



IBM Software Group

## Technical Overview

*WebSphere Portal Server v5.1*

Lotus software



ON DEMAND BUSINESS™

## IBM Proof of Technology

IBM Product Introduction + Exploration

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## Session Objectives

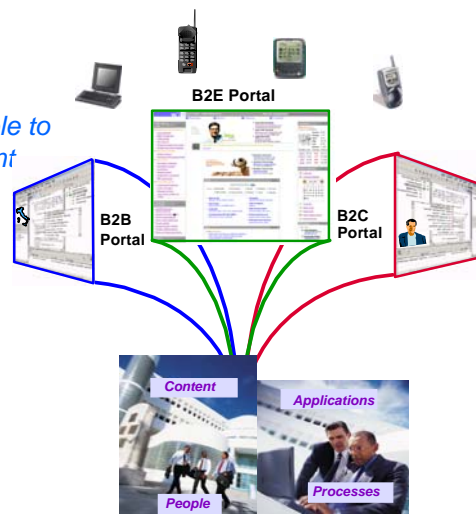
- After completing this session, you should be able to:
  - ▶ Understand the Benefits of implementing a Portal solution
  - ▶ Comprehend the Portal Architecture
  - ▶ Understand the portal solution components
  - ▶ WebSphere Portal Offerings Information
  - ▶ Links to References Materials

## A Background on Portal

## Portal Definition

*Delivers a single, universal point of access that is integrated, highly customizable, extensible and scalable to interact with key applications, content people and business processes.*

- Provides access to all needed applications and content to do a job quickly and securely
- Provides an interface customizable by user
- Supports personalized content
- Delivers a collaborative working environment
- Access through multiple devices



## The Unified Portal Workplace



- Portal, the new standard user interface
- Access to applications through a Portal rather than a desktop
- Faster delivery of applications at a reduced cost
- Provide access to services for users previously un-served.
  - For example, Portal Document Manager with Productivity Components provides basic revisable text, spreadsheet and presentation editors for those users that may not be able to justify a full office suite

## The Evolution of the Portal Technology

- First generation
  - Deliver web content, news feeds, static content
- Second generation
  - personalization/customization on a "do it yourself" basis
- Third generation
  - Application integration, collaboration
- Fourth generation
  - Legacy applications, multiple devices, automated personalization through rules, open framework for multiple services
  - WebSphere Portal!



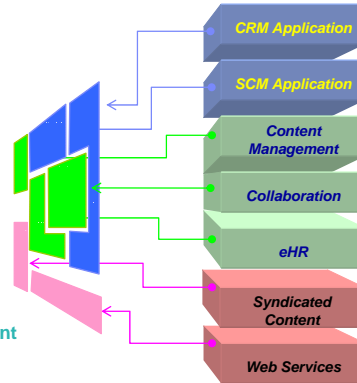
## Benefits and Capabilities of WebSphere Portal

### User Perspective



- Collaboration
- Customization
- Personalization
- Dynamic Navigation \*
- Single Sign On
- People Awareness

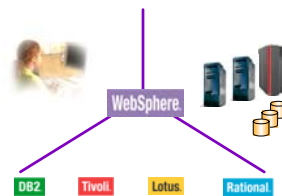
Secure Access  
Rapid, Role-based Deployment  
Scalability & Reliability



### IT Perspective

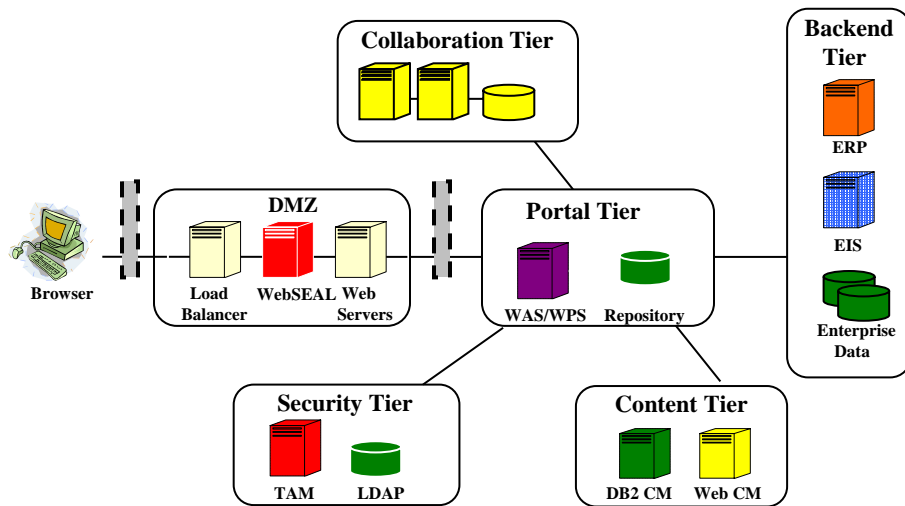
## Why WebSphere Portal?

- Eliminates the need to code your own middleware!
  - Costly; need to maintain a "custom portal" with resources and time
  - Time that could be better spent expanding the Enterprise
- Dynamic Administration
  - No need to schedule "downtime"
  - Configuration changes and deployments are dynamic!
- Benefit of Open Standards
  - Integration with Enterprise Systems
  - Existing Enterprise Apps do not need to be rewritten
- Proven Technology. It works – performs - and scales!
  - If it doesn't, you have IBM Services and Support ☺
- Provides the Presentation layer for your Enterprise

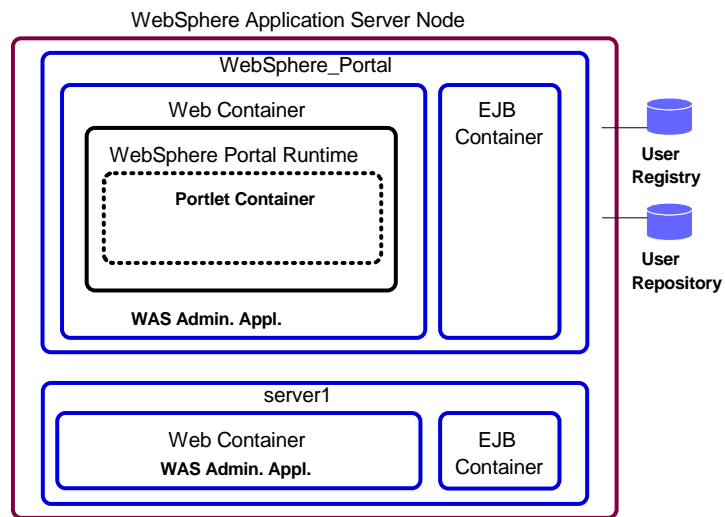


## Architecture & Security

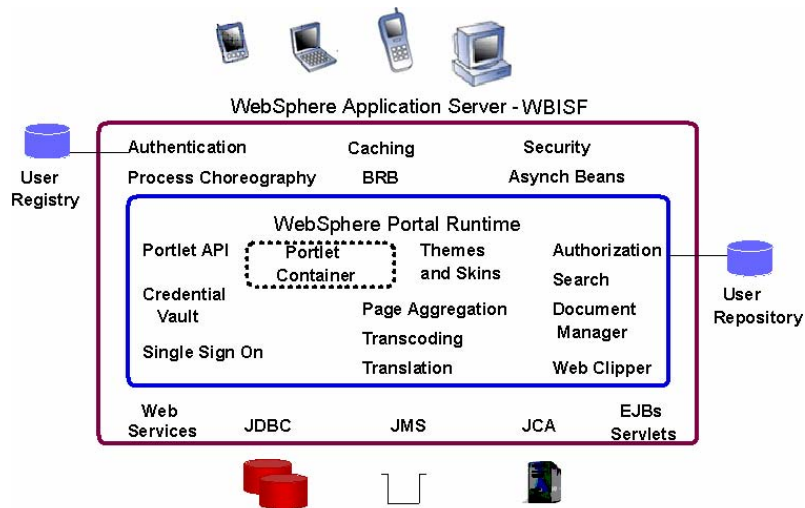
## WebSphere Portal Production Architecture

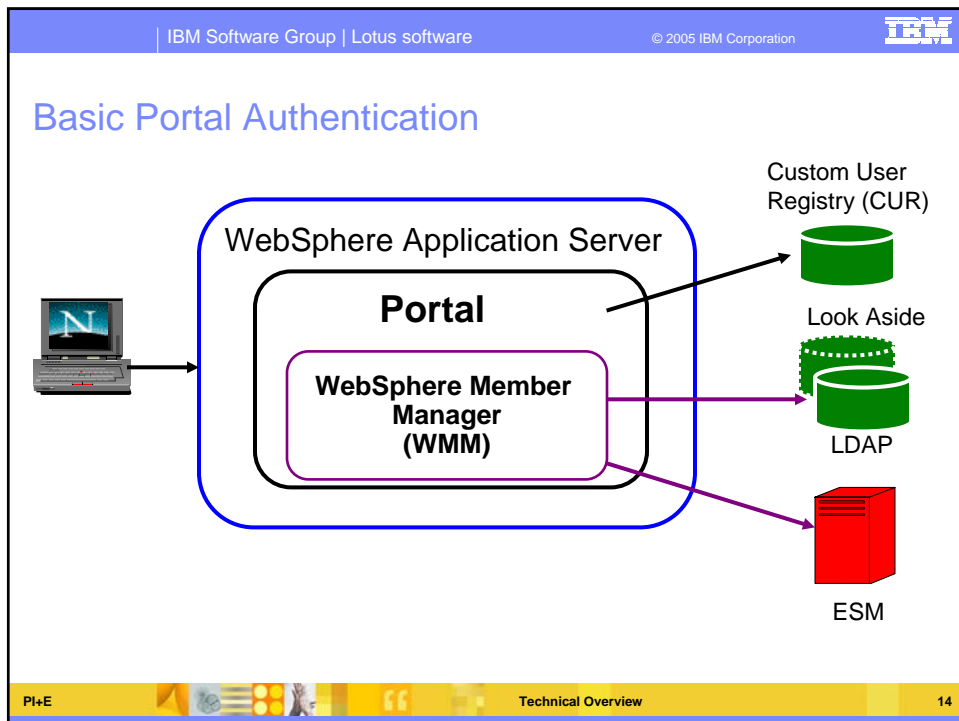
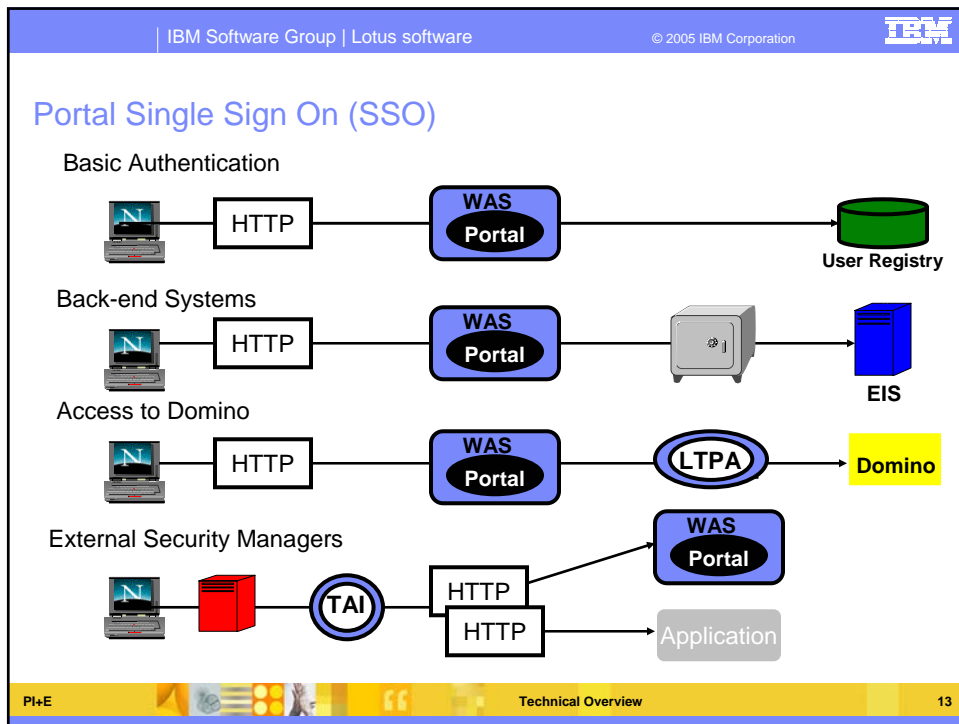


## WebSphere Portal: An Application Server

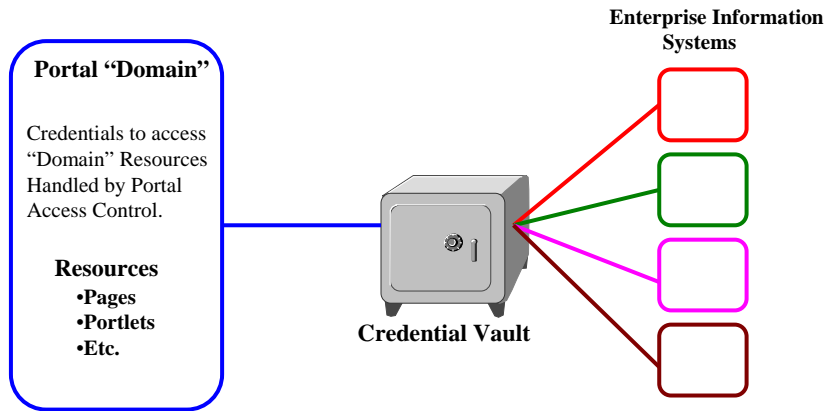


## WebSphere Portal Conceptual Architecture

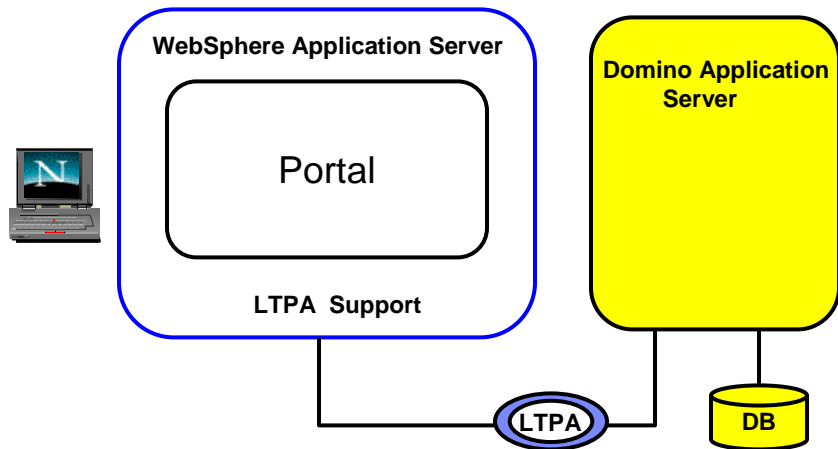




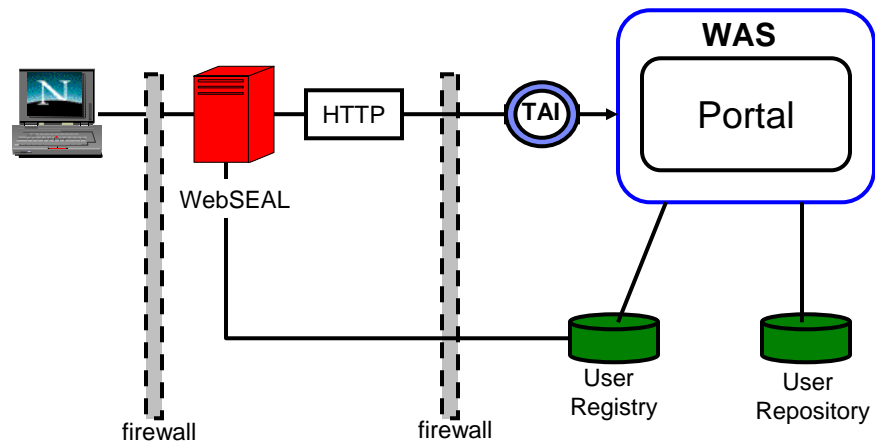
## Accessing Non-Portal Resources



## LTPA Authentication



## External Security Managers



TAI – Trust Association Interceptor

## A Portal Page

## Portlet Principle

### Each portlet is a separate Web application

- Developed independently
- Can be placed anywhere on the page
- Dynamic deployment; dynamic configuration

### Portlets support multiple markups

- Phones, Organizers, Voice
- Unique views for each device
- Business logic can be shared

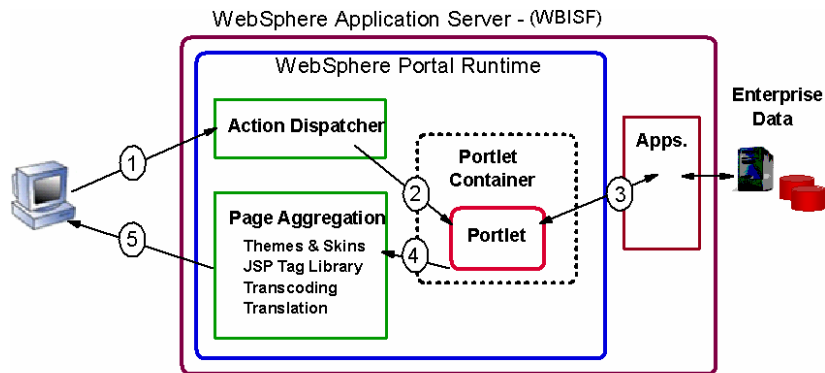
The screenshot displays three distinct portlets on a web page. The 'My Weather' portlet shows weather forecasts for Raleigh, North Carolina (56° Overcast), Stuttgart, Germany (50° RainShower), and Beijing (Peking), China (33° Snow). The 'Project 'Orlando'' portlet lists project members and their roles, such as Lee Jackson as owner and Chris Reckling as project manager. The 'My Stock' portlet displays stock prices for IBM, \$COMPQ, \$DJ1, \$SPX, \$N225, and \$GDAX, along with their respective changes and percentages.

## Portlet Perspective

- End User: a window to display their preferred content
- Content Provider: a means for targeting content to the end user.
- Portal Administrator: a WAR file
- Portal Server: a component rendered and aggregated into one of its pages
- Developer: a java application whose lifecycle is managed by the container



## Portal Conceptual Flow



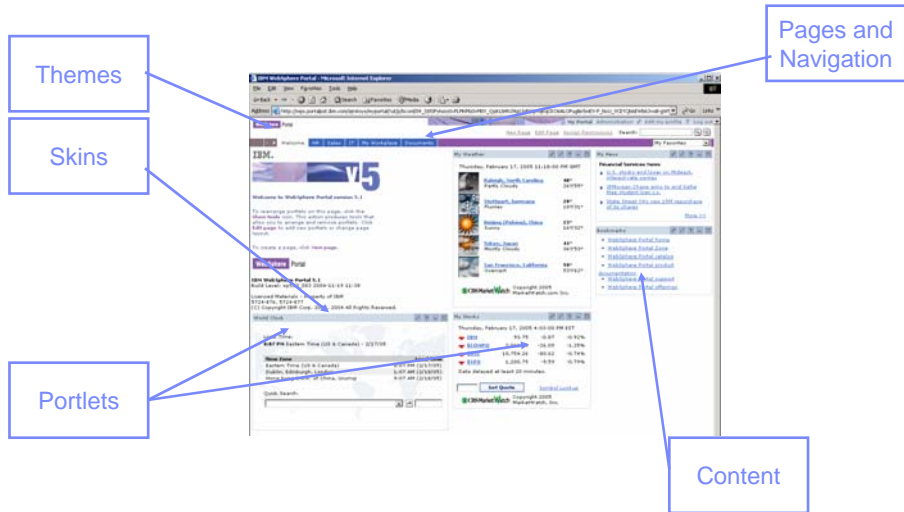
1. User clicks on portlet, request sent to action dispatcher function
2. Dispatcher sends input to portlet as a request object
3. Portlet accesses application that accesses data and returns to Portlet
4. Portlet generates markup fragments and passes to page aggregation
5. Page aggregation builds page and returns to the browser

## Portal Page Aggregation Process

### Page Aggregation Servlet

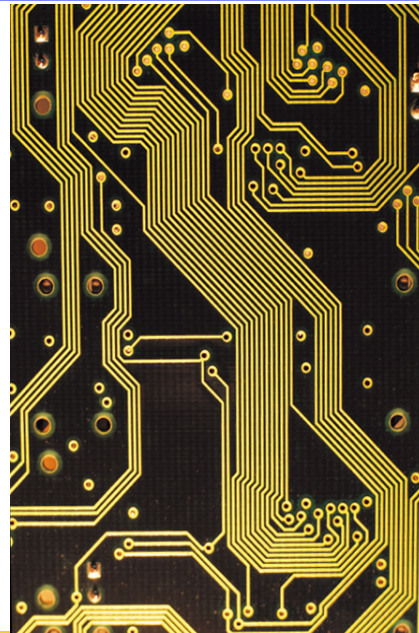
- STEP 1** Servlet examines the request to determine device type, user and language
- STEP 2** Security settings are checked to determine which pages and portlets the user is authorized to see
- STEP 3** Layout system is called for the target markup. JSP templates define the overall page, rows, columns and decorations. Themes and Skins define the look and Feel
- STEP 4** Processes portlet messages and sends events to other portlets. All events must be completed in this phase.
- STEP 5** **STEP 5** **STEP 5** Portlets render themselves in parallel

## Building A Portal Page



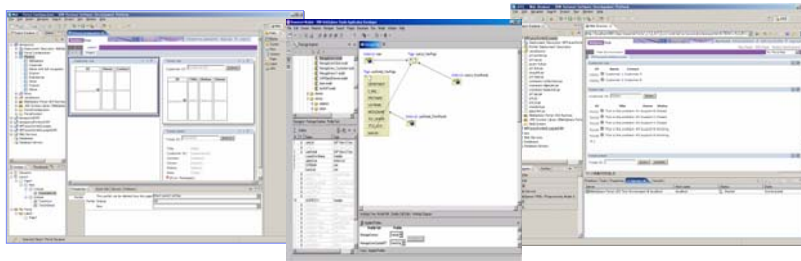
## Standards Initiatives

- JSR 168 (portlet API) deals with portlet lifecycle
  - <http://jcp.org/jsr/detail/168.jsp>
- WSRP 1.0 (web services for remote portals) deals with visual web services in portals
  - <http://oasis-open.org/committees/wsrp/>
- JSR 170
  - PDM fully supports JSR170
  - Java Content Repository
- JSR 127
  - Java Server Faces (JSF)
- These initiatives are closely related
  - Portlets written to JSR 168 can be published automatically as WSRP services



## Tooling for Portal Development

- Rational Application Developer
  - An open, comprehensive development environment for building e-business applications
  - Portal Tools are fully integrated to support portal and portlet development
  - Provides Portal Test Environment for WP 5.0.2.2 and WP 5.1
- Bowstreet Portlet Factory
  - Rapid Application Development (RAD) tool using reusable components



## Features & Solution Components

## Member Manager

- Subcomponent responsible for accessing the user registries
  - User and Group Management
  - Authentication
- Configurable both to retrieve/store additional
- Tuned to improve performance and user lookups
- Support for multiple “realms”
- Files located in:
 

```
<WPS_ROOT>/wmm/wmm.xml
```



## Collaboration Center

**WebSphere Portal**

Welcome | My Workplace | Documents | Web Content Management | Personalization | My Finances

Mail | Web Conferences | Team Spaces | Domino Databases | Administration

**Welcome to the Lotus Collaboration Center**

The Lotus Collaboration Center 5.1 provides a model for collaboration using portlet applications for Domino, Lotus Team Workplaces (formerly QuickPlace), Lotus Instant Messaging and Web Conferencing (formerly Sametime), Domino Document Manager (formerly Domino.Doc) and Lotus Workflow. The Lotus Collaboration Center offers a bridge between J2EE and open standards and Domino by providing the means to connect to your Domino infrastructure using a web browser and the WebSphere Portal server.

Both new and updated applications are provided. These applications include standard Notes and Domino features such as e-mail, calendar and scheduling, discussion, teamrooms, and to-dos, as well as the Notes View (Notes and Domino) application, that lets you work with the documents from any view of any Domino database. As with all portal solutions, the Collaboration Center is easily customizable.

The applications, based on the Domino Extended Product 6.5.x, products support each other -- help and Lotus Web sites provide documentation that help you started learning how to install and configure all to a pilot situation. In addition to the WebSphere 1 and Extended Products 6.5.1 Integration Guide at the [WebSphere Portal Zone](#).

The Lotus Team

## Cooperative Portlets

- Inter-portal Communication (messaging)
  - Wiring or through click to action
- Regulated by the Property Broker
- Now support for JSR 168 by implementing an “extension” to the standard

| Order_ID     | Customer_ID | Status   |
|--------------|-------------|----------|
| 102005000001 | 3040277     | ON_TIME  |
| 102005000003 | 3040368     | COMPLETE |
| 102005000002 | 8200472     | COMPLETE |
| 102005000004 | 2867377     | ON_TIME  |
| 102005000005 | 2867377     | DELAYED  |

## WebSphere Portal Application Integrator (WPAI)

| Field                               | Display name | Field behavior | Summary                             | Searchable                          | Person                              |
|-------------------------------------|--------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | FIRSTNAME    | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | FULLNAME     | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | LASTNAME     | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/>            | LOCATION     | Allow update   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <input type="checkbox"/>            | MANAGERID    | Allow update   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> | SALARY       | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | SERIAL       | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | SSN          | Allow update   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| LASTNAME   | FULLNAME          | SALARY  | SERVICEYEARS | SSN       |
|------------|-------------------|---------|--------------|-----------|
| Team00     | Portal Team00     | 76000   | 6            | 111111111 |
| Team04     | Portal Team04     | 86500   | 10           | 222222222 |
| Instructor | Portal Instructor | 87000   | 11           | 333333333 |
| Team33     | Portal Team33     | 1100000 | 33           | 444444444 |
| Team25     | Portal Team25     | 60000   | 5            | 555555555 |
| Team13     | Portal Team13     | 95000   | 15           | 666666666 |
| Team40     | Portal Team40     | 59000   | 1            | 777777777 |
| Team09     | Portal Team09     | 65500   | 4            | 888888888 |
| Team05     | Portal Team05     | 120000  | 35           | 999999999 |

Pre-built Portlets and connectors to Enterprise Information Systems

- SAP, PeopleSoft, Siebel, Oracle

Portlet Builders for making new portlets

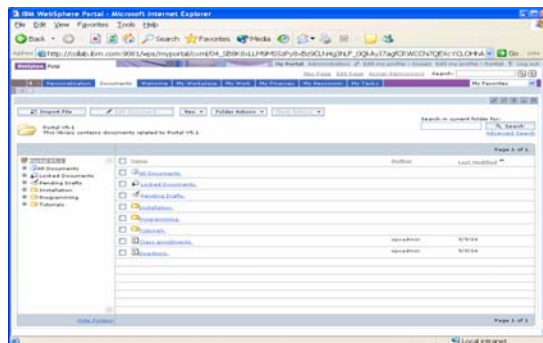
- SAP, PeopleSoft, Siebel, JDBC, Domino
- Execute transactions using the backend system's APIs, SDOs
- Business users can make new portlets easily

Framework creates the user interface and controller automatically

- Consistent user interface – JSF
- Automatically enabled for click-to-action, people awareness, accessibility, etc.

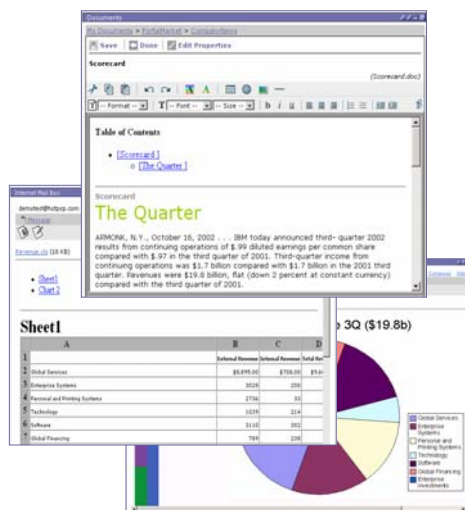
## Portal Document Manager

- Centralized location for all documents
  - JSR 170 (JCR)
  - Edit, Create, Manage, Delete Documents
- Allows from “bulk imports” from other content repositories
- Document Conversion Services



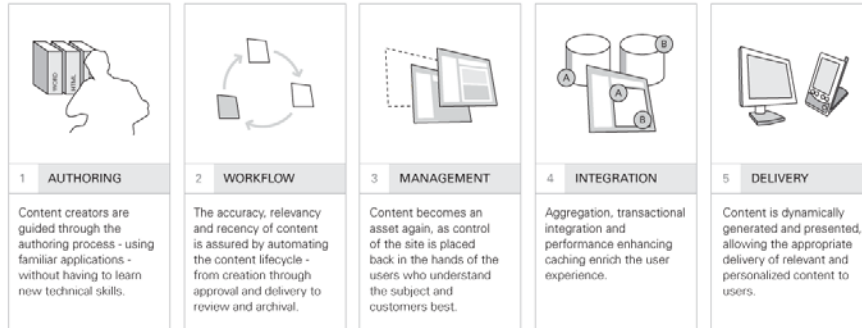
## Portal Productivity Components

- Rich Text, Spreadsheet or Presentations
- Integrated with Document Manager and Common Mail
- Spell Check functionality
- Documents can be saved to Document Repository
- Attachments



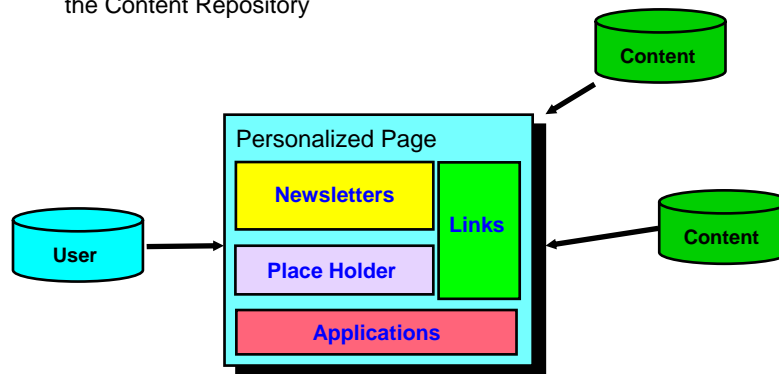
## IBM Workplace Web Content Management

### End to End Content Management



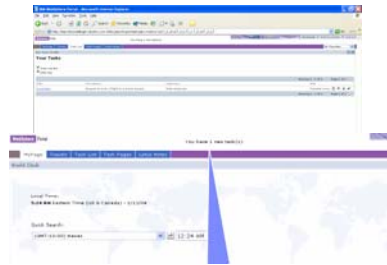
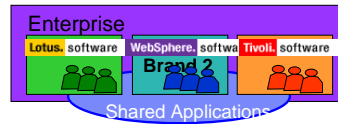
## Personalization in Portal

- Administrator defined based on rules applied to a user profile
- Personalized Content can come from a variety of sources including the Content Repository



## Added to Portal v5.1

- Support for Virtual Portals
- IBM Common Mail
- “Task List” and “Process Portals”
- Support for Java-Server-Faces and Service Driven Beans
- True integration with IBM Lotus Workplace Web Content Management
- Enhancements to Search and Document Management
- Java 2 Security Enablement
- Install/Config, Deployment and Performance improvements



## Works with your Environment

- Platforms
  - AIX, Linux (Intel, iSeries, pSeries, S/390, zSeries), HP-UX, Solaris and Windows
- Databases
  - DB2, Oracle, SQL Server, Cloudscape\*
- Directories
  - LDAP (multiple vendors), Custom User Registry
- Applications
  - Enterprise Information Systems through JCA Connectors.
  - Web Services

## WebSphere Portal Offerings

### Extend

- Lotus Collaboration Center
- Lotus Domino Enterprise Server
- Lotus Instant Messaging
- Lotus Team Workplace
- Lotus Extended Search
- Tivoli Web Site Analyzer

### Enable

- WebSphere Portal
- WebSphere Application Server, WBISF \*
- DB2 Enterprise Edition \*
- Portal Personalization
- Lotus Collaborative Components
- Tivoli Directory Server
- Rational Application Developer
- Document Manager
- WebSphere Translation Server
- IBM Lotus Workplace Web Content Manager
- Cloudscape
- Member Manager

### Workplace Services Express (WSE)

- WebSphere Portal
- WebSphere Application Server, WBISF\*
- WebSphere Studio Site Developer
- Tivoli Directory Server
- Lotus Instant Msg. and Team Workplace

## Reference Materials

- WebSphere Portal Family  
<http://www.ibm.com/websphere/portal>
- WebSphere Portal and Lotus Workplace Catalog  
<http://catalog.lotus.com/wps/portal/portalworkplace>
- WebSphere Portal Zone for developers  
<http://www.ibm.com/websphere/developer/zones/portal>
- WebSphere Portal Forum  
<news://news.software.ibm.com/ibm.software.websphere.portal-server>
- WebSphere Portal Education  
<http://www.ibm.com>
- WebSphere Portal Monitor – Wily Portal Manager  
<http://www.wilytech.com>
- WebSphere Studio Application Monitor (WSAM) Portal Monitor  
[http://cyanea.com/news\\_subnav\\_01\\_press\\_releases\\_14.html](http://cyanea.com/news_subnav_01_press_releases_14.html)

## Session Summary

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