



LotuspHERE

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Lotus



SOA - Removing the Hype, Making it Real and Doing it Now



Lotus

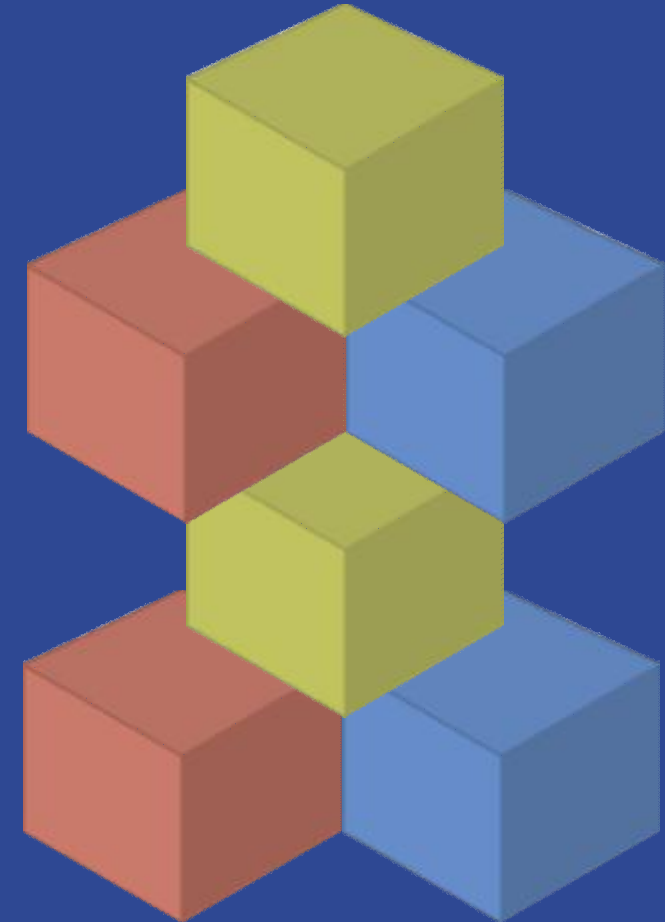
What We'll Cover

- § What is a Service Oriented Architecture (SOA)?
- § Why is a portal an important part of an SOA strategy?
- § How do I expose services as executable tasks to users?
- § How can I compose services into business processes?
- § Where is my On-Ramp to SOA?
- § Wrap-up

What is a Service-Oriented Architecture?

An **approach** for **building** distributed systems that deliver application functionality as **services** to either end-user applications or other services

- | It defines :
 - u An architecture that leverages open standards to represent software assets as services.
 - u Provides a standard way of representing and interacting with software assets
 - u Individual software assets become building blocks that can be reused in developing other applications
 - u Shifts focus to application assembly rather than implementation details
 - u Used internally to create new applications out of existing components
 - u Used externally to integrate with applications outside of the enterprise



Services are the Building Blocks for Reuse!

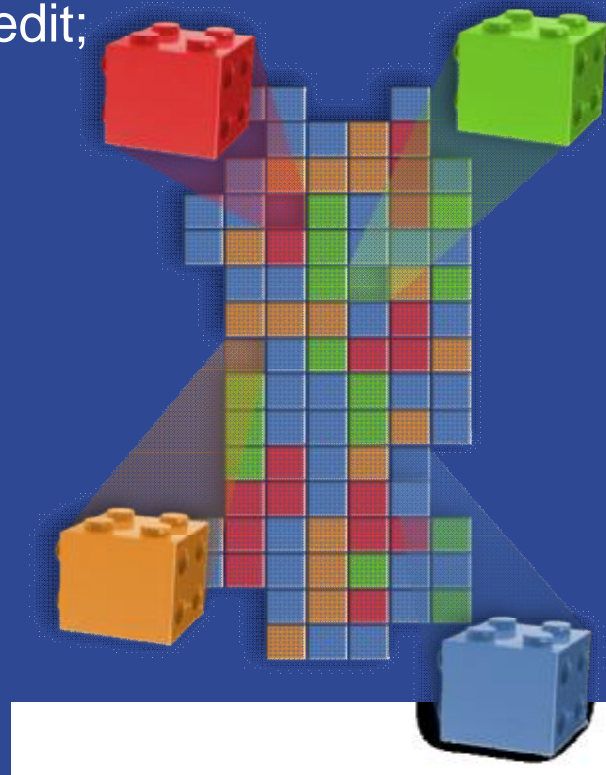
Understanding IBM's View of SOA

A Service

A **repeatable business task** –
e.g., check customer credit;
open new account

Service Oriented Architecture (SOA)

An IT **architectural style** that supports
service orientation



Service Orientation

A way of integrating your
business as linked services
and the outcomes that
they bring

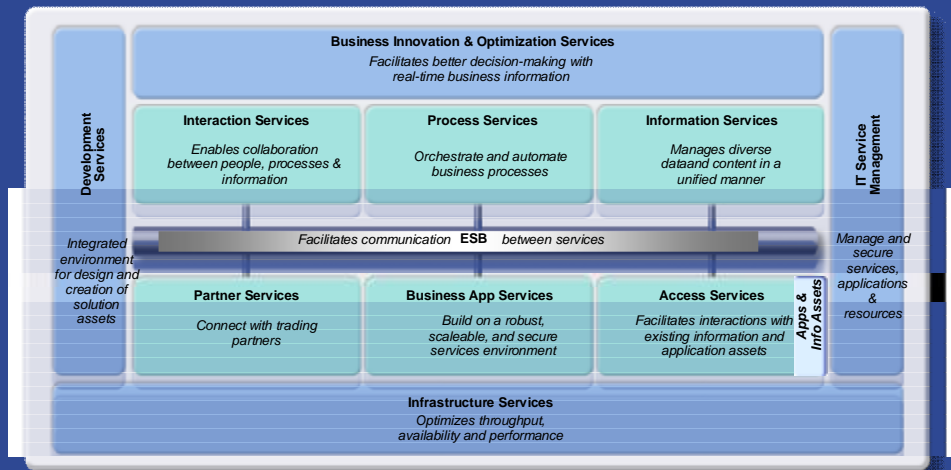
A Composite Application

A set of **related & integrated** services that
support a business
function

Understanding the IBM SOA Reference Architecture

§ Key principles of IT flexibility

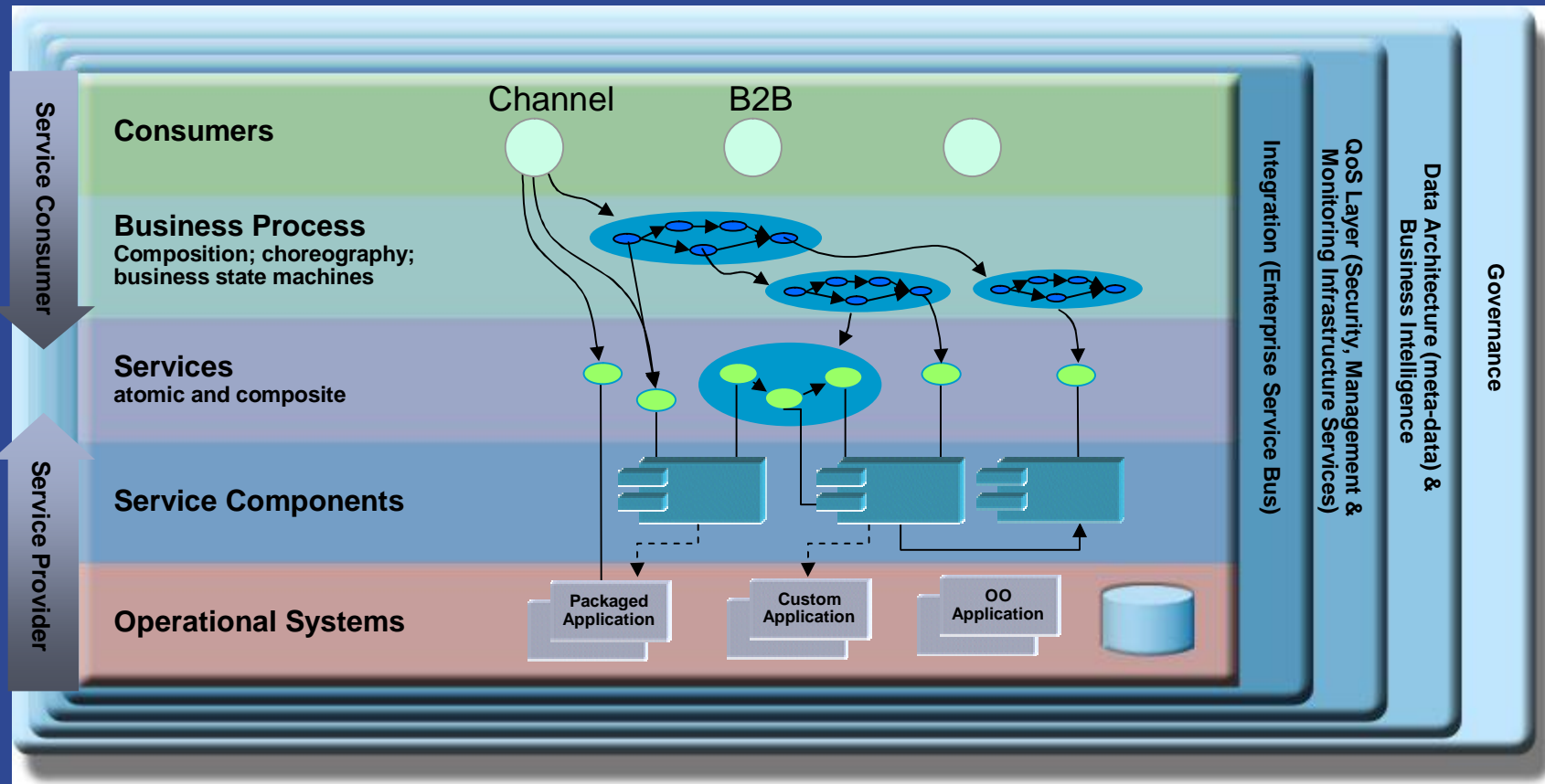
- 4 Open standards
- 4 Linkage between business & IT
- 4 Component based programming and solution development
- 4 Separation of Concerns
- 4 Connectivity & loose coupling
- 4 Composite applications
- 4 Quality of service
- 4 Business & IT level monitoring and management



The IBM SOA Reference Architecture provides the level of **IT flexibility** required to meet the demands of business

Understanding the SOA Solution Layers

§ Layers connecting the service consumers and providers



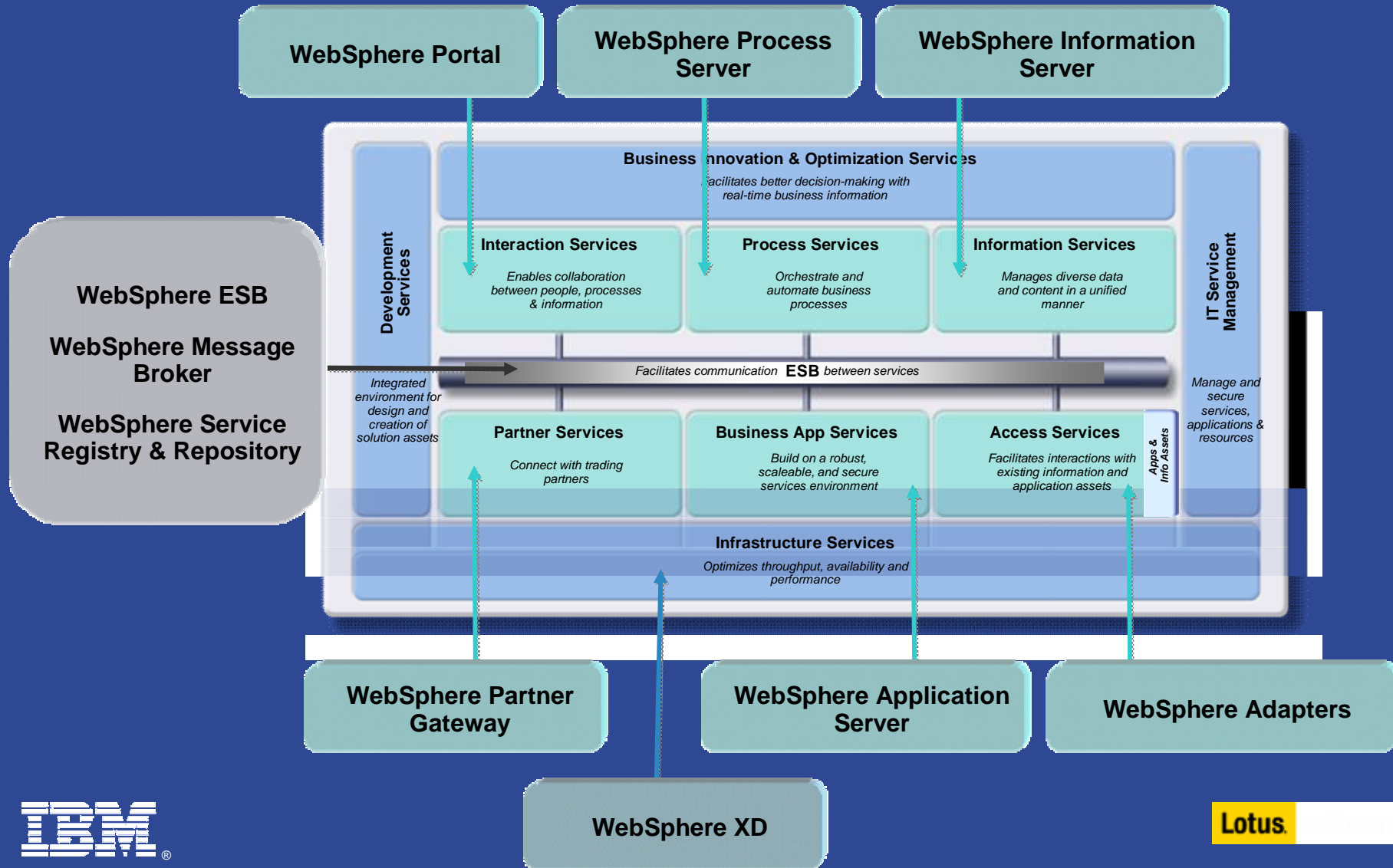
● Atomic Service

○ Composite Service

■ Registry



Mapping the SOA Reference Architecture to Products



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The question is ...

- § How do we enable users, and our lines of business to take advantage of an SOA based IT infrastructure?

And the answer is ...

- The next generation of **portal** technology will provide the front end and user access to SOA implementations

The Evolution of Portals

§ Crawling

- 4 Portals provide Web based access to information



§ Walking

- 4 Portals deliver personalized content and information
- 4 Portals provide role based access to applications



§ Running

- 4 Portals achieve enterprise scale and reliability
- 4 Portlets provide a way to structure applications
- 4 Portals used to enhance team collaboration



The Evolution Continues

§ So what's going on in the portal space now?

- 4 New market conditions
- 4 New customer requirements
- 4 New and innovative capabilities

§ What does this mean to portals?

- 4 Connecting users to **Service Oriented Architectures**
- 4 **Composite Applications** for added business value
- 4 **Process Integration** for improved productivity



Understanding Evolving Portal Market Requirements

Collaboration technologies are converging



Purchased more often as a “suite” or embedded in an application

Businesses are adopting SOA



Requires new app. dev. process where products and technologies are used as components

Access methods are growing



Requires open environment that works across platforms

New methods of communicating and transacting are being used



Infrastructure must be flexible to adopt emerging technologies

The boundaries of portal implementations are expanding



Solutions must be extensible inside and outside the org and to every type of user

Portal technologies are now mission critical

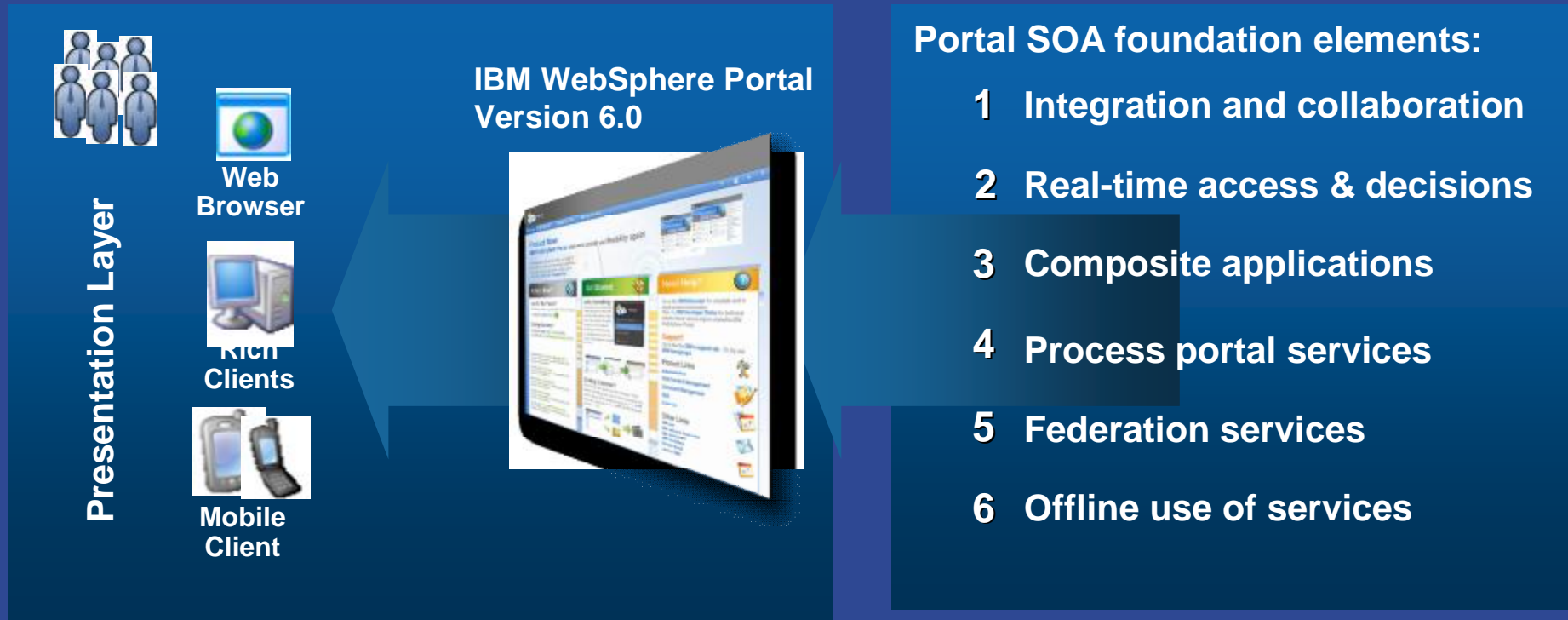


Tools must be developed into the fabric of business processes

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WebSphere Portal as your SOA User Experience



§ WebSphere Portal provides the user experience which enables people to interact effectively with your services

Welcome

User ID:

wpsadmin

Password:

Not registered? [Sign up](#)

Log in

Cancel

Already Signed Up?

Type your user ID and password to log on to the site.

First-time Visitor?

Sign up to get a user ID and password.

[Sign up now!](#)

My Vertical News ▾



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[John Travolta and Noclé Blonsky in a scene from the new movie version of 'Hairspray.'](#)

Entertainment News (includes photo)

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Monday, October 30, 2006 4:18:00 PM GMT

	Raleigh, North Carolina Sunny	71° 46°/79°
	Stuttgart, germany Partly Sunny	54° 46°/57°
	Beijing (Peking), china Fog	57° 48°/69°
	Tokyo, japan Mostly Cloudy	64° 57°/69°
	San Francisco, California Overcast	61° 57°/67°

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My Stocks

Monday, October 30, 2006 11:50:00 AM EST

	IBM	91.24	0.48	0.53%
	\$COMPO	2,357.22	6.60	0.28%
	\$DJI	12,088.18	-2.08	-0.02%
	\$SPX	1,377.25	-0.09	0.00%

Data delayed at least 20 minutes.

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My cities:

- Raleigh, North Carolina
- Stuttgart, germany
- Beijing (Peking), china
- Tokyo, japan
- San Francisco, California

↑ Up
 ↓ Down
 X Delete

Add a city(enter name or zip code):
 Atlanta, GA

Display temperatures in:
 Fahrenheit
 Celsius

My Stocks

Monday, October 30, 2006 11:51:00 AM EST

▲ IBM	91.30	0.54	0.60%
▲ \$COMPO	2,357.65	7.03	0.30%
▼ \$DJI	12,088.82	-1.44	-0.01%
▲ \$SPX	1,377.56	0.22	0.02%

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Atlanta, Georgia
Partly Sunny 67°
49°/77°



Raleigh, North Carolina
Sunny 71°
46°/79°



Stuttgart, Germany
Partly Sunny 54°
46°/57°



Beijing (Peking), China
Fog 57°
48°/69°



Tokyo, Japan
Mostly Cloudy 64°
57°/69°



San Francisco, California
Overcast 61°
57°/67°

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Monday, October 30, 2006 11:52:00 AM EST

▲	IBM	91.31	0.55	0.61%
▲	\$COMPO	2,357.36	6.74	0.29%
▼	\$DJI	12,089.94	-0.32	0.00%
▲	\$SPX	1,377.58	0.24	0.02%

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OPTIONS

GENERAL

LANGUAGES AND CHARACTER ENCODING

LANGUAGES

WEB PAGES ARE SOMETIMES OFFERED IN MORE THAN ONE LANGUAGE. CHOOSE LANGUAGES FOR DISPLAYING THESE WEB PAGES, IN ORDER OF PREFERENCE.

LANGUAGES IN ORDER OF PREFERENCE:

- DUTCH [nl]
- []

MOVE UP

MOVE DOWN

REMOVE

ADD

SELECT A LANGUAGE TO ADD...

CHARACTER ENCODING

DEFAULT CHARACTER ENCODING: WESTERN (ISO-8859-1)

OK CANCEL

OLDIOWEEU_AUOHYJAHAMLWKFE

Go

Search: All Sources

Log Out

Weather

Monday, October 30, 2006 4:18:00 PM GMT

	Atlanta, georgia	67° 49°/77°
	Raleigh, North Carolina	71° 46°/79°
	Stuttgart, germany	54° 46°/57°
	Beijing (Peking), china	57° 48°/69°
	Tokyo, japan	64° 57°/69°
	San Francisco, California	61° 57°/67°

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Monday, October 30, 2006 11:52:00 AM EST

▲	IBM	91.31	0.55	0.61%
▲	\$COMPO	2,357.36	6.74	0.29%
▼	\$DJI	12,089.94	-0.32	0.00%
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Core inflation rate falls back to 2.4% in September

European shares fall in morning trading

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Mijn nieuwsarchief



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Entertainment: nieuws (inclusief foto's)

- ▶ [Pssst! Pssst! John Travolta is Edna Turnblad](#)
- ▶ [Third 'Mission' deserves second look](#)
- ▶ [Which anchor will win election night?](#)

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Mijn nieuws

Financiële dienstverlening: nieuws

- ▶ [China must continue trade reforms](#)
- ▶ [Core inflation rate falls back to 2.4% in September](#)
- ▶ [European shares fall in morning trading](#)

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Mijn weer

Maandag, 30 Oktober 2006 16:18 GMT

	Atlanta, Georgië Wolkenvelden	67° 49°/77°
	Raleigh, North Carolina Zonnig	71° 46°/79°
	Stuttgart, Duitsland Wolkenvelden	54° 46°/57°
	Beijing (Peking), China Mist	57° 48°/69°
	Tokyo, Japan Overwegend bewolkt	64° 57°/69°
	San Francisco, California Zwaarbewolkt	61° 57°/67°

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Mijn aandelen

Maandag, 30 Oktober 2006 11:55 EST

	IBM	91.30	0.54	0.60%
	\$COMPO	2,356.78	6.16	0.26%
	\$DJI	12,091.62	1.36	0.01%
	\$SPX	1,377.41	0.07	0.00%

De gegevens zijn minimaal twintig minuten vertraagd.

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▲	IBM
▲	↓COMPQ
▲	↓DJI
▲	↓SPX

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Monday, October 30, 2006 4:18:00 PM GMT



Raleigh, North Carolina
Sunny
2,355.07

71°
46°/79°
4.45



Stuttgart, Germany
Partly Sunny
12,091.70
3,376.93

54°
46°/57°
1.44



Beijing (Peking), China
Fog

57°
48°/69°

Symbol Lookup



Tokyo, Japan
Mostly Cloudy

64°
57°/69°

Intraday data provided by CompuLink Interactive Data Company.



San Francisco, California
Overcast

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57°/67°

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Monday, October 30, 2006 11:59:00 AM EST

▲ IBM	91.39	0.63	0.69%
▲ \$COMPQ	2,353.82	3.20	0.14%
▲ \$DJI	12,092.50	2.24	0.02%
▼ \$SPX	1,376.50	-0.84	-0.06%

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Today's News

- New Page
- Edit Page Layout
- Edit Page Properties
- Assign Page Permissions
- Delete Page

Personal Interest

My Vertical News



John Travolta and Nicole Blonsky is Edna Turnblad
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Monday, October 30, 2006 12:07:00 PM EST

▲	IBM	91.46	0.70	0.77%
▲	\$COMPO	2,354.52	3.90	0.17%
▼	\$DJI	12,085.69	-4.57	-0.04%
▼	\$SPX	1,376.84	-0.50	-0.04%

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Edit Layout

Edit Layout allows you to add and arrange portlets, columns and rows. You can also remove portlets, columns and rows. Modifications occur as you make them.

Page title: Today's News



Show Portlet Rule Mappings

<p>My Vertical News</p> <p>My News</p> <p>+ Add portlets</p>	<p>My Weather</p> <p>My Stocks</p> <p>+ Add portlets</p>
--	--

Done

Accelerate SOA with WebSphere Portlet Factory

§ Key points of WebSphere Portlet Factory

4 Accelerate

§ Faster WebSphere Portal deployment without deep J2EE development skills

4 Respond

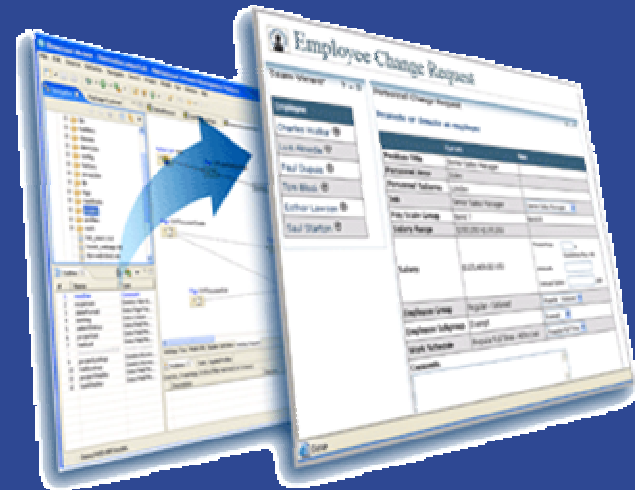
§ Create dynamic portal solutions which can be modified quickly to meet the ever-changing needs of the business

4 Evolve

§ Build re-usable design components

§ Surface components as re-usable SOA services

§ Surface services as Web applications or portlets



Exposing Services to Users

- § Bring services together based on the **task** at hand

- § A big myth is that a “Service” (a unit of business activity) needs to be automated to be part of an SOA
 - 4 In fact, most business services actually involve humans in their execution
 - 4 And many business services are actually collaborations between a number of people
 - 4 Humans use various IT services in the execution of tasks

- § Portals expose services to users in meaningful ways
 - 4 Compose services into tasks driven by users
 - 4 Create sections of your portal targeted at specific tasks

Using a Portal to Interact with Services

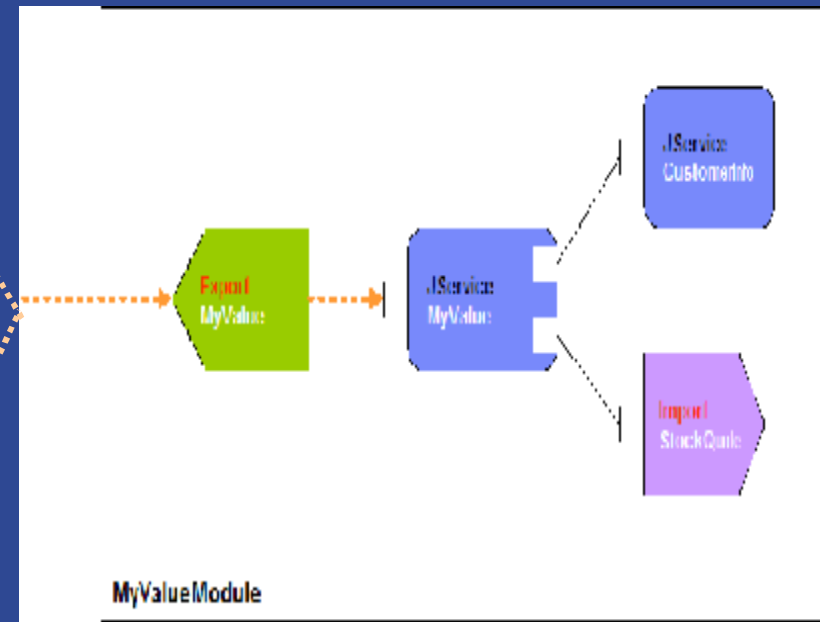
§ Portlets are the natural way for users to interact with “Services”

Flight Selection Portlet

Flight Select Portlet			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Economy Air	Pakistan	450.00\$
Departure: 2002/10/05, 19:05 - Return: 2002/10/09, 07:30			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Economy Air	France	450.00\$
Departure: 2002/10/05, 19:05 - Return: 2002/10/07, 15:10			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Business Class	Lufthansa	1,400.00\$
Departure: 2002/10/05, 19:05 - Return: 2002/10/07, 09:45			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Business Class	British Airways	1,299.00\$
Departure: 2002/10/05, 09:45 - Return: 2002/10/10, 09:45			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	First Class	Air Pakistan	2,100.00\$
Departure: 2002/10/05, 09:45 - Return: 2002/10/09, 19:05			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Business Class	Lufthansa	1,299.00\$
Departure: 2002/10/05, 07:30 - Return: 2002/10/10, 07:30			
Frankfurt, Germany (FRA) to New York City, NY, USA (JRA)	Business Class	American Airlines	900.00\$
Departure: 2002/10/05, 15:10 - Return: 2002/10/07, 19:05			

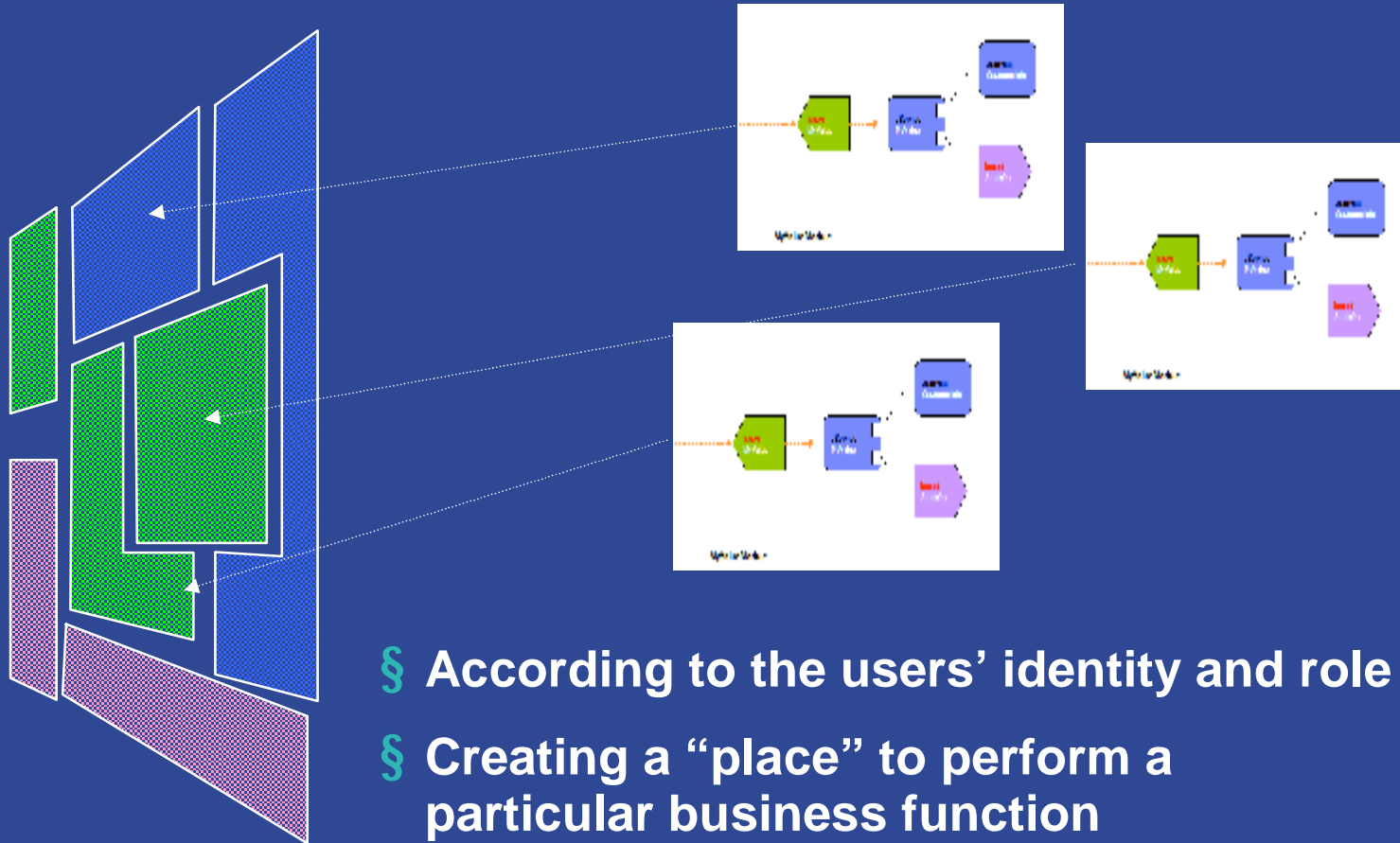
refresh list

Flight Selection Service



Surfacing Services Through Portal Pages

§ Use portal pages to assemble user interface components (portlets) into applications which surface services to users



§ According to the users' identity and role

§ Creating a "place" to perform a particular business function

Grouping Services into Composite Applications

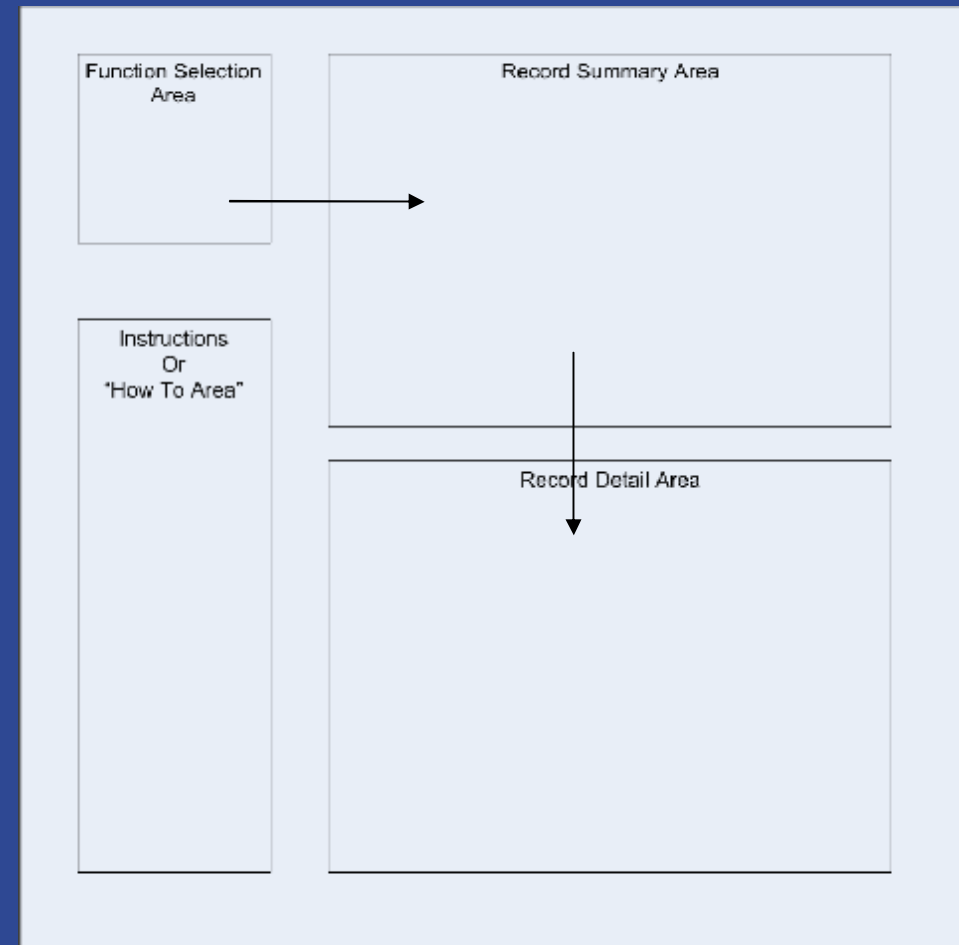
§ Interconnect services into composite applications for effective execution of business tasks by users

§ Composite applications

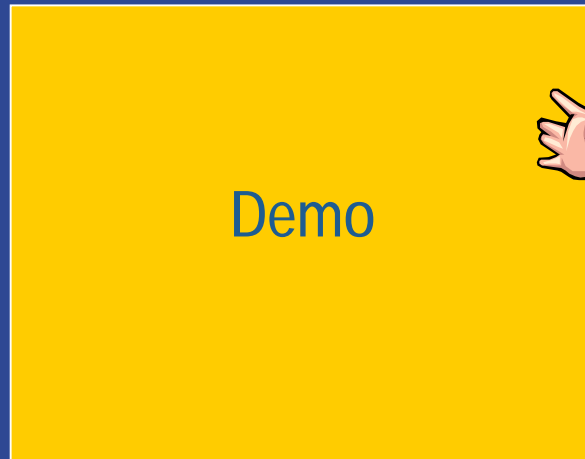
- 4 Contain set of related and integrated services that support a business function
- 4 Enable extended business functions to be composed from smaller more primitive functions, or **services**

§ For example

- 4 User performs an action with portlet in upper left to specify a record set
- 4 In response, the "Record Summary" portlet shows a set of records
- 4 Selecting a record in the summary, shows the detail in below right portlet



Building a Composite Application



Building Composite Applications with Templates

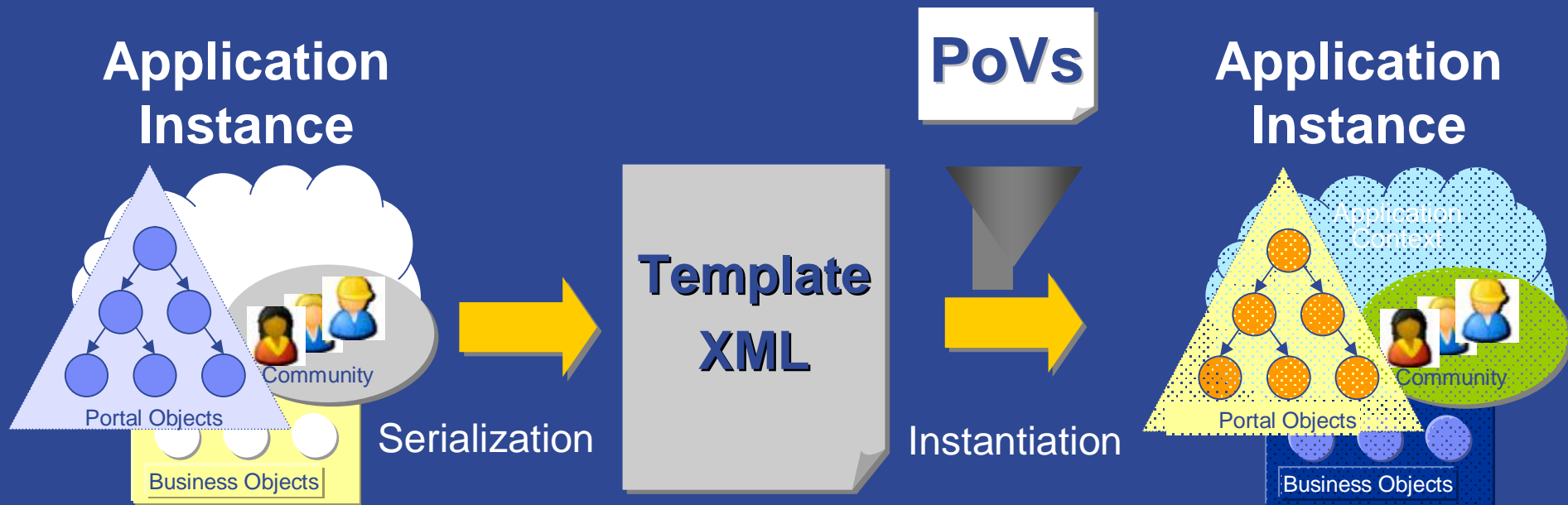
- § Use Templates to create new composite applications
 - 4 Pages and portlets, layout of portlets on pages, and members
- § Deploy them to different communities with different...
 - 4 Look and feel, members and roles, other parameters
- § Application owners can then change it to meet new requirements
 - 4 if they have the permission to do so

Application Template Library

*New... Import...

<u>Name</u>	<u>Owner</u>	<u>Category</u>	<u>Modified</u>
CRM template ▾	wps admin	CRM	5 April 2006 09:41:54 GMT-04:00
My tourist workplace ▾	wps admin	Tourism	4 April 2006 09:54:11 GMT-04:00
Portal Blank Template ▾	wps admin	None	29 March 2006 04:41:43 GMT-05:00
Test1 ▾	wps admin	None	7 April 2006 08:41:05 GMT-04:00

Building Applications from Templates



§ Template XML contains

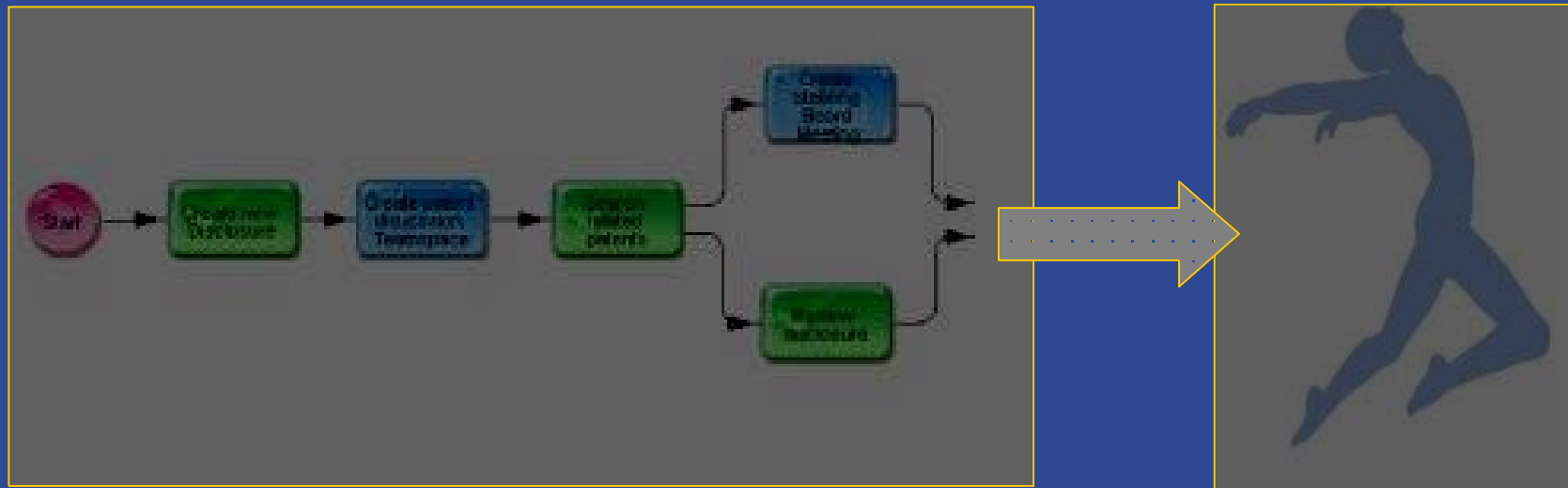
- 4 The blue prints to create an instance of the application
- 4 Points of variability to be filled out during instantiation

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- § Where is my On-Ramp to SOA?
- § Wrap-up

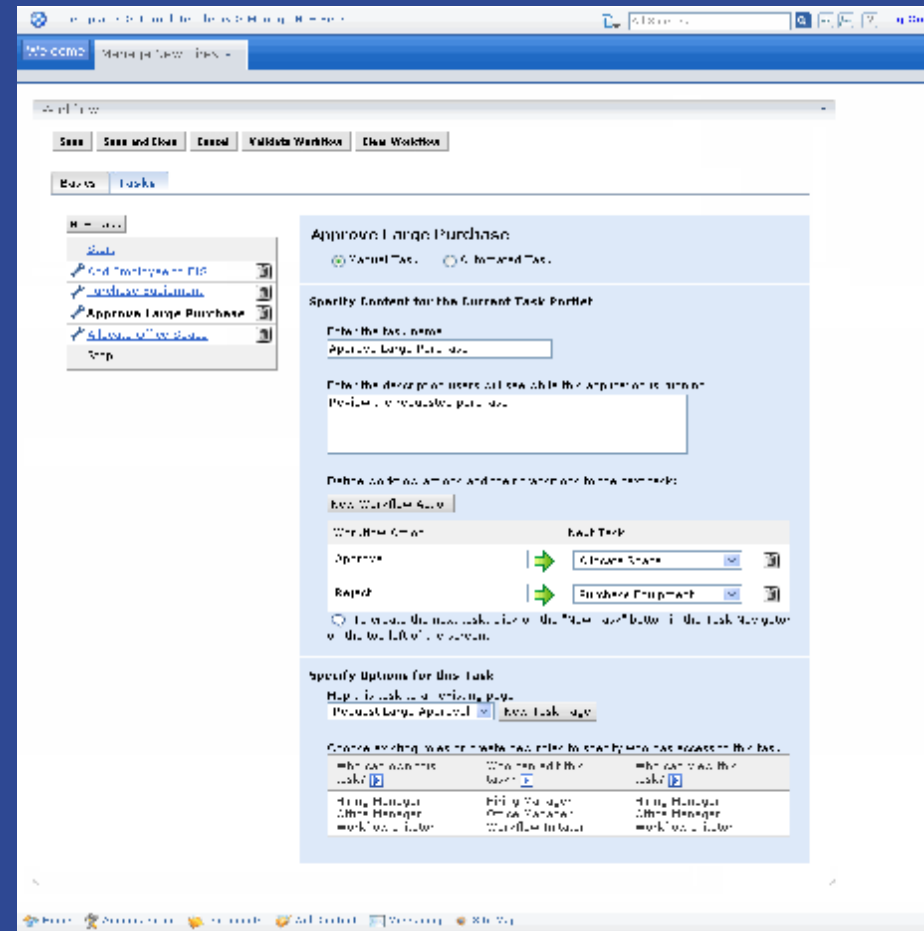
Understanding Process Integration

- § Connect portals to business processes to provide the right composition of services to the right users at the right time
 - 4 Provides users with a single place for accessing applications
 - 4 Ties portal based activity to business procedures

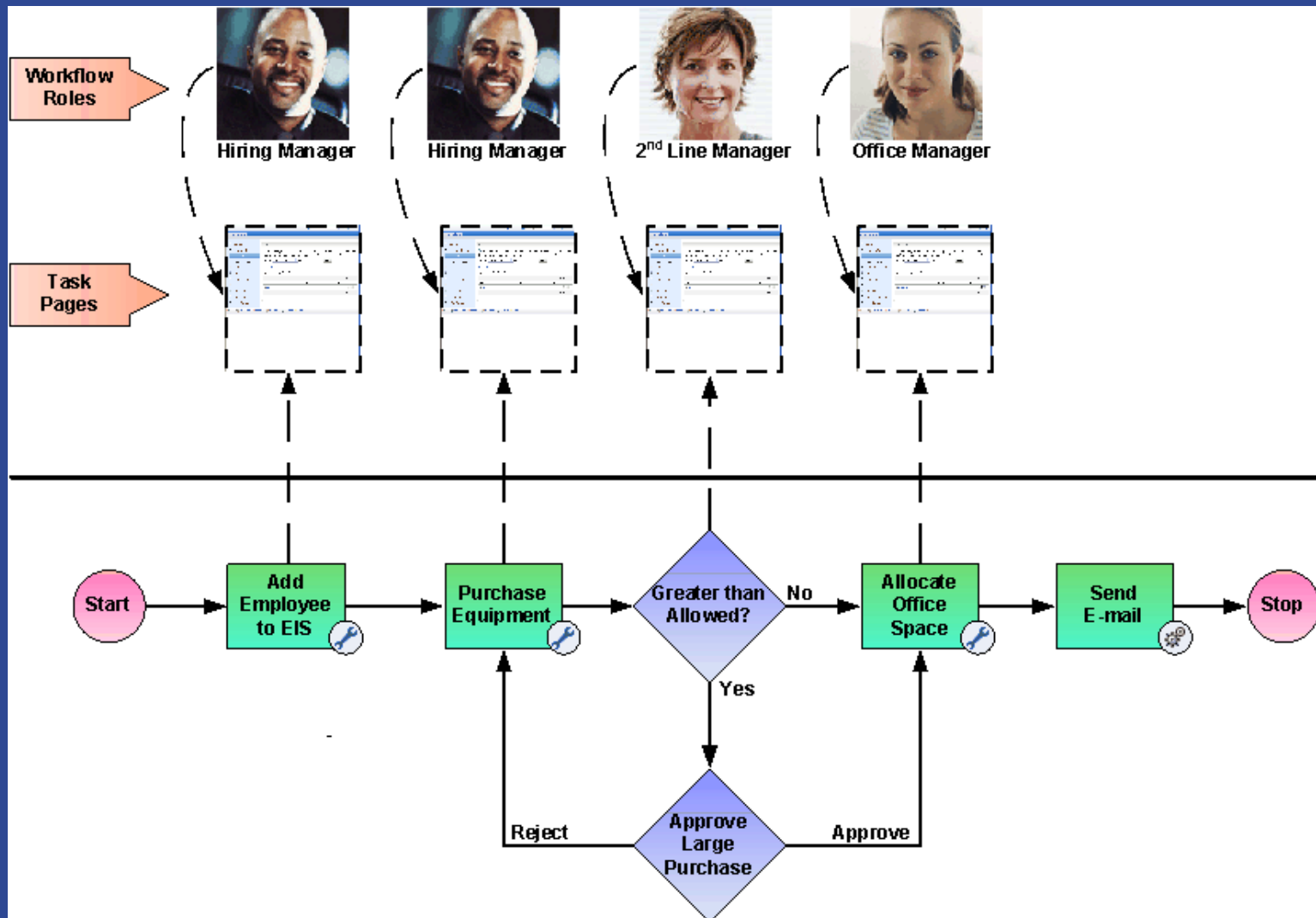


Orchestrating the Workflow Process

- § Enable business processes with WebSphere Portal functionality
- § Orchestrate the users navigation through “task pages” using workflow technology to manage the state of the process
- § Workflow technology maintains state information about the process & provides that state to the task pages



Composing a Collaborative Business Process



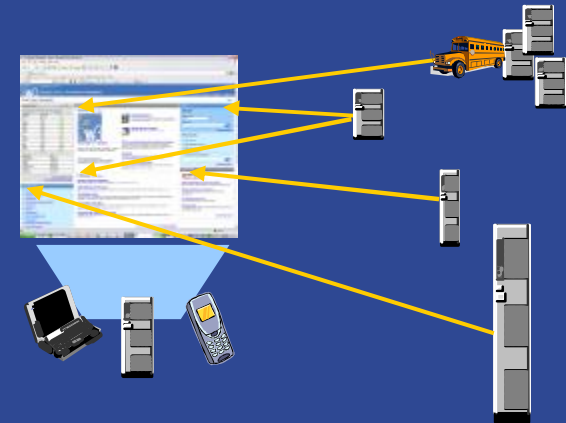
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Service Aggregation – An On-Ramp to SOA

§ Background

- 4 Single sign-on
- 4 Ad hoc aggregation of services
- 4 Integrated user interface



§ New development

- 4 Composite applications which aggregate services on the glass
- 4 Business processes orchestrating services in background
- 4 Portlets consuming services
 - § “Classic” Portlets calling services from Web container
 - § AJAX Portlets generating markup with JavaScript calls to services from Web browser

Service Aggregation – An On-Ramp to SOA

§ Aggregating services in a portal is conceptually simple

- 4 A screen is composed of multiple components called portlets
- 4 In a portlet-based presentation, UIs can become flexible
- 4 Portlets provide a way to separate function into discreet units

§ With portlets

- 4 Overall layout of the page can be left to non-technical users
- 4 Administrators gain the fine-grained power to easily control access to portions of a page.
- 4 Site designers can make massive changes to the look and feel of a Web site without functional changes to portlets

What We'll Cover

- ü What is a Service Oriented Architecture (SOA)?
- ü Why is a portal an important part of an SOA strategy?
- ü How do I expose services as executable tasks to users?
- ü How can I compose services into business processes?
- ü Where is my On-Ramp to SOA?
- § Wrap-up

The Bar Has Been Raised!

- § Portal products must step up to an expanded role in the enterprise of today
 - 4 Meet the demands of emerging SOA
 - 4 Support the evolution of composite applications
 - 4 Integrate with business process and workflow
 - 4 Extend the reach of Portal Clients



Resources

§ DeveloperWorks article 'Building composite applications and templates in WebSphere Portal V6'

4 http://www-128.ibm.com/developerworks/websphere/library/techarticles/0608_stober/0608_stober.html

§ White Paper: 'WebSphere Portal: An on-ramp to a service oriented architecture'

4 http://www-128.ibm.com/developerworks/websphere/library/techarticles/0608_stober/0608_stober.html

§ SOA Community of Practice (CoP)

4 <http://community.usca.ibm.com/soawiki/>



Key Points to Take Home

1

SOA Defines the Architecture for an **On-Demand Business**

2

Portal and work environments provide adaptive, security-rich & managed **interaction** between **people, process & information**

3

Portals represent a key “first-step” SOA project with potentially low risk and rapid ROI

4

High-Performance Workplaces are the “places” where people will consume the value of your SOA for productive use

5

In this **people-centric approach to SOA** the portal makes services accessible to the people who are composing business processes

6

Surfacing services as portlets and connecting them to create composite applications streamlines the creation of new applications as new services become available.

7

This “meet in the middle” supports business processes by **surfacing as many services as you can produce** to humans who **fill the gap** in the business process as they do already.



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