WebSphere Portal

*Best Practices for a Successful Implementation*

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Portal framework that provides integrated access to people, applications, processes and information.

B2E Portals improve employee productivity and rapid decision making.

B2C Portals increase customer loyalty and cross-sell revenue.

B2B Portals build partner relationships through integration with your business processes.

Common Portal Framework

Content
Applications
People
Processes

User Experience
Role Based
Dynamic
Shopping Mall Analogy

Shopping Center

What is the Value to the End User?

What is the value to the Store?

What stores would the mall owners put into the Mall first?
Why a Portal?

**Mall Owner = Unified IT / Business**
- How do I start? Which stores do I add first
- What is your anchor store? (Big Value)
- Phase 2
- Phase 3

**Customers = End User**
- One stop shopping
- Single Shopping Experience
- Personalized experience

**Store Owner = Business Unit**
- Increase traffic to sell my goods
- Self Service for lower costs
- Increase adoption rate
Portal: Anchor Tenets

"If you build it, they will come..."

- Miami-dade – My Neighborhood
  - Map interface to backend databases
    - Tax, Police, County databases
    - Crime, floods, housing costs, etc.

- IBM US – Bluepages Portlet / Health care
  - Number one application on portal
  - Dramatically increases adoption rate

- IBM France – Vacation planning tool
  - Number one portlet for IBM France employees.
Understanding the Capabilities of WebSphere Portal

Portal Services
- Collaboration
- International
- Document Mgr.
- Admin
- Search

WebSphere Portal Framework
- Security / SSO
- Role Based
- Enterprise Integration
- Applications
- Content
- Workflow

WebSphere Application Server
- J2EE
- Load Balance Failover
- Business Integration
- Open Standards
- Workflow
Some Best Practices

- Starting small and building iteratively
- Have an experienced portal architect
- Requirements gathering is vital
- Stress test the implementation as you develop it
- Implement a staging or test environment
- Stress test environment needs to “match” production
- Staffing the project with adequate skills
- Allow Portal to be different from your current website
- Incorporate Usability Testing
Team composition

- Select a project manager with enterprise project/portal experience
- Select an executive sponsor who is merciless in bringing the teams to the negotiating table and resolving conflict
- Resist best practices based upon “this is the way that we’ve always done it”
- Use a small architecture team with total systems responsibility
- Most pilot portal projects are overstaffed with developers
- Post-pilot the focus will shift from infrastructure to development
Skills Worksheet for Portal Project

- **Portal Infrastructure Specialists**
  - This needs to be a coordination of at least one Security contact, LDAP contact, DBA, and most importantly a Portal expert who understands it all.
  - Responsible for installs, configs, troubleshooting etc. but **NOT** responsible for troubleshooting deployed portlet apps!

- **Networking and O/S Contact**

- **DBA**
  - Setup and maintain portal database and any databases created by portal components e.g. application, personalization, content, etc.

- **Portal Administrator**
  - This *is an ADMINISTRATIVE role* – not the person who supports the infrastructure.
  - Key coordinator for the entire portal.
Gathering Portal functional requirements

- Refine your requirements gathering process to include “portlet sourcing”
- To bring content into the portal, we must identify
  - The content source (where the content is and who owns it)
  - How we’re going to get the content into the portal
- Plan a week for wire frames and a half day per unique portlet
- Create a spreadsheet that defines the portlet location, access control, developer, title, configuration parameters, etc.
Define non-functional requirements

- What are my expectations for the following?
  - Peak Usage
  - Logins per second
  - Concurrent Users
  - Total Users
  - Size of pages
  - Amount of hits when the user logs in
  - Size of Sessions
  - Length of Session (Session Timeout)

Recommend: 3 SystemP/570, each with 4 x 900Mhz processors and 8GB RAM (min)

Example Only!

5000 users in 20 seconds or 125 per second (high)
Peak concurrent session is 10000
4000 users logging in within 2 hours (low)
Visit 4 portal pages on each visit
Each portal page has 6 portlets
Browser default is a throw-away unauthenticated page
SSL will be used to the Web Server and no further
Fairly complex grouping structure in LDAP
No Session persistence or “resume” option on portal
Response time 2 seconds (under peak)
# Identifying Performance Requirements

<table>
<thead>
<tr>
<th>Metric</th>
<th>Worst Case</th>
<th>Best Case</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of users registered</td>
<td>50,000</td>
<td>45,500</td>
<td>N/a</td>
</tr>
<tr>
<td>Percentage of users active within the peak hour</td>
<td>20%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>Number of page requests during a session</td>
<td>50 page requests</td>
<td>16 page requests</td>
<td>20</td>
</tr>
<tr>
<td>Average time between clicks (Think Time)</td>
<td>5 seconds</td>
<td>30 seconds</td>
<td>20</td>
</tr>
<tr>
<td>Number of portlets on a page</td>
<td>4 portlets</td>
<td>3 portlets</td>
<td>3</td>
</tr>
<tr>
<td>Percentage of page requests with WCM content</td>
<td>20%</td>
<td>50%</td>
<td>40</td>
</tr>
<tr>
<td>Number of content contributors</td>
<td>100 authors</td>
<td>50 authors</td>
<td>50</td>
</tr>
</tbody>
</table>
Identifying Availability Requirements

- What availability levels do you provide for existing systems?
  - Hours per day? Days per week?

- What availability level must the portal provide?

- What standards do you have around architecture?
  - What hardware platform standards exist today?
  - Hardware high-availability requirements?
  - Clustering of applications and systems?
  - Tolerance for single points of failure?
Security Best Practices

- Do not externalize your authorization to portal resources
- Remove unused portlets and components
- Carefully plan use of SSL and single sign-on
- Run WebSphere Portal with system not supervisor privileges
- Limit access to the WebSphere Portal logs
- Do not use generic ids such as wpsadmin and wpsbind
Using the 80/20 Approach for Portal Projects

**Pilot**  
- Just Connect
  - 4 months
  - Link/Connect to existing systems
  - Little new functionality
  - Limited Deployment

**First Release**  
- Integrate 20%
  - + 3 to 6 months
  - Rebuild most useful 20% as portlet apps.
  - Continue to link to low usage 80%
  - Begin to leverage cooperative portlets & online awareness

**Delta Release(s)**  
- Refine the Portal Application
  - + 3 to 6 months
  - Migrate legacy applications
  - Leverage flexible portal framework and integrated products
Validate your plan

- When you have your requirements and plans in place, validate them with an experience portal architect.
- Leverage IBM’s Portal Architecture Workshop and/or Solution Assurance Review (SAR) to:
  - Review all major aspects of the portal project.
  - Identify gap items which introduce project risk.
  - Get recommendations for mitigating gap items.
- What our customers say about the architecture workshop:
  - “After two failed attempts to deploy WebSphere Portal ourselves, this three-day workshop helped us to resolve the issues that we’ve been struggling with for three years.”
**Sample production install plan**

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Days</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Production Environment</td>
<td>22</td>
<td>Tue 6/29/04</td>
<td>Thu 7/29/04</td>
</tr>
<tr>
<td>Procure Hardware</td>
<td>0</td>
<td>Tue 6/29/04</td>
<td>Tue 6/29/04</td>
</tr>
<tr>
<td>Install Hardware</td>
<td>1</td>
<td>Tue 6/29/04</td>
<td>Wed 6/30/04</td>
</tr>
<tr>
<td>Procure Software</td>
<td>1</td>
<td>Wed 6/30/04</td>
<td>Thu 7/1/04</td>
</tr>
<tr>
<td><strong>Install Software</strong></td>
<td><strong>20</strong></td>
<td><strong>Thu 7/1/04</strong></td>
<td>Thu 7/29/04</td>
</tr>
<tr>
<td>Develop/Test Install Guide/Scripts (Ant)</td>
<td>5</td>
<td>Thu 7/1/04</td>
<td>Thu 7/8/04</td>
</tr>
<tr>
<td><strong>Install Servers</strong></td>
<td><strong>10</strong></td>
<td><strong>Thu 7/1/04</strong></td>
<td>Thu 7/15/04</td>
</tr>
<tr>
<td>Install Operating System</td>
<td>1</td>
<td>Thu 7/1/04</td>
<td>Fri 7/2/04</td>
</tr>
<tr>
<td>Install HTTP Server</td>
<td>1</td>
<td>Fri 7/2/04</td>
<td>Mon 7/5/04</td>
</tr>
<tr>
<td>Install Portal Database Server</td>
<td>1</td>
<td>Mon 7/5/04</td>
<td>Tue 7/6/04</td>
</tr>
<tr>
<td>Install Directory Server</td>
<td>1</td>
<td>Tue 7/6/04</td>
<td>Wed 7/7/04</td>
</tr>
<tr>
<td>Install WebSphere Application Server/Portal Server</td>
<td>1</td>
<td>Wed 7/7/04</td>
<td>Thu 7/8/04</td>
</tr>
<tr>
<td>Install Lotus Extended Search</td>
<td>3</td>
<td>Fri 7/2/04</td>
<td>Wed 7/7/04</td>
</tr>
<tr>
<td>Install Lotus Collaboration Servers</td>
<td>4</td>
<td>Fri 7/2/04</td>
<td>Thu 7/8/04</td>
</tr>
<tr>
<td>Install Lotus Collaboration Center</td>
<td>2</td>
<td>Fri 7/2/04</td>
<td>Tue 7/6/04</td>
</tr>
<tr>
<td>Install Tivoli Web Site Analyzer</td>
<td>3</td>
<td>Thu 7/8/04</td>
<td>Thu 7/13/04</td>
</tr>
<tr>
<td>Install Tivoli Access Manager TAI on WAS</td>
<td>5</td>
<td>Thu 7/8/04</td>
<td>Thu 7/15/04</td>
</tr>
<tr>
<td>Install Other Software Components</td>
<td>0</td>
<td>Thu 7/1/04</td>
<td>Thu 7/1/04</td>
</tr>
<tr>
<td>Configure Cloning/Clustering for WAS</td>
<td>10</td>
<td>Thu 7/15/04</td>
<td>Thu 7/29/04</td>
</tr>
<tr>
<td>Configure Cloning/Clustering for Sametime/QuickPlace</td>
<td>2</td>
<td>Thu 7/15/04</td>
<td>Mon 7/19/04</td>
</tr>
<tr>
<td>Confirm Installation for each server</td>
<td>5</td>
<td>Thu 7/1/04</td>
<td>Thu 7/8/04</td>
</tr>
<tr>
<td>Deploy Tested Portal/Portlets</td>
<td>5</td>
<td>Thu 7/8/04</td>
<td>Thu 7/15/04</td>
</tr>
<tr>
<td>Document Operator Procedures</td>
<td>5</td>
<td>Thu 7/15/04</td>
<td>Thu 7/22/04</td>
</tr>
<tr>
<td>Operator Training</td>
<td>3</td>
<td>Thu 7/22/04</td>
<td>Tue 7/27/04</td>
</tr>
</tbody>
</table>
### Sample portlet development plan

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Duration</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Development (build basic function)</td>
<td></td>
<td>45.5 days</td>
<td>Mon 4/26/04</td>
<td>Tue 6/29/04</td>
</tr>
<tr>
<td>Design</td>
<td>Objective: Implement out-of-the-box function &amp; limited custom function</td>
<td>9.5 days</td>
<td>Tue 4/27/04</td>
<td>Mon 5/10/04</td>
</tr>
<tr>
<td></td>
<td>Assign custom development tasks</td>
<td>2.5 days</td>
<td>Tue 4/27/04</td>
<td>Thu 4/29/04</td>
</tr>
<tr>
<td></td>
<td>Document design(s) for custom portlets</td>
<td>2 days</td>
<td>Thu 4/29/04</td>
<td>Mon 5/3/04</td>
</tr>
<tr>
<td></td>
<td>Select Design Approach</td>
<td>2 days</td>
<td>Thu 4/29/04</td>
<td>Mon 5/3/04</td>
</tr>
<tr>
<td></td>
<td>Best Practice: Complete Portlet Sourcing Worksheet</td>
<td>0.5 days</td>
<td>Thu 4/29/04</td>
<td>Thu 4/29/04</td>
</tr>
<tr>
<td></td>
<td>Document design for changes to backend systems</td>
<td>5 days</td>
<td>Thu 4/29/04</td>
<td>Thu 5/6/04</td>
</tr>
<tr>
<td></td>
<td>Document design for UI including themes and skins</td>
<td>2 days</td>
<td>Thu 4/29/04</td>
<td>Mon 5/3/04</td>
</tr>
<tr>
<td></td>
<td>Document use/test cases</td>
<td>5 days</td>
<td>Thu 4/29/04</td>
<td>Thu 5/6/04</td>
</tr>
<tr>
<td></td>
<td>Review designs</td>
<td>2 days</td>
<td>Thu 5/6/04</td>
<td>Mon 5/10/04</td>
</tr>
<tr>
<td>Build</td>
<td>Iterative Development</td>
<td>29.5 days</td>
<td>Tue 4/27/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Develop/test phase 0</td>
<td>3 days</td>
<td>Tue 4/27/04</td>
<td>Thu 4/29/04</td>
</tr>
<tr>
<td></td>
<td>Develop/test out-of-the-box function</td>
<td>3 days</td>
<td>Tue 4/27/04</td>
<td>Thu 4/29/04</td>
</tr>
<tr>
<td></td>
<td>Develop/test phase 1 of custom development</td>
<td>15 days</td>
<td>Mon 5/10/04</td>
<td>Mon 5/31/04</td>
</tr>
<tr>
<td></td>
<td>Rebrand Themes &amp; Skins</td>
<td>10 days</td>
<td>Mon 5/10/04</td>
<td>Mon 5/24/04</td>
</tr>
<tr>
<td></td>
<td>A few (3-5) simple custom portlets of various type</td>
<td>15 days</td>
<td>Mon 5/10/04</td>
<td>Mon 5/31/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 1a: (e.g. iFrame)</td>
<td>2 days</td>
<td>Mon 5/10/04</td>
<td>Wed 5/12/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 1b: (e.g. clipping)</td>
<td>3 days</td>
<td>Wed 5/12/04</td>
<td>Mon 5/17/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 1c: (e.g. WSAD)</td>
<td>10 days</td>
<td>Mon 5/17/04</td>
<td>Mon 5/31/04</td>
</tr>
<tr>
<td></td>
<td>etc.</td>
<td>0 days</td>
<td>Mon 5/31/04</td>
<td>Mon 5/31/04</td>
</tr>
<tr>
<td></td>
<td>Develop/test phase 2 of custom development</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 2a:</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 2b:</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 2c:</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 2d:</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
<tr>
<td></td>
<td>Portlet 2e:</td>
<td>5 days</td>
<td>Mon 5/31/04</td>
<td>Mon 6/7/04</td>
</tr>
</tbody>
</table>
Planning a WebSphere Portal project

- “Big Bang” projects take longer and have a higher failure rate than iterative projects.
- Choose a few critical components to deploy first.
- Build your portal from the base components first.
- Consider first just deploying a personalized and customizable Portal “Splash” page.
Features and functions

- Personalization by role, language and geo
  - PZN, Virtual Portals, customization, authorization, languages

- Rapid development
  - Portlet Factory, Dashboard Framework, Eclipse, Struts/JSF and other frameworks

- Standards
  - JSR186/268, WSRP, REST

- User experience
  - Themes & skins, page structure and layout, navigation, AJAX, drag & drop

- WCM content
  - Creation, tagging, approval, workflow

- OTB functionality
  - OTB portlets, portlet catalog, Google gadgets, clipping and integration models, page inclusion

- Infrastructure
  - Flexibility, scalability, caching, abstraction of services, availability and NFRs
What do Portals Look Like?
Understanding Themes and Skins

- **Themes**
  - Interchangeable front-end for all pages in the portal or part of a portal
  - Controls elements like banner, navigation, and look and feel (JSPs, CSSs, images)

- **Skins**
  - Interchangeable front-end for portlets
  - Controls elements like minimize and maximize icons, the title bar, and the background color (JSPs, images)
Multi-lingual and Multi-device Delivery Capabilities

- WebSphere Portal delivers content based upon the device and language preferences
  - Identifies the device type (browser, phone, etc.) and sends content in the appropriate format
  - Identifies the language preference and sends content in the appropriate language

- That sounds great, so where’s the catch?
  - Portal interface is localized and multi-device
  - You have to implement portlets based upon the devices and languages to be supported
    - Very important portal design decision
Reviewing User Interface Requirements

- Do you have Web user interface standards?
- Who is responsible for look-and-feel decisions?
- Are you planning a visual redesign anytime soon?
- If you’re using an external agency do they have experience with building themes and skins for WebSphere Portal?
- What are your plans for delegated administration?
- Will you allow end-users to customize their portal?
- What devices and languages do you intend to support?
- Do you have to support accessibility standards?
Questions