Object meta-data attributes
- Can create new portlet instances
 - ▶ Select Business Object type and set/change meta-data attributes
 - ▶ Select UI Template and set/change settings



Security in the WPAI

- Can select from following schemes for Application Portlet Instances
 - ▶ Single back-end user id and password for all users
 - ▶ Back-end user id and password same as the one for Portal
 - ▶ Implicit use of portal credential vault
 - Slot automatically created for back-end user id/password
 - ▶ Explicit use of portal credential vault
 - Specific slot used for retrieving back-end user id/password
- Application Portlet Builder
 - ▶ Requires super-user id/password
 - ▶ Needs to be able to discover all Business Object types and associated meta-data attributes



Summary

- Seen Architecture of WPAI
- How Portlet Builders are used to construct new Portlets without programming.



Lab 2.5 – WebSphere Portal Application Integrator:

- Lab Key points
 1. Using the JDBC Builder to create a Portlet
 2. Retrieving Data from a DB2 Data source
 3. Adding 'People Awareness' to your Portlet

