Expand your business with Mobile Enabled Portals Overview, Architecture and Roadmap

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Agenda

○ Market Overview and Opportunity

○ Lotus Offerings supporting Mobile Application Access

○ WebSphere Everyplace Mobile Portal

  ‣ Usage Scenarios
  ‣ Architecture and component details
  ‣ New release features
  ‣ Future directions

○ Q & A

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Key Device Trends That Will Shape Enterprise Mobility In 2008*

"For IT professionals, 2008 is shaping up to be an interesting year in the enterprise mobility space. We will witness companies:

1) Push the mobile work style down to unprecedented numbers of employees;

2) Balance security and management against usability and experience; and

3) Realize that struggling against the consumerization of the enterprise is a losing battle and begin to embrace the inevitable transformation.

Because of the ever-changing mobile landscape, new wireless technologies and standards, newer ultramobile form factors, and more robust operating systems and applications, we're now hitting critical mass in mobile enterprise adoption and spending. What does this mean for 2008? Enterprises will begin to move away from the opportunistic mobility adoption of the past to a more strategic build-out that will help define the next three years of the mobile enterprise."

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Companies Adopting Mobility Strategies See 60% Increase in Productivity

NEW YORK, NY – Sept, 9, 2008 – **Businesses adopting mobility strategies are 60% more likely to note a positive impact on sales from mobility applications, according to a recent Nemertes Research report,** *Unified Communications & Collaboration:*

Mobility and Business Transformation.
The study found the number of companies that experience a positive impact on revenues
 from mobility applications increased from 25% to more than 40% when they also have a strategic plan in place.
The research, based on hours of conversations with IT executives, finds that enterprises deploying mobility solutions in the context of a larger strategic plan improve their chances of a positive return from mobility technology by more than 15%. "IT executives often ignore formal planning in the rush to deploy new technology," says Dr. Mike Jude, senior research analyst with **Nemertes**. "Such planning on the front end makes a positive impact of the new technology more likely."

Additional benefits from mobility planning include improved times savings, with 60% of enterprises reporting a positive impact on time reduction associated with the deployment of mobility technology.

http://www.nemertes.com

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Where are your employees? How do they want to work?

Universal access—Be as productive as possible, regardless of location
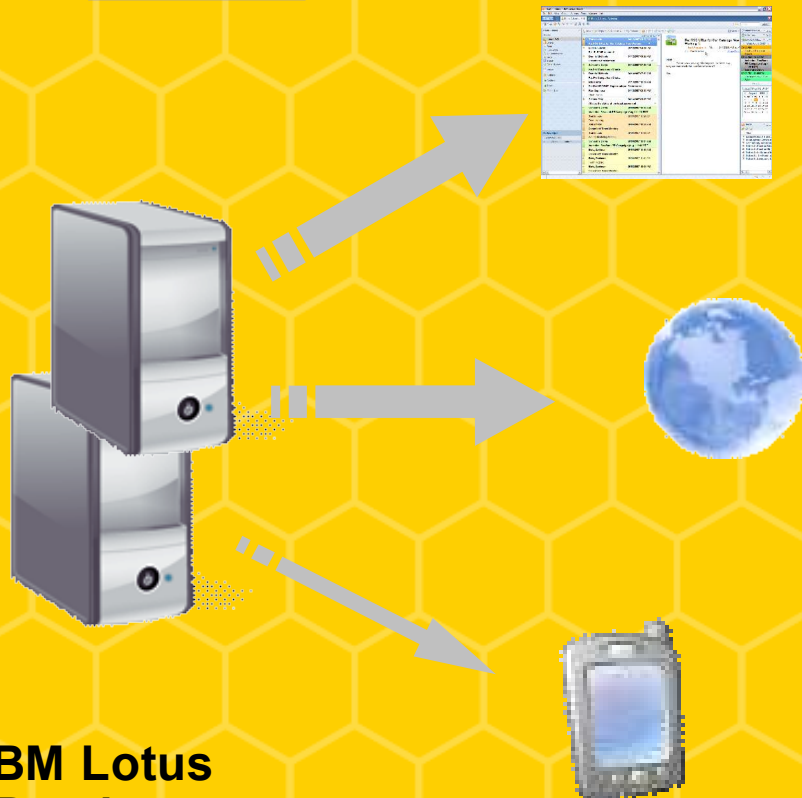
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Anytime, Anywhere Access

Lotus Offerings provide an anytime, anywhere platform

Customers are provided choices in planning their client strategy, which allows robust options for varied types of users.

SERVER

IBM Lotus Domino, WebSphere Portal

CLIENT ACCESS OPTIONS

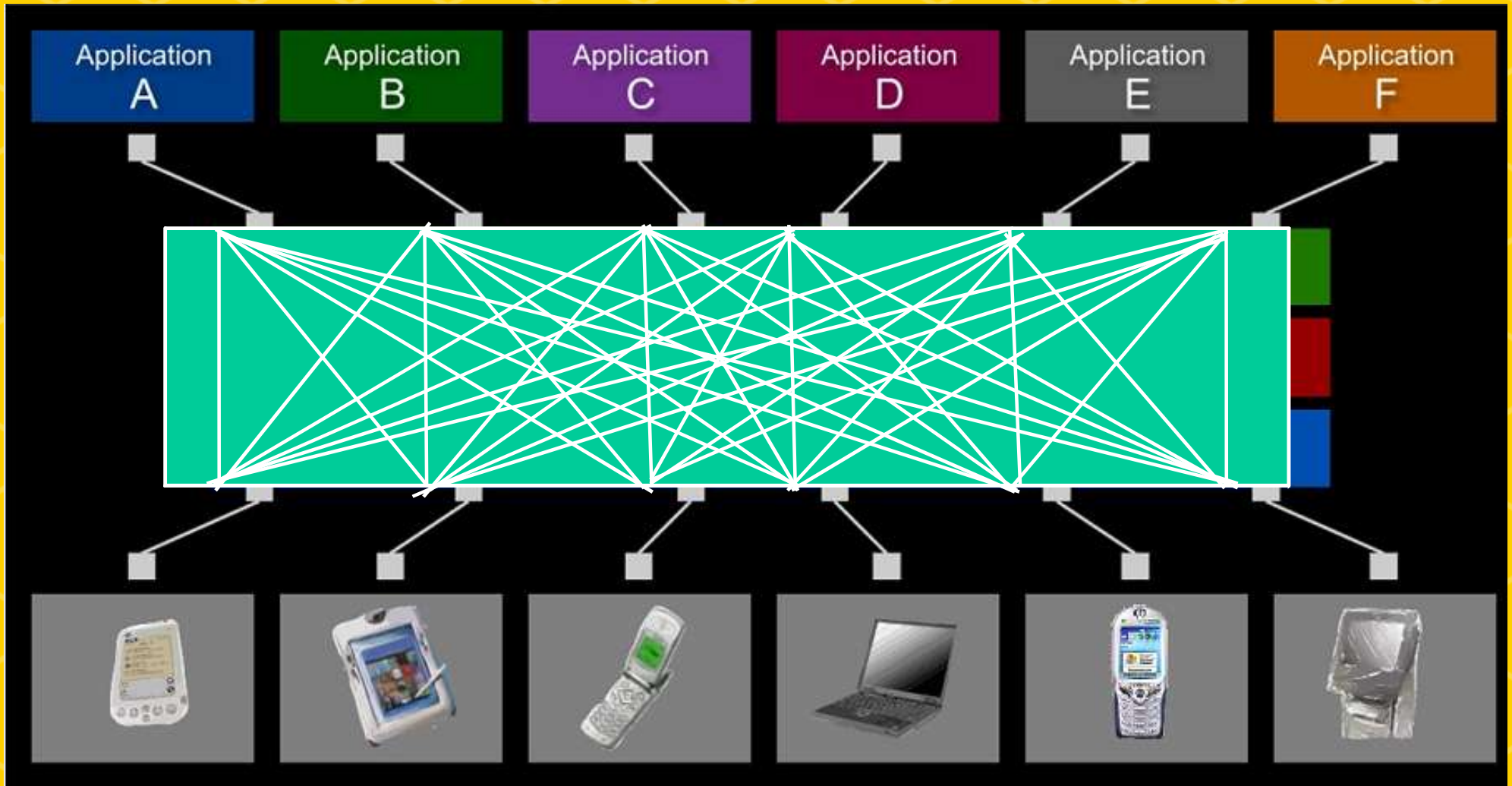| Rich Client | Lotus Expeditor |
	Lotus Notes
	Lotus Sametime
Web Browser	Domino Web Access/Lotus iNotes
	Lotus Quickr
	Lotus Connections
	WebSphere Portal
Mobile Devices	Lotus Notes Traveler
	Sametime Mobile
	Lotus Mobile Connect
	WebSphere Everyplace Mobile Portal

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Beyond the classic PC, the reality of reaching users is complex

- **Symbian V6, V7**
- **Palm V4, V5**
- **PPC2002, 2003**
- **Smartphone**
- **WAP 1.1, 2.0**
- **320x200**
- **640x480**
- **200x400**
- **120x120**
- **Keyboard vs Stylus**
- **B&W vs Color**

With unlimited applications and thousands of devices, the challenge becomes how to solve an expanding "M x N" matrix
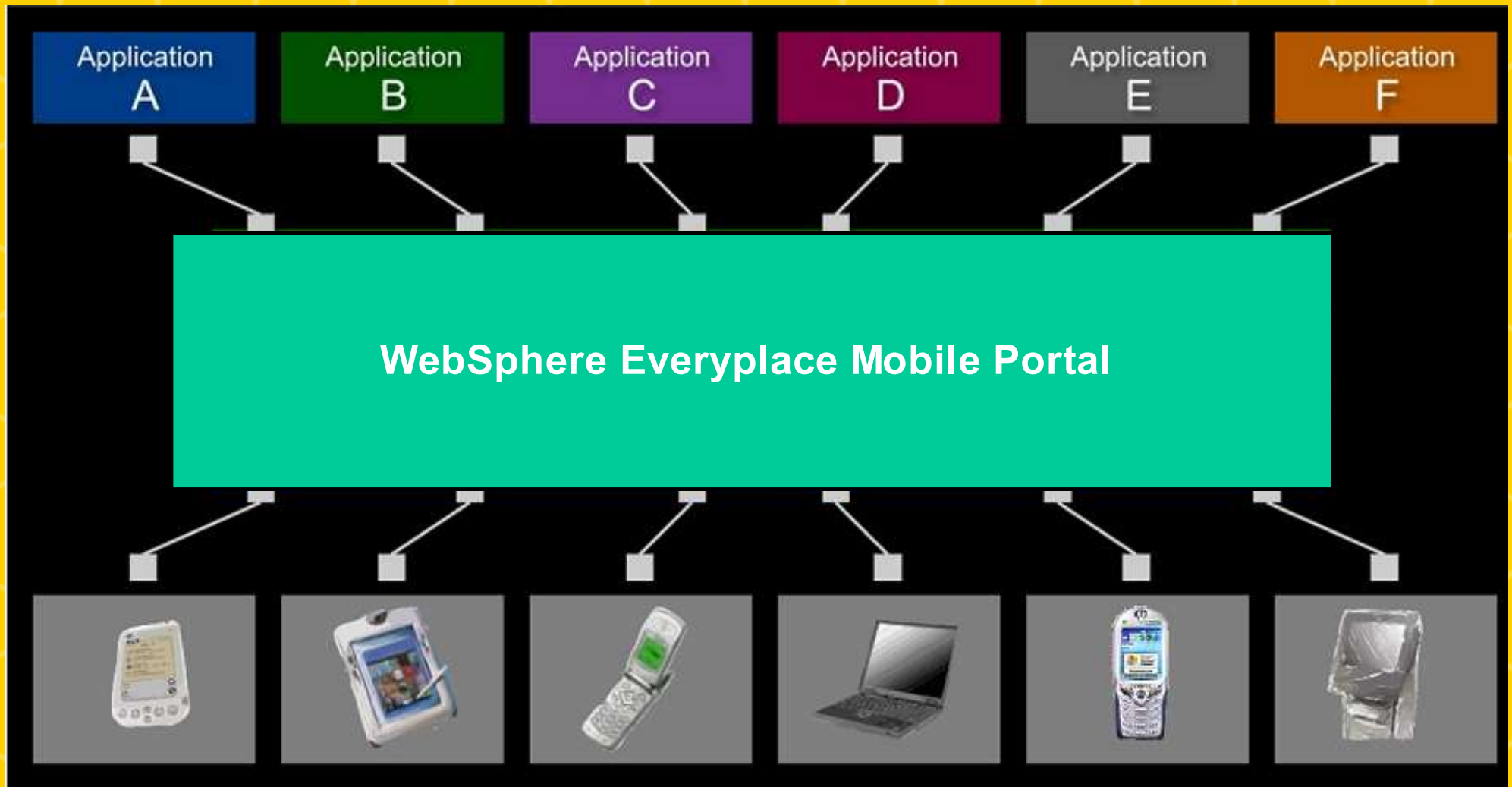

M applications...

| Application A | Application B | Application C | Application D | Application E | Application F |

N devices

The solution is to define a Mobile Platform that dynamically and intelligently adapts to the specific device

M applications...

| Application A | Application B | Application C | Application D | Application E | Application F |

WebSphere Everyplace Mobile Portal

N devices

Companies face the same basic choice for mobile devices that they do for PCs –
Build an application for the device or use the web

Client application or web application

As with PCs, this is the preferred model for most companies to reach their customers.

Client-based application

An application that is downloaded or installed on the device. *PC Example: Lotus Notes*

Better where a company:

1. Requires specialized control or capabilities that exceed what is possible with a web browser

2. Is willing to invest the resources to develop and maintain the application despite the various and rapidly changing devices, vendors, capabilities, and underlying operating systems

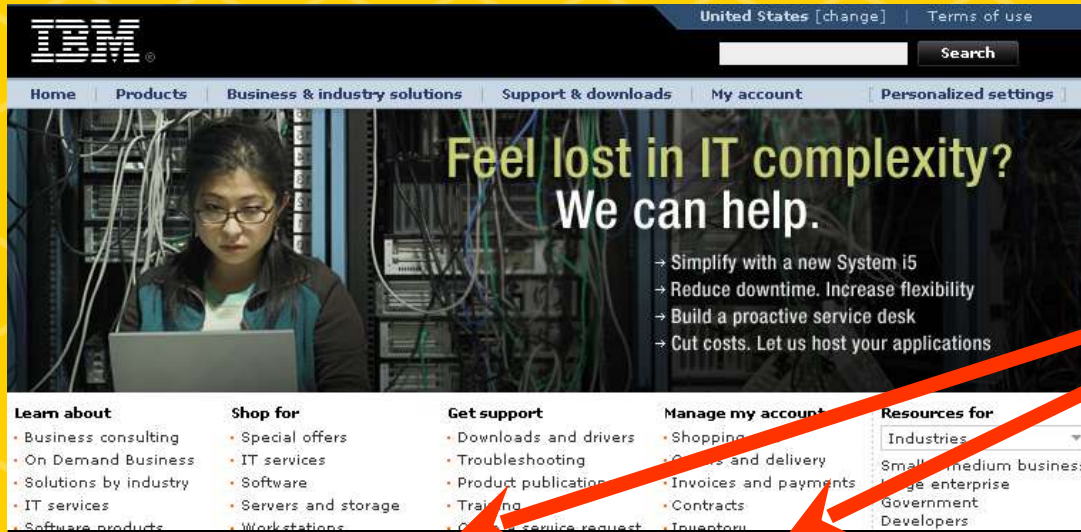3. Controls and limits the number and type of devices

Web-based application

A web solution that utilizes the browser already on the device. *PC Example: Amazon or online banking*

Better where a company:

1. Does not want to worry about every device environment and capability

2. Does not want to require their users to install anything.

3. Does not control the number or type of devices.

4. Has applications that can use the capabilities that browser-based solutions already provide.

5. Has existing web-based applications that they want to extend to mobile devices.

Even with the web, designers cannot push a standard web page onto devices

How do you get **THIS** web page onto **THESE phones**?

OS	Symbian	Symbian	Palm	Blackberry	Windows
Display	Black/White	Color	Color	Color	Color
Screen	120 x 120	176 x 220	240 x 400	240x160	200 x 320
Interface	Number pad	Number pad	Stylus	Keyboard	Keyboard

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Companies need to design for mobile

Transcoding, the concept of ingesting a web page and transforming it to a mobile layout, is pixie dust that does not work
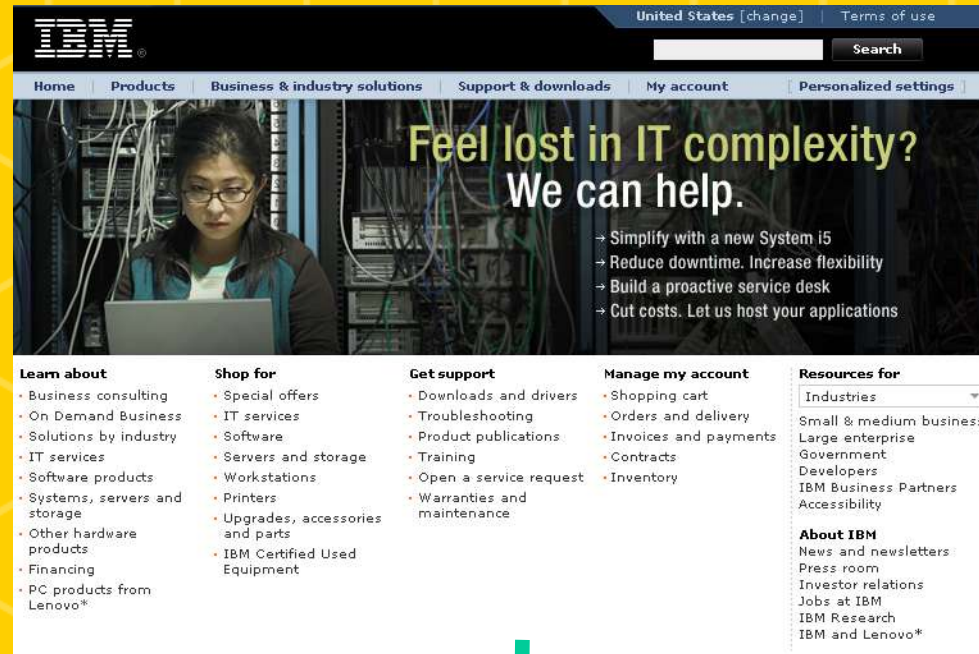
Good UI design requires thought!
- What is the most relevant information?
- What information may be discarded?
- Images: Scale, crop, or discard?
- Target the customer!

HTML pages often have "filler"

HTML pages always have "too much" information to be usable on a mobile device

However, companies should still only have to write once for mobile, and then render on any existing or new devices without changing the code.

It's all about

Usability!

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With standard web technology, companies have to choose which mobile customers to target

If you program to the lowest common denominator, you do not present your best for devices that can handle more.

BUT

If you program to the higher phones, you lose any customers or users on lower end phones.

OS	Symbian	Symbian	Palm	Blackberry	Windows
Display	Black/White	Color	Color	Color	Color
Screen	120 x 120	176 x 220	240 x 400	240x160	200 x 320
Interface	Number pad	Number pad	Stylus	Keyboard	Keyboard

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Strategy Analytics: Airtel and Vodafone Offer Best Mobile Portals in India

Quick Access to News Important for Indian Users

BOSTON, Dec 03, 2008 (BUSINESS WIRE) -- **The Strategy Analytics Wireless Media Lab** has released the report, "Indian Mobile Portals: Airtel and Vodafone Set the Standard," which evaluates the usability of leading mobile portals in the UK and provides key lessons for a superior portal experience to operators and other portal providers.

Participants in this Strategy Analytics study were asked to evaluate the portal homepage layout, locate the latest news headline, purchase a game and search for a ringtone using the mobile portals of leading providers Airtel, Rediff, Reliance, Tata, Vodafone and Yahoo!

"Mobile operator portals Airtel Live! and Vodafone Live! lead the way in terms of both success and satisfaction," commented Paul Brown, Senior User Experience Research Analyst at Strategy Analytics.

Kevin Nolan, Vice President of the Strategy Analytics User Experience Practice, added, "The ability to locate the latest news headlines via the portal homepage was a key requirement for many India users; therefore, portal developers in India should be aware of this need."

About Strategy Analytics

Strategy Analytics, Inc. provides timely and actionable market intelligence focused on opportunities and disruptive forces in the areas of Automotive Electronics and Entertainment, Broadband Connected Home, Mobile & Wireless Intelligent Systems and Virtual Worlds. Headquartered in Boston, MA, with offices in the UK, France, Germany, Japan, S. Korea and China, Strategy Analytics works with clients through annual multi-client services, management team workshops and custom consulting engagements. For more information, please visit www.strategyanalytics.com

IBM Lotusphere Comes to You 2009

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Bharti Airtel: Scaling

Challenge
- An exploding telecom market in India
- Evolving business processes
- Needed to transform its IT systems with an architecture that can scale

IBM Solution
- WebSphere Portal and Mobile Portal as the user interface.
- IBM Service Provider Delivery Environment architecture

Results
- First telecom supplier to offer integrated services across the country
- Subscriber base grew from around 6 million in 2004 to over 35 million in 2006
- Market capitalization has grown by 4X from 2004 to 2006

Performance Statistics
- 11,000 concurrent users
- 1.2 million unique users/day
- 200 portal page views/sec
- Over 60M subscribers

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IBM WebSphere Everyplace Mobile Portal enables Mobile Service and Content Delivery to hundreds of different devices
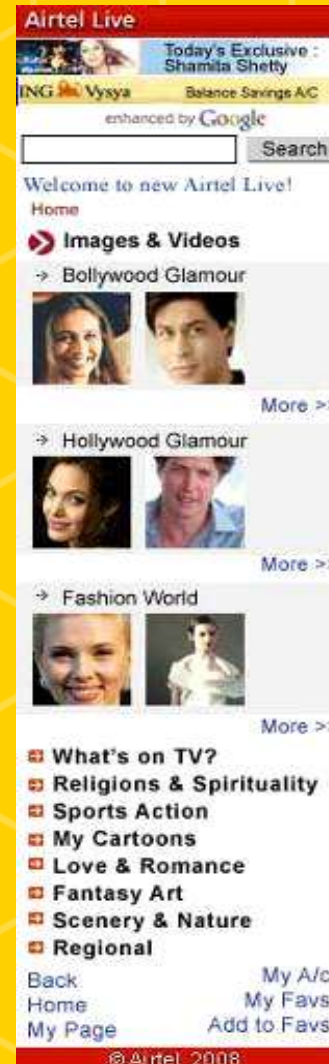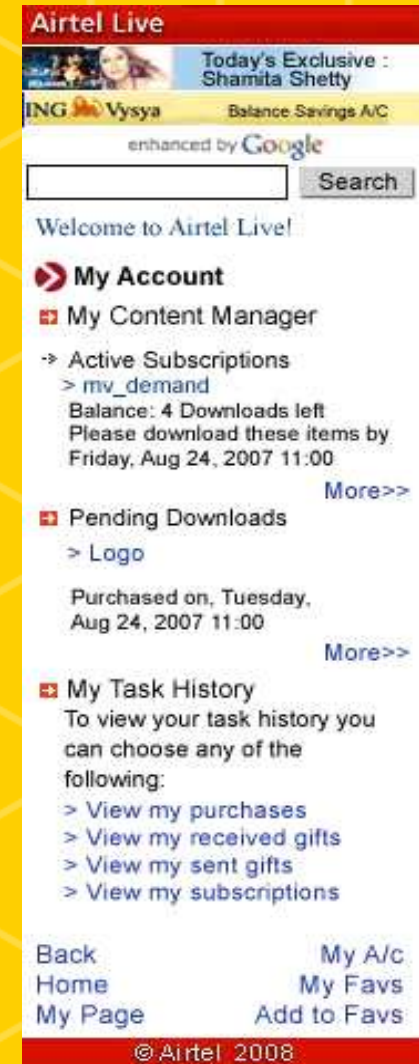
Bharti Airtel

Home Page

Google Search

Images & Videos

Account Self Service

Bharti Airtel Portal and Mobile Portal Support

Customer Benefits

- "Perfect fit" view of content that is aligned to Device characteristics
- Content filtering based on Device , Circle, Personalized Preferences, Usage Profile Parameters
- Personalized Portal – My Page
- Instant Download/Task History Access – My Accounts
- Purchase Content and download through Personal Vault- "Purchase Now & Download Later"
- Bread Crumbs for better customer experience
- Subscription (On Demand, Alert)
- Instant default rendering and content availability for New Devices - Faster time to Market

Business Benefits

- Gain Market advantage & Increase customer's loyalty
- Extend information to wide range of mobile devices
- Leverage your existing IT investment
- Reduce time to market, accelerate development and deployment
- Content Digital Rights Management
- Improved and secured workflows for content management
- Integrated with Customer Care GUI

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Use Case: Communications Industry – Major North American Telecom

Summary:

- Mobile retail and customer support
- B2C
- Third year in production – over 40 million users

Business Challenge:

Customer ranked near the bottom for customer service quality. Increasing human customer service was expensive.

Customer wanted a branded, mobile retail presence that would provide value that end users could not get elsewhere.

Customer needed a common mobile entry point to support:

- Various capabilities – retail transactions, customer support.
- A complex infrastructure with multiple existing back-end systems.

Massive number of users and transaction volume required a highly scalable system.

Customer Use:

- Created a comprehensive e-care platform that helped drive traffic away from 'expensive' human manned call centers, towards a self-care portal.

- Created a new business model around the sale of Digital Media content.

- Reuses existing back-end infrastructure and OSS/BSS systems.

- Supports sales in excess of $1 Million per day.

- Supports over 800 Transactions Per Second of throughput

Use Case: Financial Industry – Major North American Financial Institute

Summary:
- Financial Industry
- B2C
- Production deployment.

Business Challenge:
Customer believes that mobile access to information and services is critical in the financial arena. Major drivers include:
- Financial information changes quickly
- Customers expect real-time access to that information and related services
- Customers often travel and need mobile access.

Customer's research has shown their industry is a year away from having mobile financial offerings as a standard customer offering; however customer acknowledges that other market leaders are beginning to offer mobile financial information today.
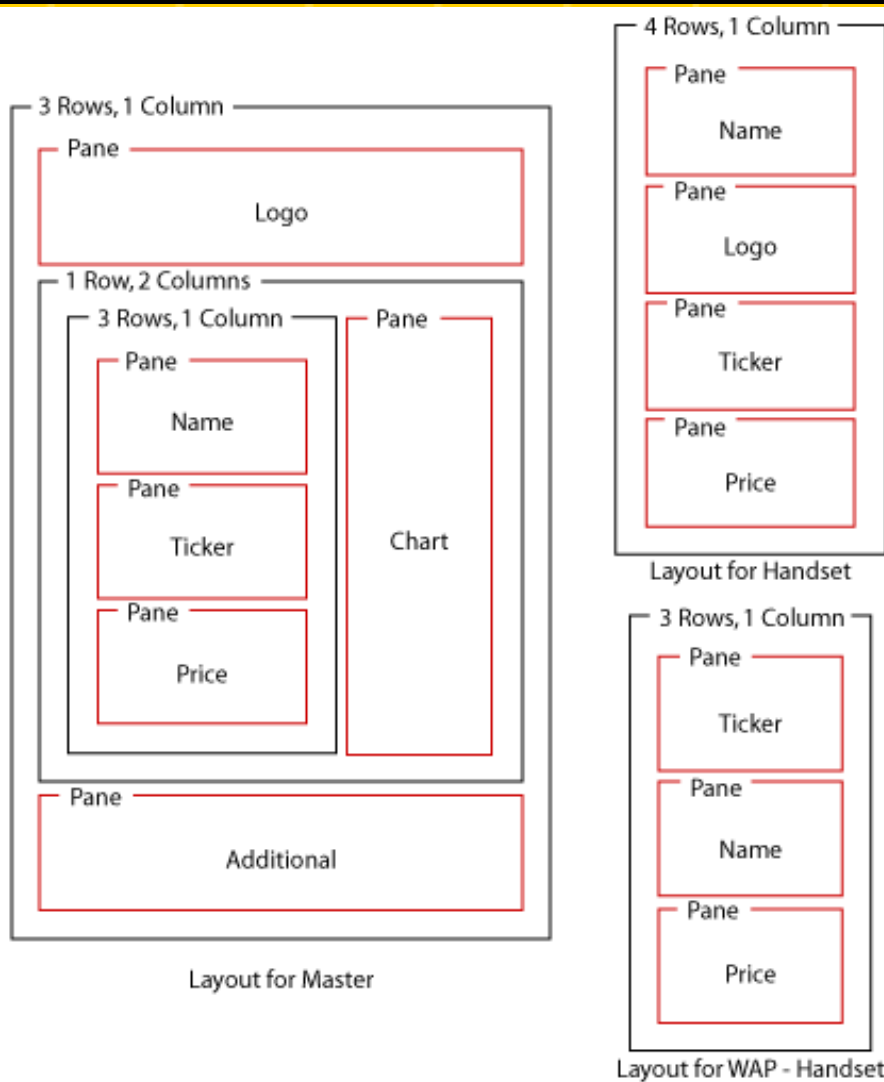
Customer Use:

- **Utilizes WEMP as a new channel for their customers. WEMP's primary use is the extension of a customer's existing services, such as viewing:**
  - **Their portfolio makeup**
  - **Portfolio performance**
  - **Other financial information such as research.**
- **Expects later phases to include:**
  - **Executing transactional services from the mobile device, including stock trades.**
  - **Setting mobile alerts such as stock thresholds.**
- **More than 90% reuse of existing assets.**

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WEMP supports conditional rendering, enabling companies to optimize for device's capabilities without neglecting anyone

Layouts: The designer can input layout options, all using the same underlying code.

These pages are rendered from the same code. WEMP has optimized for each device.

Layout for Master

Layout for Handset

Layout for WAP - Handset

PDA Simulator

XHTML Simulator

WML Emulator

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WEMP can dynamically use different images or text depending on the device

1. A developer can reference an image component instead of a hard-coded image name.

2. The component can be attached to various options.

3. WEMP then picks from those options based on the device's capabilities.

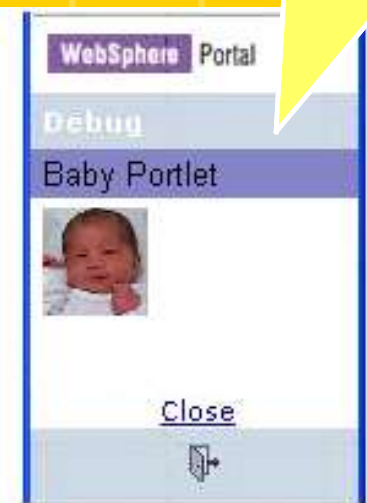Using an image component:

```
<canvas layoutName="/my-portlet-layout.mlyt" type="portlet">
    <pane name="image">
        <p>
            <img src="/baby.mimg" alt="baby"/>
        </p>
    </pane>
</canvas>
```
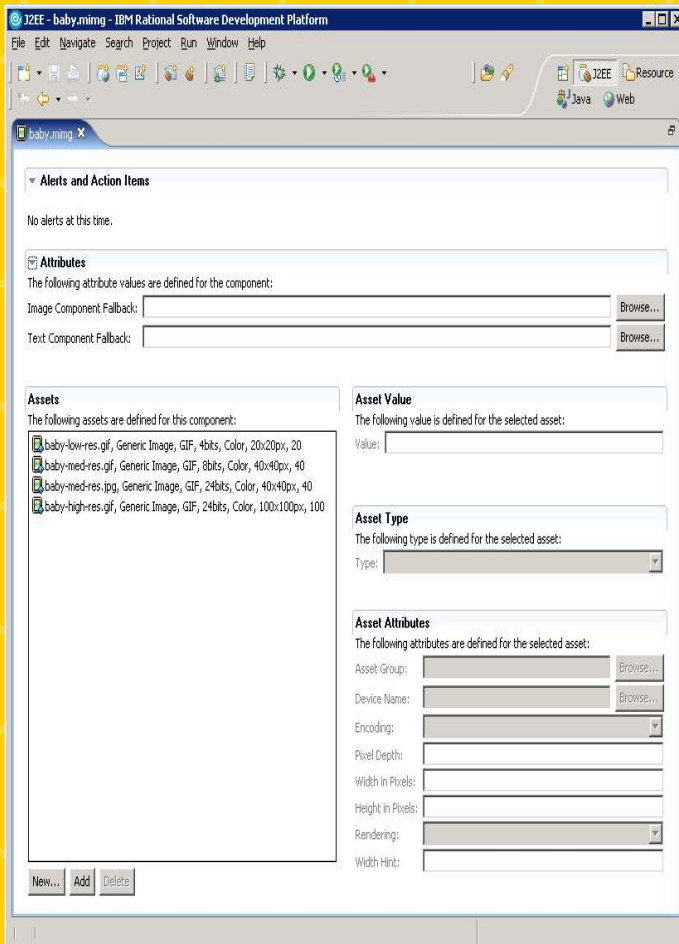
This phone can handle larger images

This phone can handle smaller images

PDA Simulator

XHTML Simulator

WML Emulator

This phone can only handle text

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Instead of being stuck resizing a single image, a designer can provide different images for the same reference

Images: One image policy can be used to reference multiple images. MCS can determine which image suits the device making the request.

Example: **baby.mimg**
```
<?xml version="1.0" encoding="UTF-8"?>
<lpdm:imageComponent …
   <lpdm:genericImageAsset value="baby-low-res.gif"
encoding="gif" …
   <lpdm:genericImageAsset value="baby-med-res.gif"
encoding="gif" …
   <lpdm:genericImageAsset value="baby-med-res.jpg"
encoding="jpeg" …
   <lpdm:genericImageAsset value="baby-high-res.jpg"
encoding="jpeg" …
</lpdm:imageComponent>
```

Mobile Portal also includes ICS, which can dynamically resize/reformat images from single source image.

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Navigation is also optimized for each device

Three navigation views available:
- **List/Tree (default)**
- **Icon**
- **PDA**

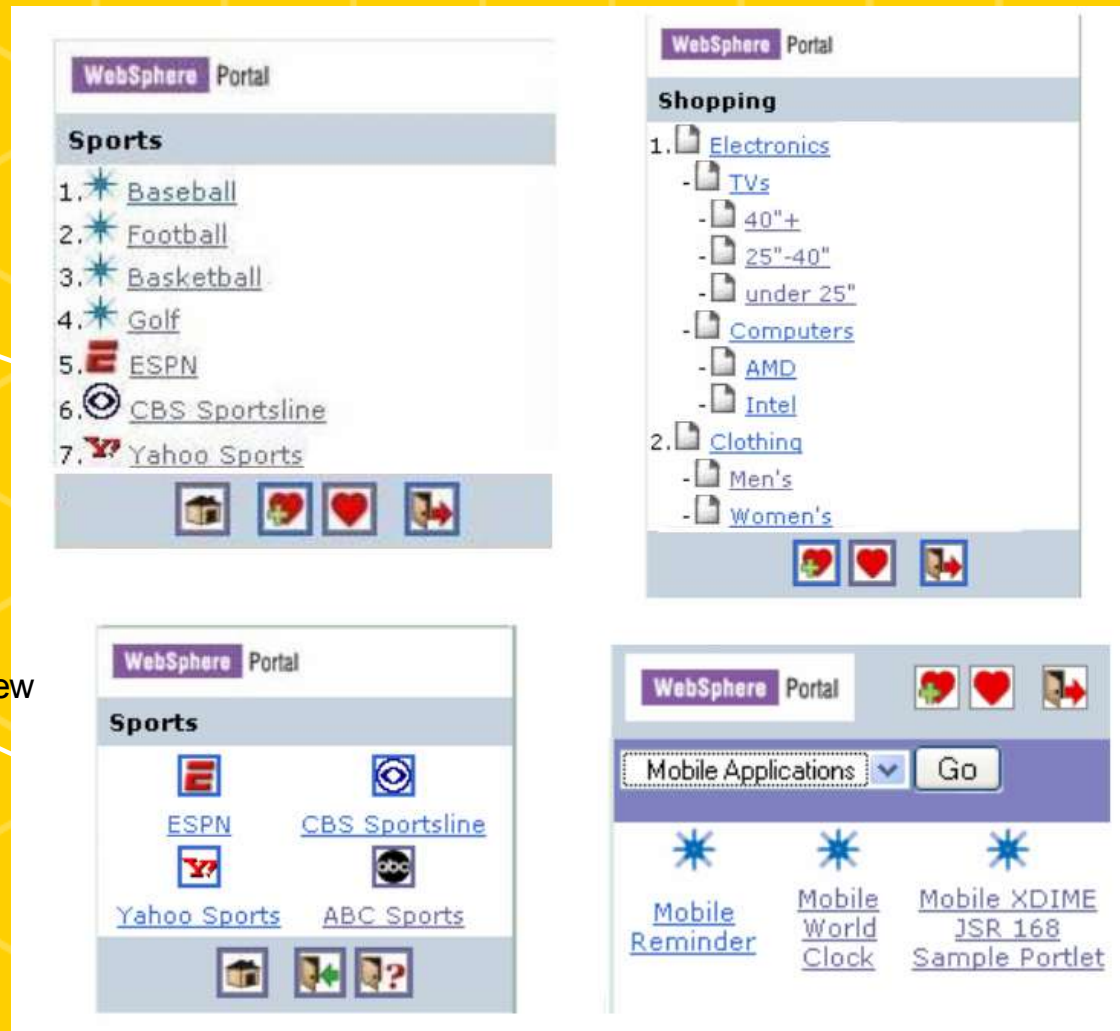**Each view optimizes the presentation for the device making the request**

Custom views can be created

List View

Icon View

Tree View

PDA View

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File   Play   Help

TestiPhone.com – iPhone Application Web Based Simulator

File   Edit   View   History   Bookmarks   Develop   Window   Help

◄ ► C + http://www.testiphone.com/?url=http://m.vlandrum.com   Q▾ Google

m.vlandrum.com   MPTK Test   WEMP   Apple   Yahoo!   Google Maps   YouTube   Wikipedia   News (2684) ▼   »

AT&T   08:22 AM

TestiPhone.com - iPhone Simulator

http://m.vlandrum.com

Balance = $500.00

View in landscape mode on your iPhone

Check #	Payee	Amount
101	CHECK CRD PURCHASE 09/27 EINSTEIN B	$8.94
102	POS PURCHASE - WALGREEN COMPANWALGR	$11.99
103	CHECK CRD PURCHASE 09/23 CA ONE@DAL	$8.64
104	CHECK # 10331 - RPools Pool Service	$54.81
105	CHECK CRD PURCHASE 09/13 FRY'S ELEC	$86.59

Go Back

...the iPhone IS supported!

My Documents
My Computer
My Network Places
Recycle Bin
Internet Explorer
My Bluetooth Places
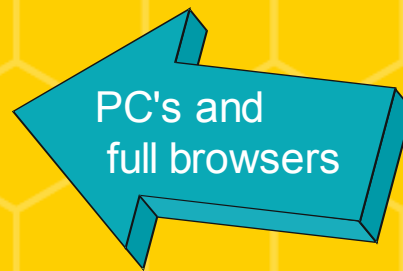HP Document Viewer
HP Photosmart Premier

Retrospect Express HD

A Retrospect Express HD update is available.

Paused   03:21/04:33

Extending the Capabilities of WebSphere Portal to Mobile Devices
WebSphere Everyplace Mobile Portal

PC's and full browsers

Mobile devices

E-Mail/PIM

ERP/DBMS

CMS/ Syndicated Content

REST Services/ Mashups

Feeds/ Gadgets

Forms and Workflow

Web Services

Dynamically adapted and rendered "Write Once, Render Many"...

WebSphere Everyplace Mobile Portal (WEMP) combines key portal functionality with a device adaptive presentation layer

- **Takes advantage of many Portal Features**

  - Configuration (xml access)

  - Navigation (Aggregator/Model API)

  - Security (e.g. TAI/ACL)

  - Scalability (cluster)

  - Virtual Portal

- **Extends WebSphere Portal with a device independent presentation layer**

  - -XDIME Aggregator – displays navigation nodes which are configured and stored in Portal.

  - -XDIME Portlets – render applications that generate XDIME.

  - -MCS Integration – converts XDIME to device-specific markup.

- **Provides a framework that can be used to create device independent portlet applications. (XDIME portlets)**

- **Includes an extensive tooling suite built on IBM's Eclipse-based Rational Software Development Platform.**

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XDIME for Creating Device Independent Applications

- **XDIME: XML Device Independent Mark-up Extension**

  - An XML vocabulary to describe content, resembles XHTML

- Device dependent attributes are moved to layout and themes, and other policies.

  - Additional tags to abstract device specifics, such as Layout (e.g. <pane>, <region>)

- Use Extended Attributes or conditional markup to handle device characteristics. (examples: color, sound) Device capability names are defined in MCS

- CSS-based grammar for style control

- XDIME mark-up can be generated by XSL templates

- Toolkit provides environment to develop and unit test XDIME portlets

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WebSphere Everyplace Mobile Portal 6.0.1
New Features

New out of box functionality for faster time to value:

- New XDIME 2-based RSS portlet. This new mobile RSS portlet extends the existing RSS portlet for WebSphere Portal, giving users out of the box capability to configure and access RSS feeds on their mobile devices.

More flexible interface design and improved mobile rendering with support for XDIME 2:

- XDIME 2 fragment links: With the ability to modify the text or label displayed in a fragment link, the content author has greater stylistic control over the text that is displayed for each link. Large chunks of content can be split across new pages.

- XDIME 2 form fragments: The content author can decompose large forms and deliver the decomposed sections independently to the browser.

- Enhanced theme processing: MCS version 4.3.5 streamlines the themes and interface component processing times, speeding presentation to mobile devices

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WebSphere Everyplace Mobile Portal 6.0.1
New Features (cont'd)

Updated Multi-Channel Server engine increases performance:

- WebSphere Everyplace Mobile Portal Enable V6.0.1 updates the included Multi-Channel Server (MCS) to version 4.3.5, providing the following enhancements and new features:
- Improves mobile content rendering performance with:
  - Enhanced theme processing: MCS version 4.3.5 streamlines the themes and interface component processing times, reduces page weights by over 40% and speeding presentation to mobile devices

More precise and effective development:

- New user interface for theme development: A new user interface shows a summary of the properties defined on a theme variant and provides a mechanism for navigating to a property.

- Device classification: Map component, layout, and theme polices to devices according to mobile device groupings and customized device hierarchies

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Mobile RSS Portlet

Mobile version of RSS portlet on a PC browser

WebSphere Everyplace Mobile Portal 6.0.1 Technical Details

Supported Servers & Operating Systems

pSeries® with IBM AIX 5L V5.3 and the 32-bit kernel

Intel® (x86) hardware, with either:

Red Hat Enterprise Linux Advanced Server Version 4 and 5 on an Intel x86 32-bit server
SuSE Linux Enterprise Server (SLES) Version 10 Intel x86 32-bit server
Solaris 10
Windows Server 2003

Supported Devices

– All types of browser enabled devices (More than 5000 supported devices in the device database)

Image Conversion Service installed on a separate application server
– Java Runtime Environment 1.4.2 service release 6 or later.

Pre-requisites:

– WebSphere Portal for Multiplatforms V6.0.1 fixpack 3 (Server, Enable or Extend)

– IBM Rational Application Developer V7.0.0.6 or Rational Software Architect V7.0.0.6

– which support Eclipse 3.2.1 (prerequisite to use the Mobile Portal Toolkit)

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Summary: Major Benefits of Mobile Portal

- **Write-once for Mobile devices: Layouts optimize screen utilization, MCS handles markup variance.**

- **Virtual portal support allows support for multiple brands and Mobile Virtual Network Operators.**

- **Navigation is administered via WYSIWYG interface in Portal Administration**

- **Integration with WebSphere Portal: Enables unified Navigation administration for HTML and Mobile users**

- **User may customize their portal from the HTML view, and see changes in XDIME view**

- **Scalability – Very large cluster is possible with Portal and Mobile Portal**

- **ACL is controlled in Portal Administration. Enables unified ACL administration, reduces duplication of effort. (Lower ACL administration cost.)**

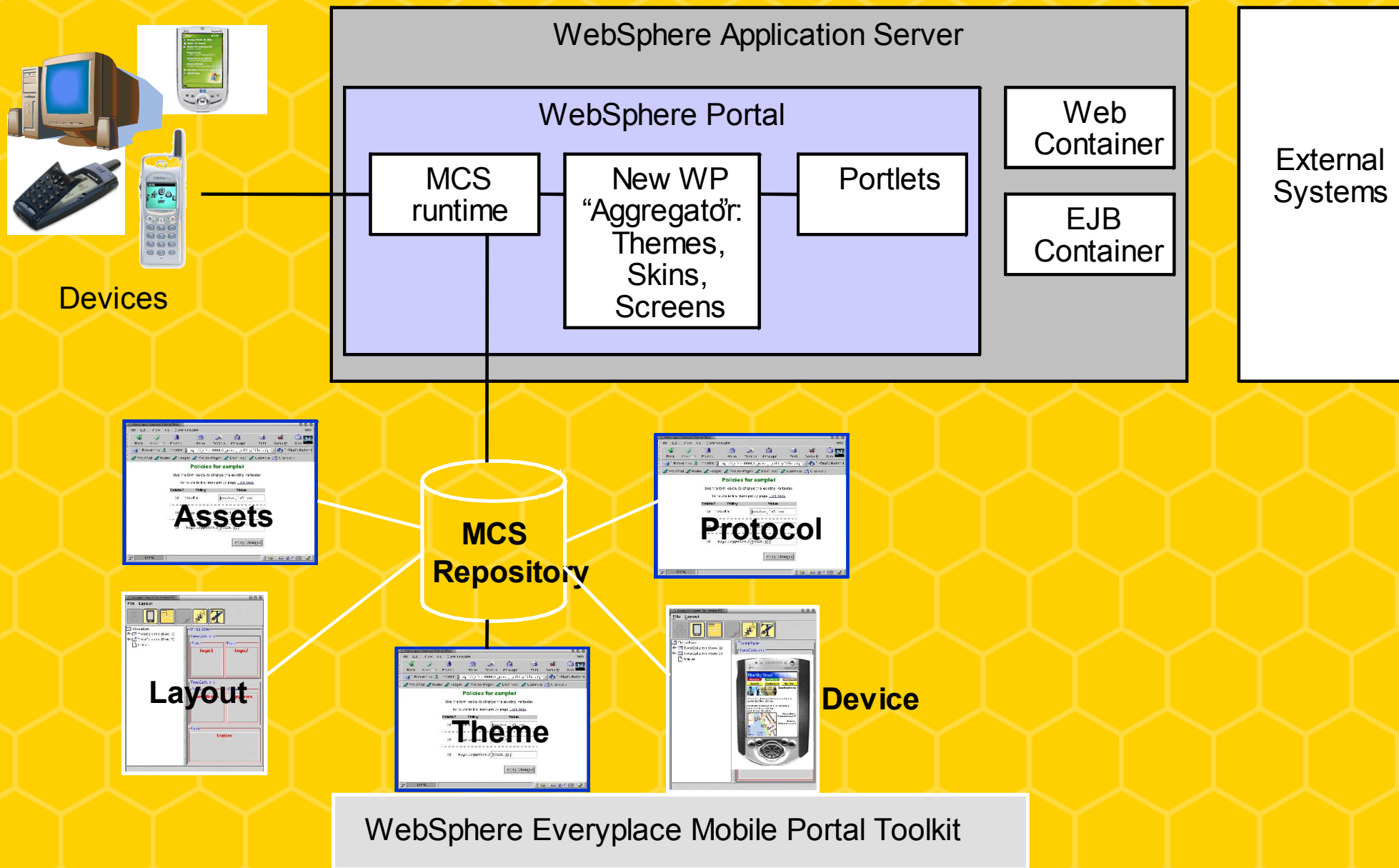Lotus. software

Thank You!

Q & A

Your feedback is valuable! Please complete your session evaluation forms for:

LCTY Session : Expand Your Business with Mobile Enabled Portals

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Mobile Portal Architecture Overview

Devices

WebSphere Application Server

WebSphere Portal

MCS runtime

New WP "Aggregator: Themes, Skins, Screens

Portlets

Web Container

EJB Container

External Systems

Assets

MCS Repository

Protocol

Layout

Theme

Device

WebSphere Everyplace Mobile Portal Toolkit

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WEMP FAQs:

Q	My company already has Portal, along with a variety of portlet applications. Will WEMP make our existing applications visible on mobile devices?
A	No. WEMP will not simply transcode existing web pages/applications. In fact, WEMP dropped this capability because customers realized computer web pages and mobile web pages are not the same. However, you can reuse the same backend infrastructure and portlets, such as retrieving my stock preferences.
Q	Is WEMP scalable?
A	Yes. WEMP is currently installed and operating in the world's largest Portal cluster.
Q	How do I keep up with all of the devices, and what is an MDU?
A	The Mobile Device Update service is a subscription that keeps the device repository up-to-date in order to support new devices as the enter the market. Customers simply download the repository whenever and as often as they prefer.

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Resources for WebSphere Everyplace Mobile Portal:

Overview
http://www.ibm.com/software/pervasive/ws_everyplace_mobile_portal_enable/

Information Center
http://publib.boulder.ibm.com/infocenter/pvccom/2005/index.jsp

DeveloperWorks articles

Intro:

http://www.ibm.com/developerworks/websphere/library/techarticles/0411_burke/0411_burke.html

Examples
http://www.ibm.com/developerworks/websphere/library/techarticles/0412_balhoff/0412_balhoff.html
http://www.ibm.com/developerworks/websphere/library/techarticles/0512_burke/0512_burke.html

Articles are added regularly – please search "WebSphere Everyplace Mobile Portal"

RedBook (WEMP version 5)
http://www.redbooks.ibm.com/abstracts/REDP3942.html?Open

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