



e-business software

The difference  
is WebSphere.



# IBM WebSphere

## *Portal Server V1.2*

---

## Overview and Architecture

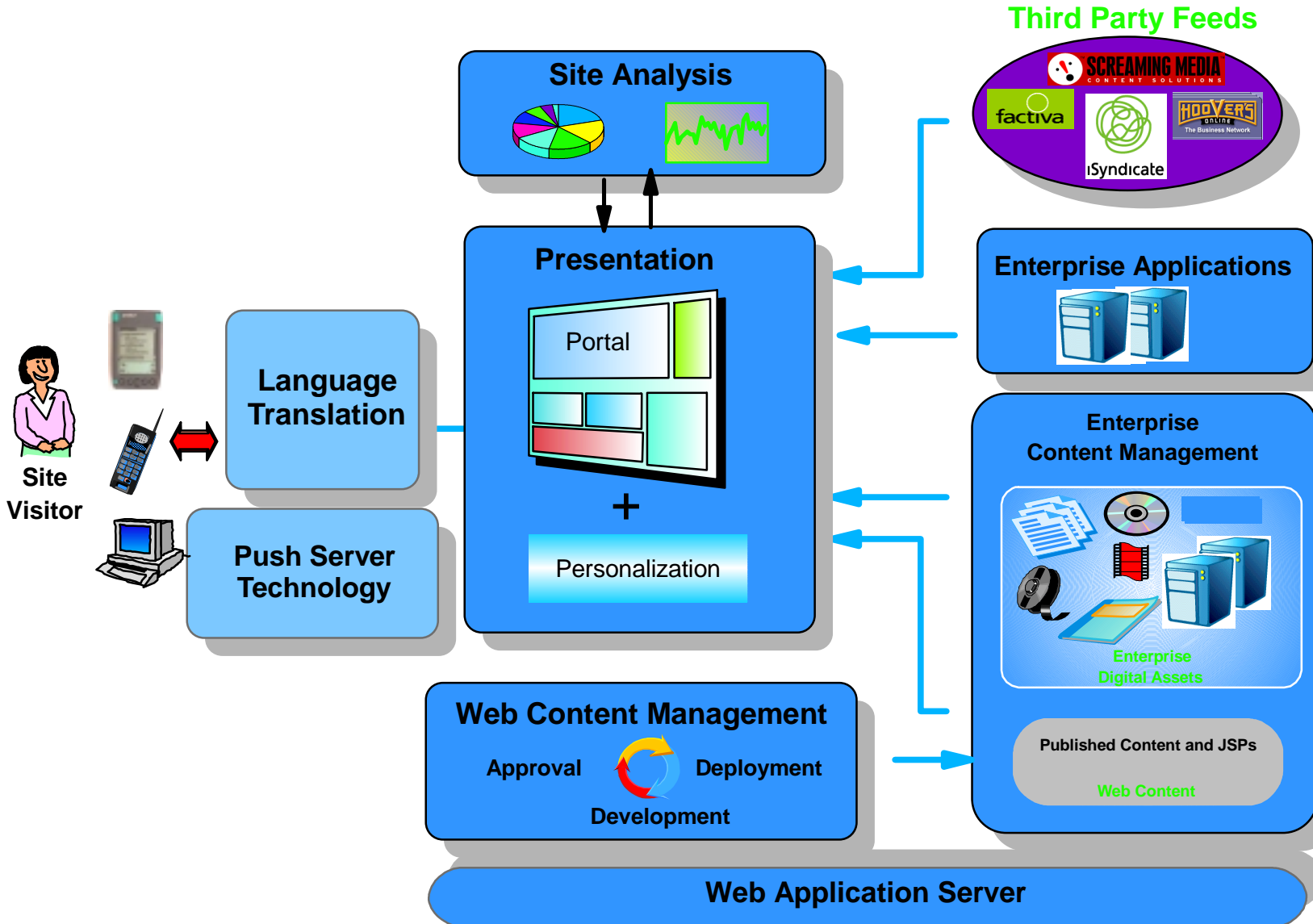
Bill Clerico  
Consulting I/T Specialist  
Worldwide WebSphere Sales  
Technology Support



e-business software

# WebSphere User Experience

The difference is WebSphere.

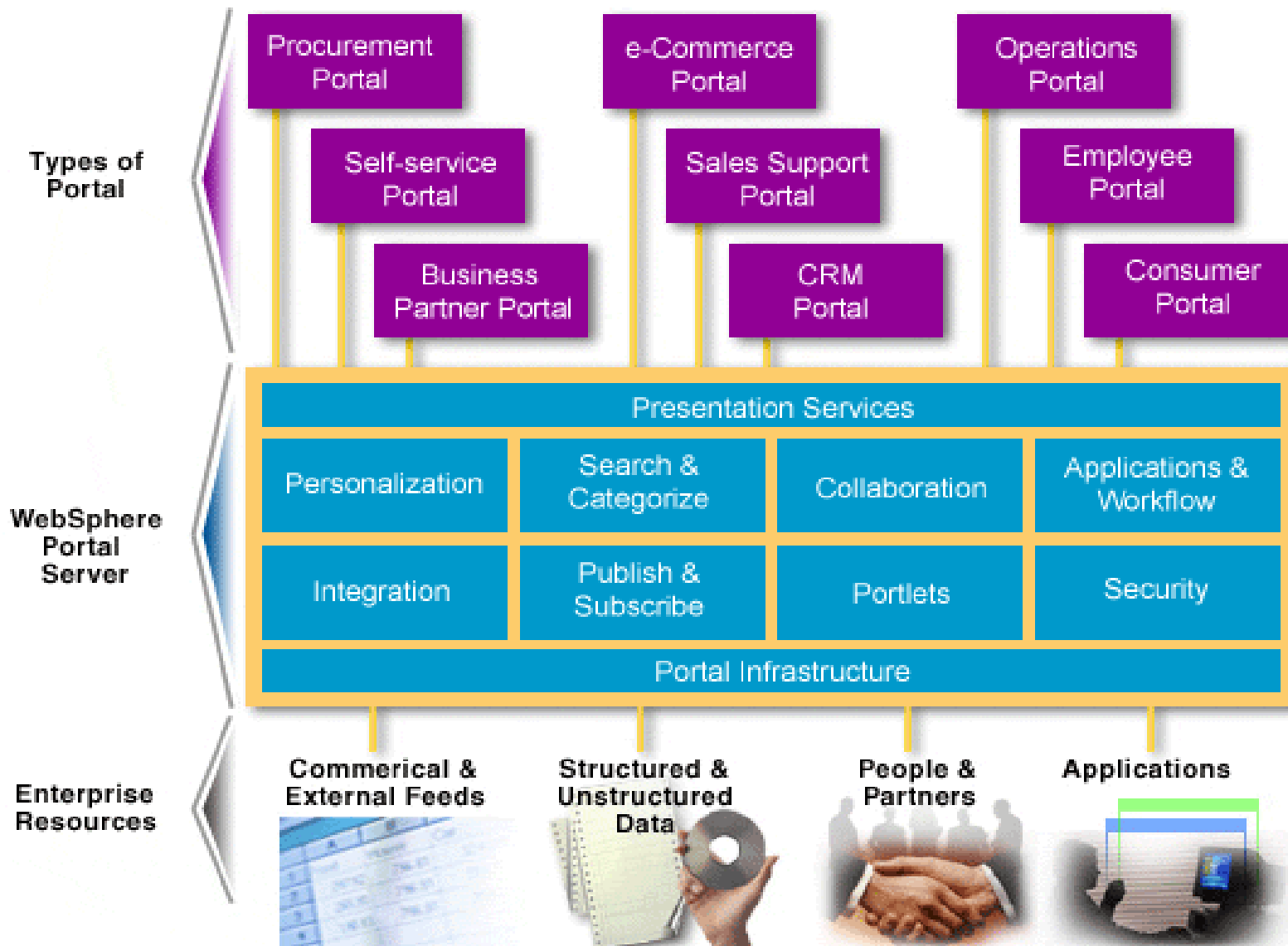




e-business software

# General Portal Functions

The difference is WebSphere.





# WPS and K-Station

## ■ E2E, B2E

- ▶ personal and community organization
- ▶ peer interaction - collaboration
- ▶ activity focused

## ■ B2B

- ▶ supplier networks
- ▶ high security
- ▶ SCM

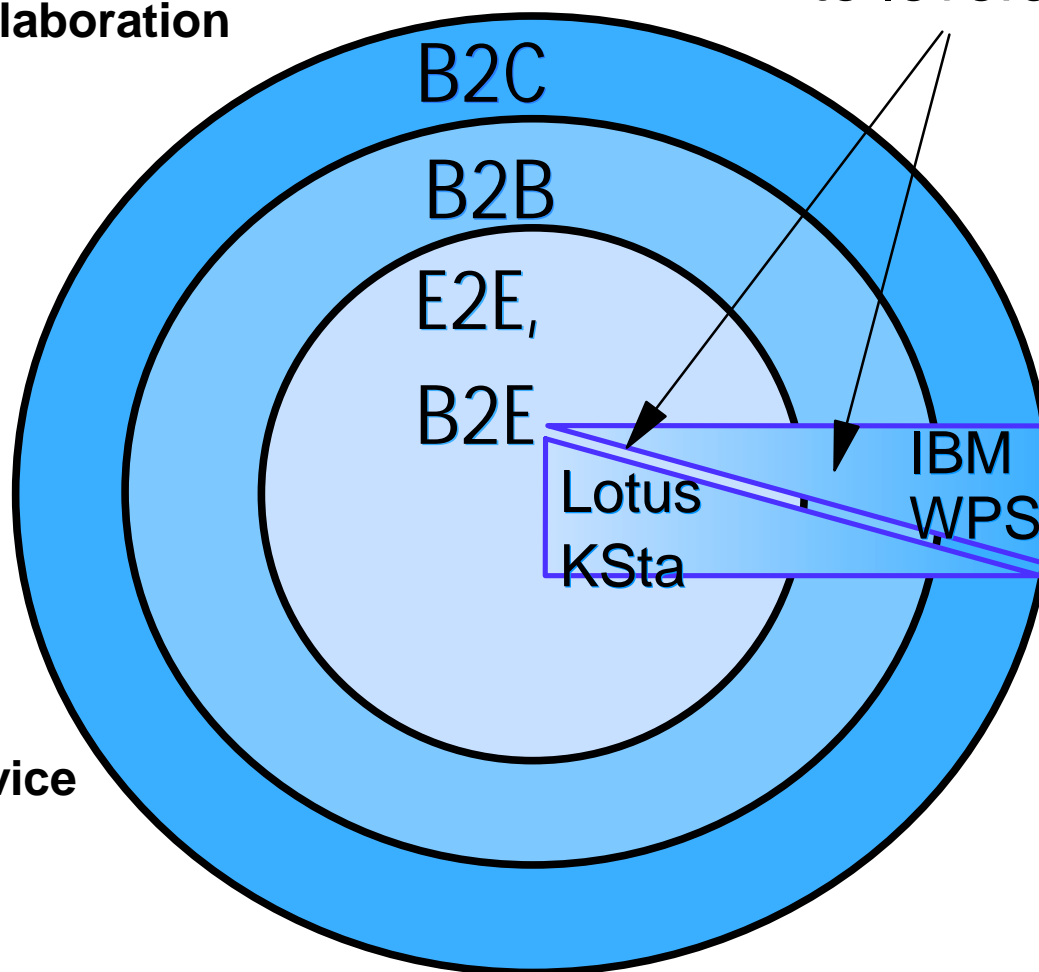
## ■ B2C

- ▶ self service
- ▶ transactions
- ▶ backend interaction

## ■ Pervasive

- ▶ interact from any device

Strengths  
to leverage



The difference  
is WebSphere.





e-business software

# IBM WebSphere Portal Server

- Provides a horizontal open framework for creating many kinds of vertical portals
- Provides sample portlets including news, weather, stocks, file access, and search
- Accepts many standard content sources and makes it easy to customize for other sources
- Removes much of the overhead of developing user interfaces for multiple browsers or mobile devices

The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.



e-business software

## Lotus K Station

- **Vertical "ready to go out of the box" portal**
- **Saves time by Providing a People , Places, and Things organization model for information**
- **Provides integrated, secure collaborative capabilities**
- **Empowers business workers to use the portal to organize people and projects without having to ask IT for help**
- **Will operate on top of the WPS portal framework in the future**
- **Leverages Lotus Discovery Server for data mining**

The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.

IBM



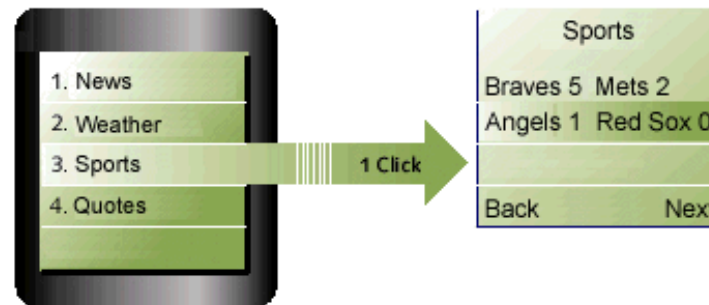
## WPS Motivation

- **Why is a portal framework needed?**
- **The framework simplifies many of the tasks involved in building complex web sites**
  - ▶ e.g. overall page structure only needs to be defined once
  - ▶ portlets are defined independently
  - ▶ visual design changes can be implemented without changing the portlets
  - ▶ targeting multiple devices becomes much easier because only certain portlets need to be retargeted
  - ▶ help leverage and reuse existing web assets
- **The framework is based on Java and XML**
  - ▶ portlets use XML and XSL
  - ▶ or JSP with Java beans
  - ▶ or Java
  - ▶ or several other web templating technologies
  - ▶ or just plain HTML



# What is a Portlet?

- Typically portlets are thought of as separate, rectangular boxes with a title bar and a content region
- They produce markup fragments that can be embedded into portal pages
  - ▶ e.g. WML fragments for WAP phones, VoiceXML fragments for voice browsers, or HTML fragments for PCs
- The appearance of portlets depends on the device
  - ▶ e.g. several lines of text on a phone
  - ▶ a sequence of sentences over a voice channel







e-business software

The difference is WebSphere.



# Typical Portlets

**Yourco Portal - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History

Address <http://wes041.boeblingen.de.ibm.com/myportal> Go

**IBM WebSphere Portal Server** Monday, March 5, 2001 2:02:34 PM

**Home Page**

**Login:**

Welcome Chris!

Reminder: Aidan's birthday, March 17

**Part Transactions**

Please choose one of the following transactions

- Part Lookup
- BOM Lookup
- Purchase Order History

**Inbox**

From	Subject	Received
Brad	CTO Job Posting for UE	1/9/2001 8:47 AM
EarthLink S...	\$100 Off EarthLink Wireless	2/27/2001 12:10 PM
fiveohgt93	flat Stanley	3/4/2001 11:07 PM
Jo Jones	Hey!	12/20/2000 11:29 AM
Jo Jones	Interesting thoughts	3/6/2001 9:25 AM

**News**

**World News:**

**IBM invests in semiconductor plant:** IBM announces plans to build a new semiconductor plant in New York.

**Politics:**

**American Public Cheers Congressional Move:** 98% of the respondents to a recent poll conducted by Polls-R-Us, support Congress extending its vacation with many indicating "Don't Come Back!".

**Search**

Search for:  **GO**



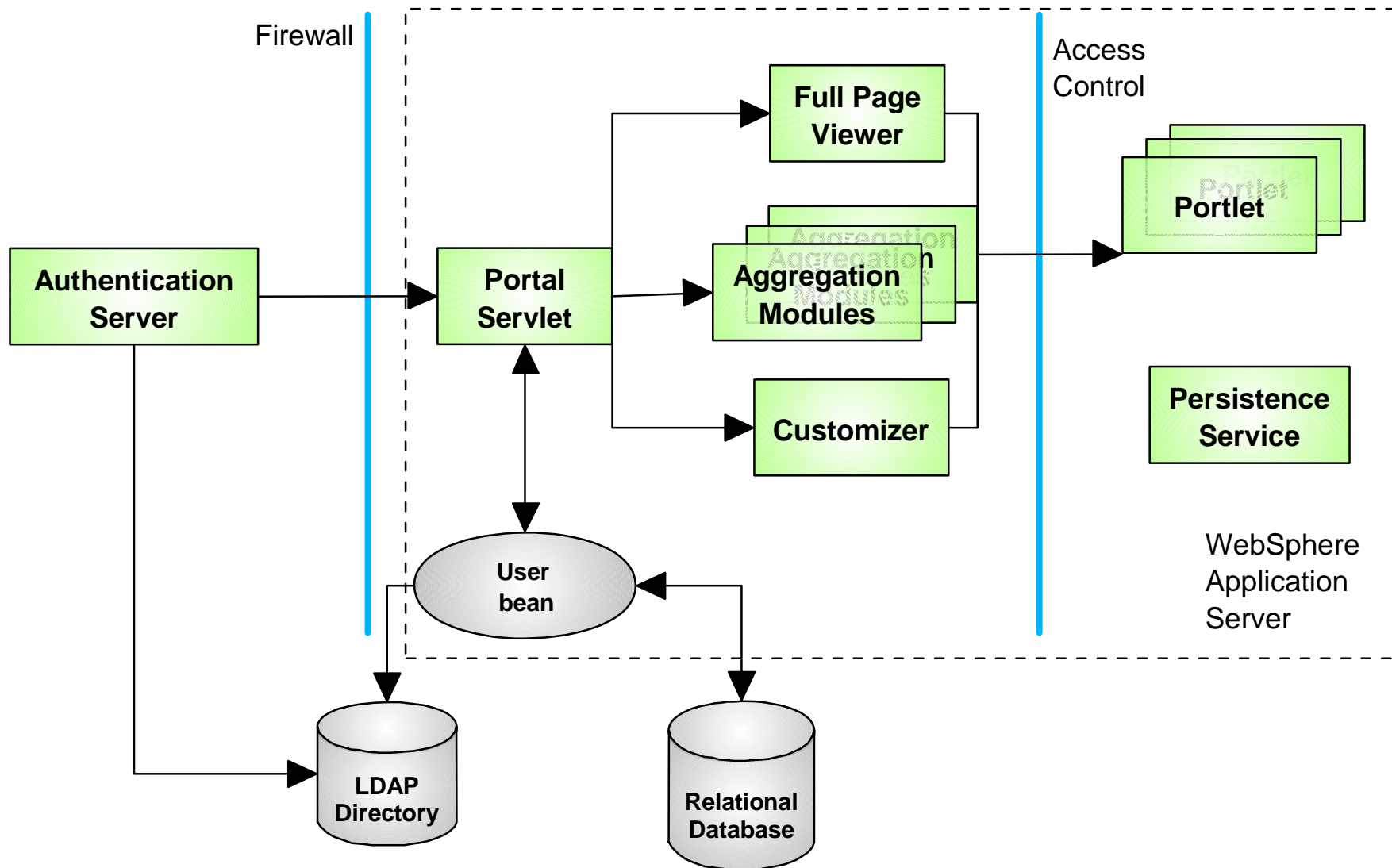
## Browsers Supported

- **The portal server produces browser-neutral markup**
- **Navigator 4.5+, Internet Explorer 4.0+, Opera 5.0+**
- **WML 1.1 and 1.2 browsers**
  - ▶ **Nokia 7110, Ericsson R320, Motorola Timeport P7389i, Siemens C35i**
- **PDA versions of HTML and WML browsers**
- **cHTML (for iMode networks)**
- **Customers can choose to generate browser-specific markup also**
  - ▶ **e.g. iFrames**
  - ▶ **or XML sent to the client**



e-business software

# Portal Engine Architecture



The difference is WebSphere.





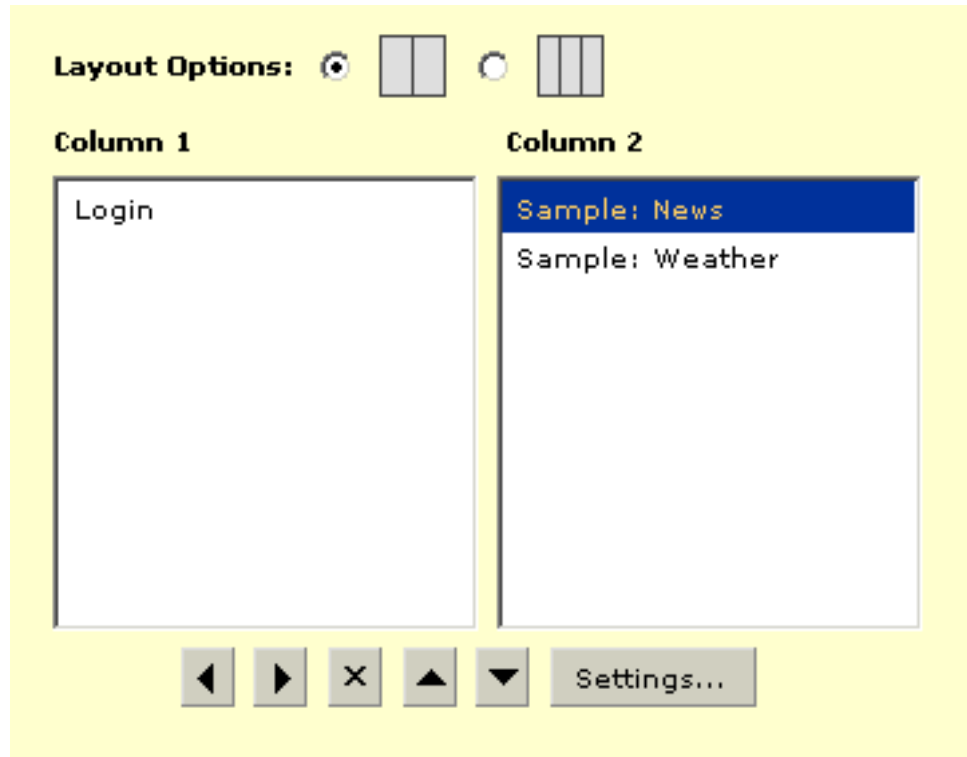
## The Home Page

- **Each portal defines its own custom home page**
- **The page structure uses a JSP template for the overall layout**
  - ▶ **Can have headers, footers, navigation bars, etc.**
  - ▶ **Allows for easy re-branding**
  - ▶ **WPS provides several themes and skins**
- **Additional JSP templates are used for rendering rows, columns, and decorations**
- **Finally each portlet renders its own views**
  - ▶ **may use JSP or XSLT**
  - ▶ **portlets have normal, minimized, maximized, and edit views**



# Customizing the home page

- **End users can customize their own home page**
  - ▶ they can choose portlets and arrange them in columns
  - ▶ they can have multiple tabs across the top
    - personal tabs
    - tabs for each of their group memberships
  - ▶ choice of portlets depends on access rights





## Example Portlets

- **RSS portlet** - formats Rich Site Summary data
- **XSL portlet** - transforms any XML using XSLT
- **JSP portlet** - renders any Java Server Pages file or servlet
- **HTML and WML portlet** - renders any URL
- **Notes portlets** - e-mail, calendar, to-do list
- **Exchange portlets** - e-mail, calendar, address book and to-do list
- **Sametime portlet** - instant messaging
- **QuickPlace portlet** - a team room and discussion
- **Syndicated Content portlets** - news, weather, stock quotes, etc.



## Internationalization

- **WebSphere Portal Server loads pages based on the user's browser settings**
- **IBM does translation and testing with Group 1 languages**
  - ▶ **Brazilian Portuguese, French, Italian, German, Spanish**
  - ▶ **Simplified and Traditional Chinese, Japanese, Korean**
  - ▶ **Other languages can also work**
- **IBM provides sample pages and portlets that show**
  - ▶ **how to isolate translatable strings**
  - ▶ **how to set browser encoding correctly**
  - ▶ **how to use JSP tags to insert strings dynamically**
- **WebSphere Translation Server can help you translate the content**



e-business software

# Accessibility

- **The page mark-up produced by WebSphere Portal Server is accessible to people with disabilities**
- **Meets U.S. federal guidelines and Web Accessibility Initiative guidelines**
- **Resources for checking accessibility:**
  - ▶ **<http://www.w3.org/WAI>**
  - ▶ **WebSphere Studio**
  - ▶ **Home Page Reader**

The difference  
is WebSphere.







e-business software

The difference is WebSphere.

## Content Providers

- **WebSphere Portal Server provides the infrastructure to facilitate connections to virtually any content or application source**
- **IBM has relationships with content suppliers to offer a large variety of content**
  - ▶ Some have live URLs that you can link to
  - ▶ Some require client software that stores content on your servers (either as files or in a database)
- **Pricing and content formats vary widely**



iSyndicate





e-business software

The difference  
is WebSphere.

## Rich Site Summary (RSS)

- Lightweight XML-based format designed for sharing headlines and other Web content
- Presents information via a channel in a portal
- Many content providers have been adopting RSS
  - ▶ Simple to use
  - ▶ Distributes and shares information across web sites
  - ▶ Attracts users to web sites



IBM



e-business software

# WebSphere Personalization

- **Advanced kinds of personalization:**

- ▶ a *Rules engine* uses business logic to select content for the user , e.g. display special discounts to gold customers
- ▶ a *Recommendation engine* uses matching technology to select content based on common interests or behaviors.

- **The selected content is stored in beans, which can be used directly in a portlet's JSP**
- **The portal, rules and recommendation engines can share user profile and content repositories.**

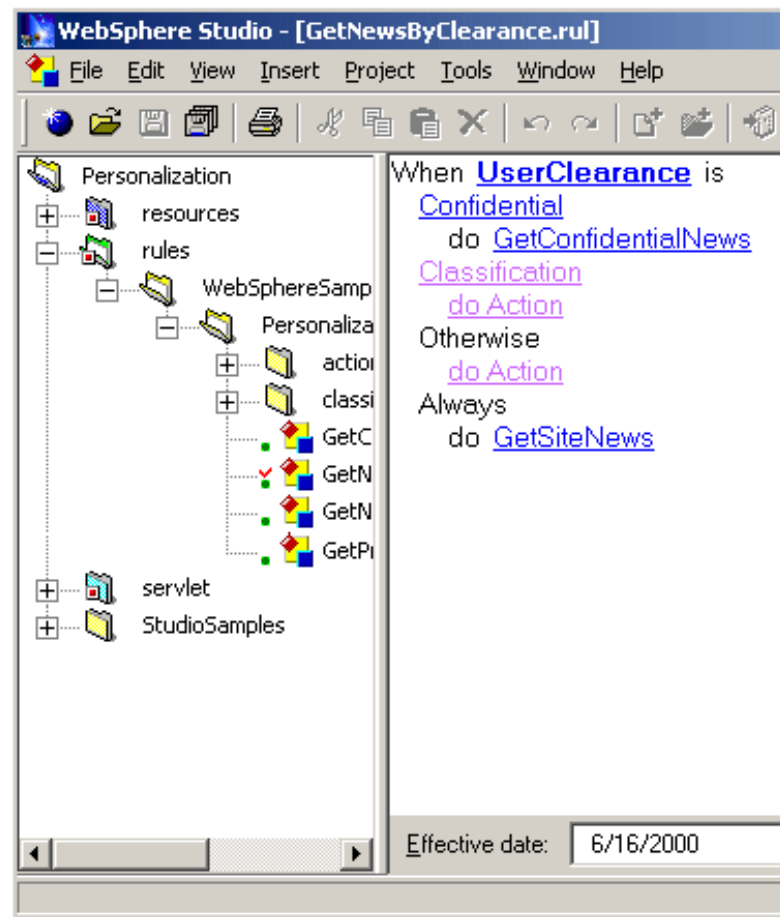
The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.



# WebSphere Personalization

- Studio includes tools for creating business rules
- The tools produce Java bean classes, which can be used inside Java Server Pages
- Use Studio's visual editing tools to create JSP portlets
  - ▶ then drag and drop the beans onto the page
- The portal's user profile class is already enabled for use in business rules





e-business software

## Federated Search

- **Distributed search across many data sources, producing a unified list of matching documents.**

### **Lotus Distributed Extended Search**

- ▶ **works across Lotus Notes, many web search engines, Microsoft Index Server, LDAP Directories, relational databases, and more**

The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.

IBM



e-business software

# Content Management

- **Use Interwoven's TeamXpress for WebSphere**
  - ▶ To develop and preview pages for the portal
  - ▶ To create presentation templates that allow content to be shown in a portlet
  - ▶ To deploy other content to the portal

The difference  
is WebSphere.





# Enterprise Information Portal (EIP)

## ■ Federated and Extended Search

- ▶ Text and Database searches across many data sources
- ▶ Search & retrieve documents in multiple languages

## ■ Web Crawler

- ▶ customizable robot that collects web pages for indexing

## ■ Taxonomy

- ▶ import crawled documents for information mining

## ■ Categorization and Text Analysis

- ▶ produces summary abstracts based on keyword/sentence analysis
- ▶ clusters related documents
- ▶ assigns documents to categories



# Application Integration

- **Portlets use the WebSphere Programming Model**
- **J2EE**
  - ▶ Java 2 SDK, Servlet 2.2, EJB 1.1, JSP 1.1, JDBC
  - ▶ JNDI, JavaMail, JAF, RMI/IIOP, JTA, JMS
- **XML support**
  - ▶ XML parser, XSLT
  - ▶ SAX API
  - ▶ SOAP and UDDI
- **Middleware Connectors**
  - ▶ CICS ECI/EPI Connector
  - ▶ Encina DE-Light Connector
  - ▶ IMS ITOC Connector
  - ▶ MQSeries Connector
  - ▶ HOD (Host-on-Demand) Connector
  - ▶ SAP R/3 Connector





## Managing Portal Users

- **Users can self-register from a desktop browser**
- **Users choose from a list of available portlets that they wish to access using specific devices**
- **They can customize the home page content and layout**
- **User information and portal preferences are stored**
  - ▶ **in an LDAP directory plus relational database tables**
  - ▶ **alternatively, in Tivoli Personalized Services Manager (which adds billing, customer care, device management, etc.)**



## User Groups and Access Control

- **Users can be placed into one or more groups**
  - ▶ Portlet access can be restricted to certain users or groups
  - ▶ Different groups can have different home pages
  - ▶ No hierarchy of groups
- **User and Group info is accessed through an EJB**
  - ▶ LDAP inetOrgPerson schema is used for basic user info
  - ▶ Relational database is used for portlet settings
- **For enterprises with existing user directories**
  - ▶ The EJB implementation class can be replaced to support different LDAP schemas or existing data stores
  - ▶ Self-enrollment can be disabled



# Security

## ■ Authentication

### ▶ LDAP

- IBM Secureway or Domino
- Netscape\*, Novell\*, others to follow

### ▶ Authentication Proxy

- Policy Director (WebSeal)\*
- Netegrity Siteminder\*

## ■ Access Control

- ▶ simple access control provided to control access to portlet resources
- ▶ third party implementations could be substituted

*\*Forward thinking statements*



## Single Sign-on

- **Goal is to only challenge the user once for userid and password**
  - ▶ portlets can set up the authentication headers or make any application-specific calls they need to
  - ▶ portlets can pass on the LTPA Token, CORBA Credential, UID and password, User DN and Group DNs (these are available through JAAS interfaces)
  
- **To accomplish SSO**
  - ▶ applications should accept authentication done by the portal
  - ▶ may optionally use their own vault or mapping mechanism



## Hardware & Software Requirements

- **WebSphere Portal Server V1.2 requires the following:**
  - ▶ AIX 4.3.3, Solaris 2.7, NT 4.0 or Windows 2000
  - ▶ IBM Secureway LDAP Directory or Domino
  - ▶ DB2, Oracle, or other JDBC compliant database
  - ▶ IBM WebSphere Application Server Version 3.5.3, Advanced Edition
  
- **WebSphere Portal Server V1.2 includes the following:**
  - ▶ the portal server, portlets, etc.
  - ▶ WebSphere Application Server Advanced Edition
  - ▶ WebSphere Personalization
  - ▶ Secureway LDAP directory
  - ▶ Lotus Distributed Extended Search

The difference  
is WebSphere.





e-business software

## Futures

- **Voice Aggregator**
- **Location Services**
- **Enhanced Administration**
- **More 3rd Party Authentication Servers**
- **Intelligent Notification/SMS Push**
- **Portlets, Portlets, and more Portlets**
- **K-Station support**
- **Expanded platform support**
- **Web Services**

The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.

IBM



e-business software

## Summary

- **WebSphere Portal Server enables you to make your applications and content available when and where you need them through personalized content aggregation**
- **Works with IBM WebSphere Everyplace Suite to deliver a secure and scalable portal for wireless phones, PDA's and other computing devices**
- **Works with other IBM products for personalization, data mining, content management, security, access control, and more.**

The difference  
is WebSphere.

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.

IBM



## Further Information

- **IBM WebSphere Portal Server product page:**  
[www.software.ibm.com/websphere/portal](http://www.software.ibm.com/websphere/portal)
- **IBM WebSphere Everyplace Suite product page:**  
[www.ibm.com/pvc/products/wes/](http://www.ibm.com/pvc/products/wes/)
- **IBM Enterprise Information Portal product page:**  
[www.software.ibm.com/data/eip](http://www.software.ibm.com/data/eip)
- **Other WebSphere family products:**  
[www.software.ibm.com/websphere](http://www.software.ibm.com/websphere)
- **Red Books**  
[www.redbooks.ibm.com](http://www.redbooks.ibm.com)
- **Pervasive e-business University:**  
[www.learn.be.ibm.com/pvcu/customer.html](http://www.learn.be.ibm.com/pvcu/customer.html)
- **WebSphere Developer's Domain:**  
<http://www7b.boulder.ibm.com/wsdd/>