



Why Mashups Matter

Lotus software



Agenda

- Mashups 101
- The Mashup Development Process
- The Business Value of Mashups
- Challenges with Mashups
- Introduction to IBM Mashup Center



What is a Mashup?

A “mashup” is a lightweight web application created by combining information or capabilities from more than one existing source to deliver new functions & insights.

Mashups Enable:

iGoogle



- Line of business, “self-service” application development.

Zillow.com



- Dynamic, ‘at the glass’ application assembly - without the underlying components (e.g., widgets) needing to know about each other ahead of time.

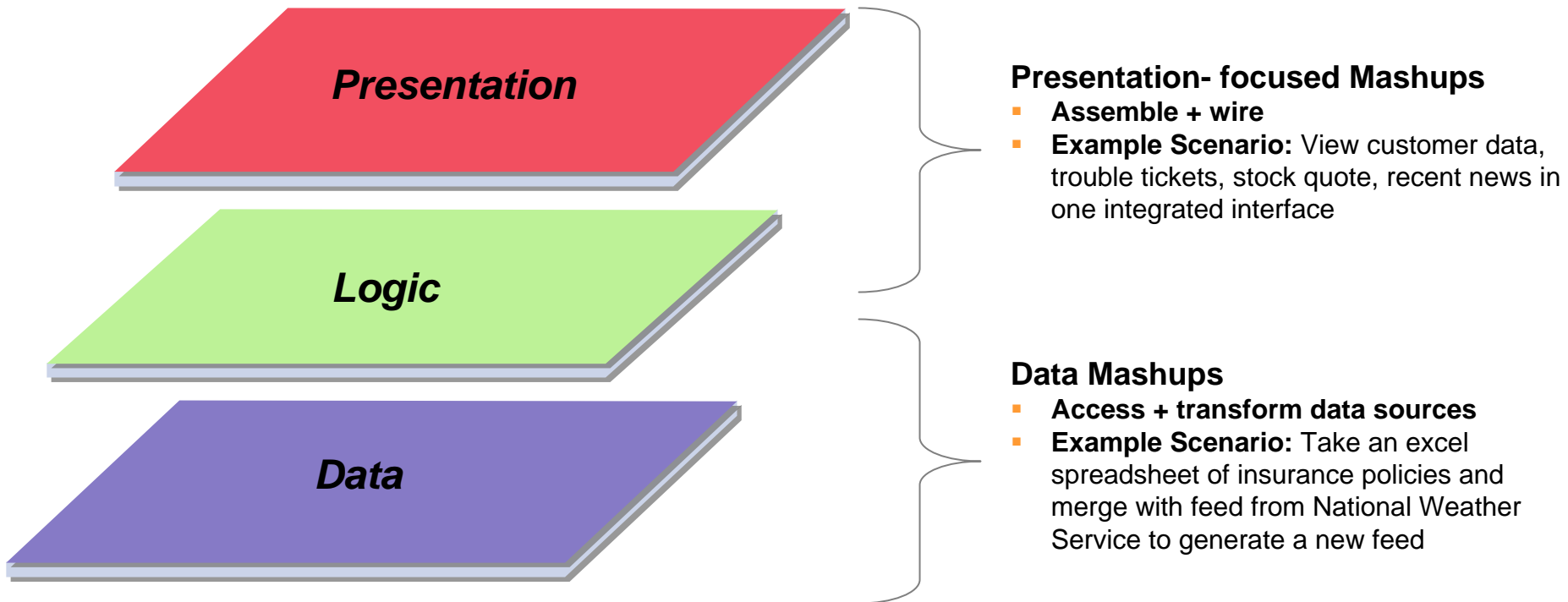
Competitive Mashup



- Rapid creation of situational applications that solve day-to-day problems. New apps can be created in minutes or hours!
- Easy mashing of content from different sources to generate new insights (1 + 1 = 4)

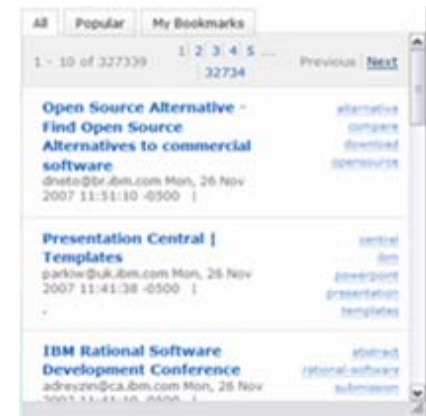
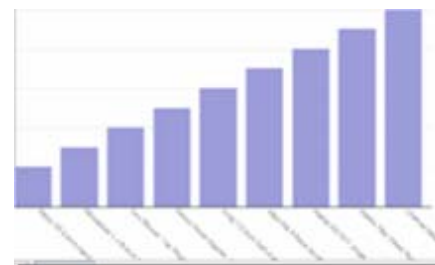
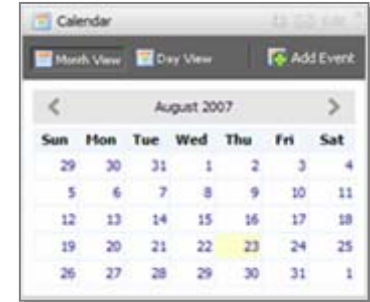
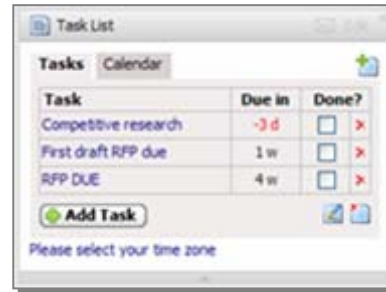
There Are Different Types of Mashups

- The term mashup encompasses both data and presentation mashups.



What is a Widget?

- A **widget** is a small application or piece of dynamic content that can be easily placed into a web page.
- Widgets are called different names by different vendors: gadgets, blocks, flakes.
- Widgets can be written in any language (Java™, .NET, PHP, etc.) and can be as simple as an HTML fragment.
- Widgets can be non-visual.
- Widgets often encapsulate an API.
- “Mashable” widgets pass events, so that they can be wired together to create something new.



Widgets Can Be Easily Embedded into Web Pages

HTML snippet for a YouTube video:

From: [StephenfromIBM](#)
 Joined: 1 year ago
 Videos: 2 Subscribe

About This Video
 IBM's social software product, and why business can benefit from embracing blogs, profiles, activities, dogear (social bookmarks), and communities.

<http://www.ibm.com/lotus/connections> (less)

Added: February 16, 2007
 Category: [Howto & Style](#)
 Tags: [ibm](#) [lotus](#) [social](#) [software](#) [connections](#)

URL
<http://www.youtube.com/watch?v=LBvleFbta9I>

Embed customize

```
"wmode="transparent" width="425" height="355"></embed></object>
```



Embedded into a simple blog:

MONDAY, NOVEMBER 26, 2007

Widgets can be embedded into Pages and Blogs

This is a Youtube widget

This is a Google Gadget

Live Weather

New York with WeatherBug

50.9°
 Occasional light rain and drizzle. Areas of fog. High 1. more...

High: 51° F

Tue	Wed	Thu
54° / 34°	50° / 42°	54° / 33°

Live TV Gadget
 Watch your favorite TV stations right on your

Gadgets powered by Google

Posted by Mash-o-Matic at 1:32 PM 0 comments



HTML snippet for a Google Gadget:

Copy and paste the HTML below to include this gadget on your webpage.

```
<script src="http://gmodules.com/ig/iframe?url=http://www.labpixies.com/caapa:"
```



How Customers are Using Mashups

Use Case	Self-service Aggregation of Information	Enabling customer-centric applications	“Quick and Dirty” app development	Web 2.0. enable legacy systems	Effortless syndication of content
Goals	LOB creation of situational applications that support: <ul style="list-style-type: none"> - Quick analysis - Better decision making - Improved collaboration - Increased visibility into business information 	<ul style="list-style-type: none"> - Support customer assembly of personalized applications for specific functions - Improve customer satisfaction + loyalty - Add “Web 2.0.” features, appealing to younger demographic 	<ul style="list-style-type: none"> - Good enough applications - Rapid app development - Speed over governance - Quick iterations 	<ul style="list-style-type: none"> - Unlock personal, enterprise data - Create mashable + consumable feeds - Unlock information without forcing upgrades or duplication of data 	<ul style="list-style-type: none"> - Unlock & wrap data as feeds + widgets - Embed and mash into customer sites - Reduce integration costs - Support new revenue models
Examples	<ul style="list-style-type: none"> - Risk assessment - Emergency response - Market research - Competitive analysis - Customer intelligence - Reporting 	<ul style="list-style-type: none"> - Custom online banking experience - Custom real estate app - Custom travel site 	<ul style="list-style-type: none"> - Prototypes - Demos - Project and task-specific apps for small teams (typically built by LOB IT) 	<ul style="list-style-type: none"> - Exposing LOB siloed systems, including spreadsheets and access databases, as consumable feeds 	<ul style="list-style-type: none"> - Providers of rich information services: weather, financial, company, etc.
Alternative solutions	<ul style="list-style-type: none"> - Manual assembly - Spreadsheets 	<ul style="list-style-type: none"> - Develop custom web 2.0. assembly framework - Portals (can be used in conjunction with mashup assembly tools) 	Apps built from scratch (not very agile): <ul style="list-style-type: none"> - VB - .Net - HTML - Photoshop 	<ul style="list-style-type: none"> - Custom development - Disruptive upgrades or replacements 	<ul style="list-style-type: none"> - Google gadgets - Manual approaches



Example Mashup: IBM Trip Planner

1 Select location.

2 See list of IBM approved hotels for your selected location.

3 View weather.

Combines 10 unique data sources to create a new application!

4 See meal limit from data feed.

5 Visual display of where the hotels, car rental agencies, ATMs, and the IBM offices are located.



Example Mashup: Customer 'Quick View'

The screenshot shows a web browser window titled "IBM Lotus Mashups - Mozilla Firefox" displaying a "Customer Quick View" dashboard. The dashboard includes several widgets: a customer list table, a stock price chart, a critical situations list, a Dogear news feed, and a customer sales chart. Five callout boxes with numbered circles (1-5) provide context for each widget.

1 Select a customer

Customer Name	Address	Zip	Contact
American International Group	70 PINE ST New York NY	10270	Kent E. Price
Capital One	1940 Marbut Forest Dr Lithonia GA	30058	Edward A. Bottoms
Cisco	1738 N Neville St Orange CA	92865	Sharon E. Kohler
Dell	48650 Seminole Dr Cabazon CA	92230	Janis H. Morehouse
Ford	3001 Chamberlain Ln Louisville KY	40241	William M. Aston

2 View stock price. Bad news/results informs the rep that he might be better off focusing elsewhere for the quarter.

3 Dogears allow the rep to keep track of news and blogs about the customer that he might have missed.

4 View sales by date for selected customer.

5 Critical situations is a good indicator for customer receptivity to spending. The more critical situations, the less likely the customer will buy more.

Critical Situation Tickets for AIG

Critical Situation #1	Critical Situation #2	Critical Situation #3
#123456		11:12:07
severity: critical		
contact: Chris Jones		
description: A urgent issue that needs to be addressed immediately. The computer won't start, and the hard disk seems to be dead. It holds sensitive corporate data without having a backup somewhere.		

Customer Chart

Legend: Revenues Q1, Revenues Q2, Revenues Q3, Revenues Q4

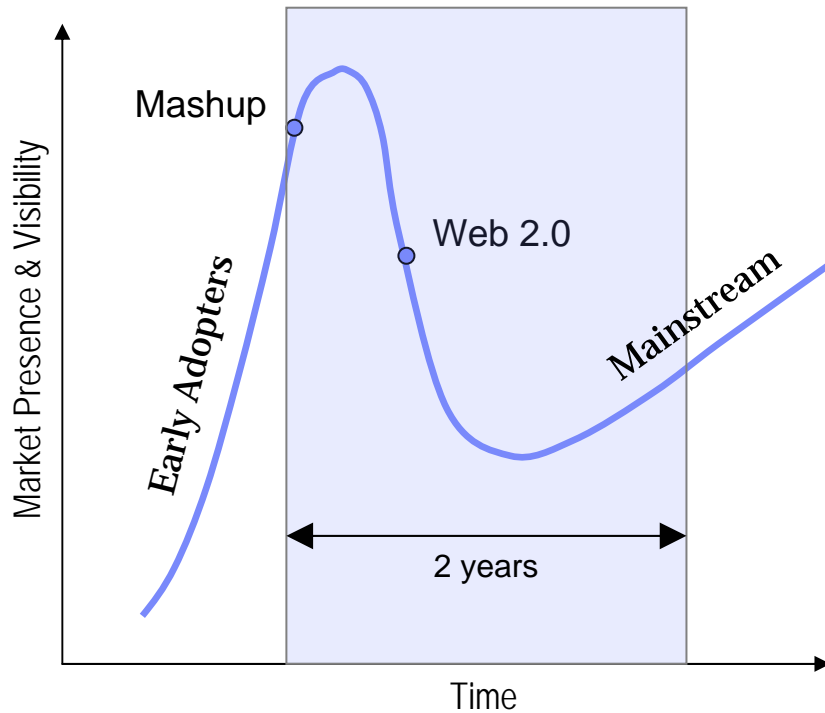
Sort: labels, data order

How Do Mashups Relate to Portals?

- Mashups are a type of application that can run in a portal framework.
- Many portal vendors support or plan to support the technologies needed to run mashups within a portal, such as:
 - Client-side aggregation of content, in addition to the traditional server-side aggregation approach
 - Support for Widgets and gadgets, in addition to portlets
 - Support for Web 2.0. technologies like AJAX, REST, JSON, and RSS
- While mashups can be created and run in a portal framework, a portal is not a prerequisite for creating a mashup.
 - Developers can pull together mashups by writing Javascript code.
 - There are also vendors that offer mashup servers/environments.
- Lightweight mashup environments and tools can be used alongside a Portal (NOTE- what is feasible depends upon what your vendor supports):
 - Browser-based mashup tools support on-the-glass assembly and wiring, extending the creation of new applications to knowledge workers.
 - Mashup environments also support rapid creation, deployment, and deletion of simple, tactical applications and prototypes – without having to involve IT.
 - Mashups deemed valuable for a larger audience could be pushed out to a portal for additional management and IT control (role-based security, rich personalization services, etc.).
 - Some mashup tools support combining + transforming multiple data sources into new feeds, which can then be consumed by a portal framework.

Mashup Usage is Growing Rapidly

Adoption Trend



Mashup Growth

Programmableweb.com statistics (March 2008)

Mashups/Day:	3.15
Total Mashups Listed:	> 2900

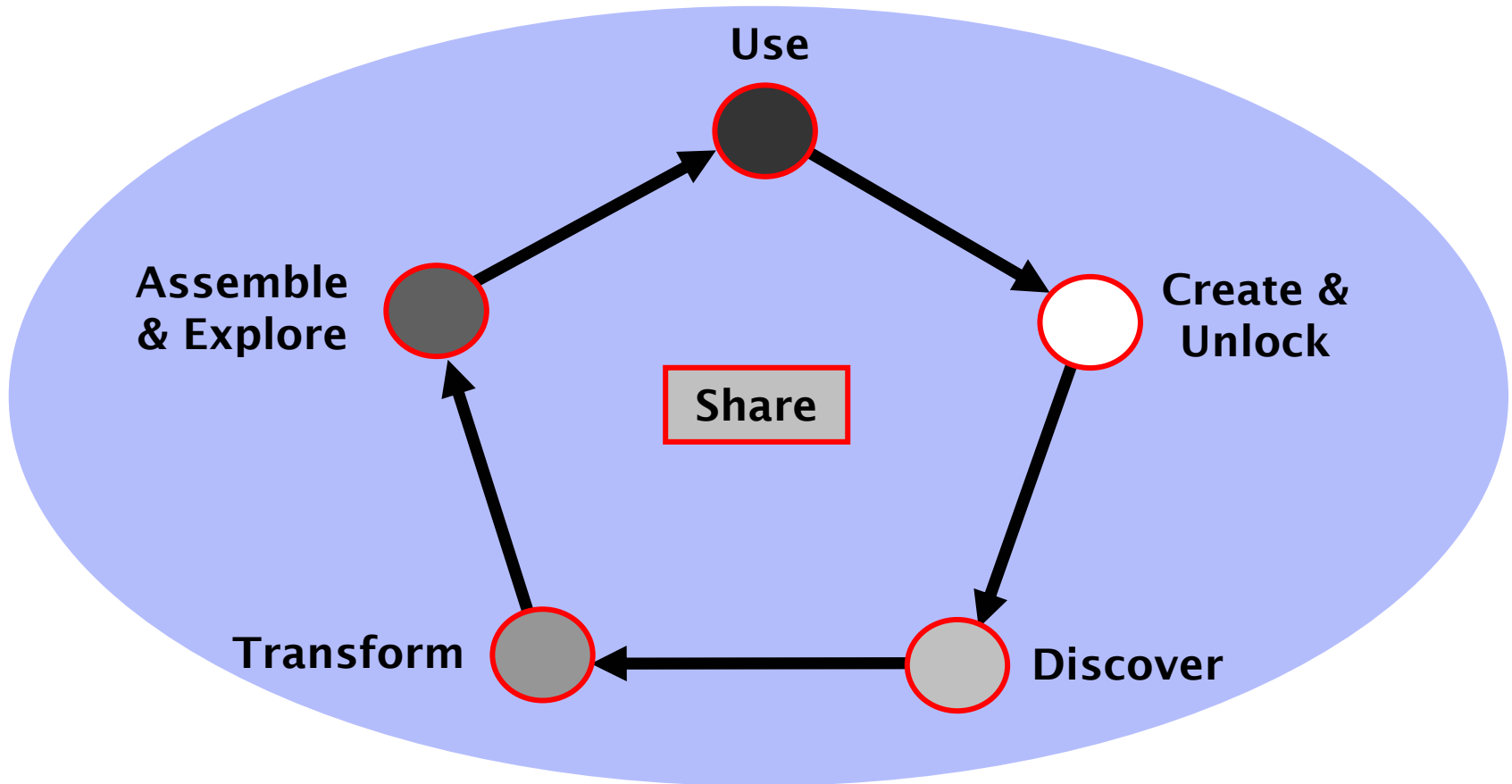
Source: <http://www.programmableweb.com/mashups>

22% of organizations surveyed are using mashups now and an additional 42% (64% total) plan to use mashups within two years

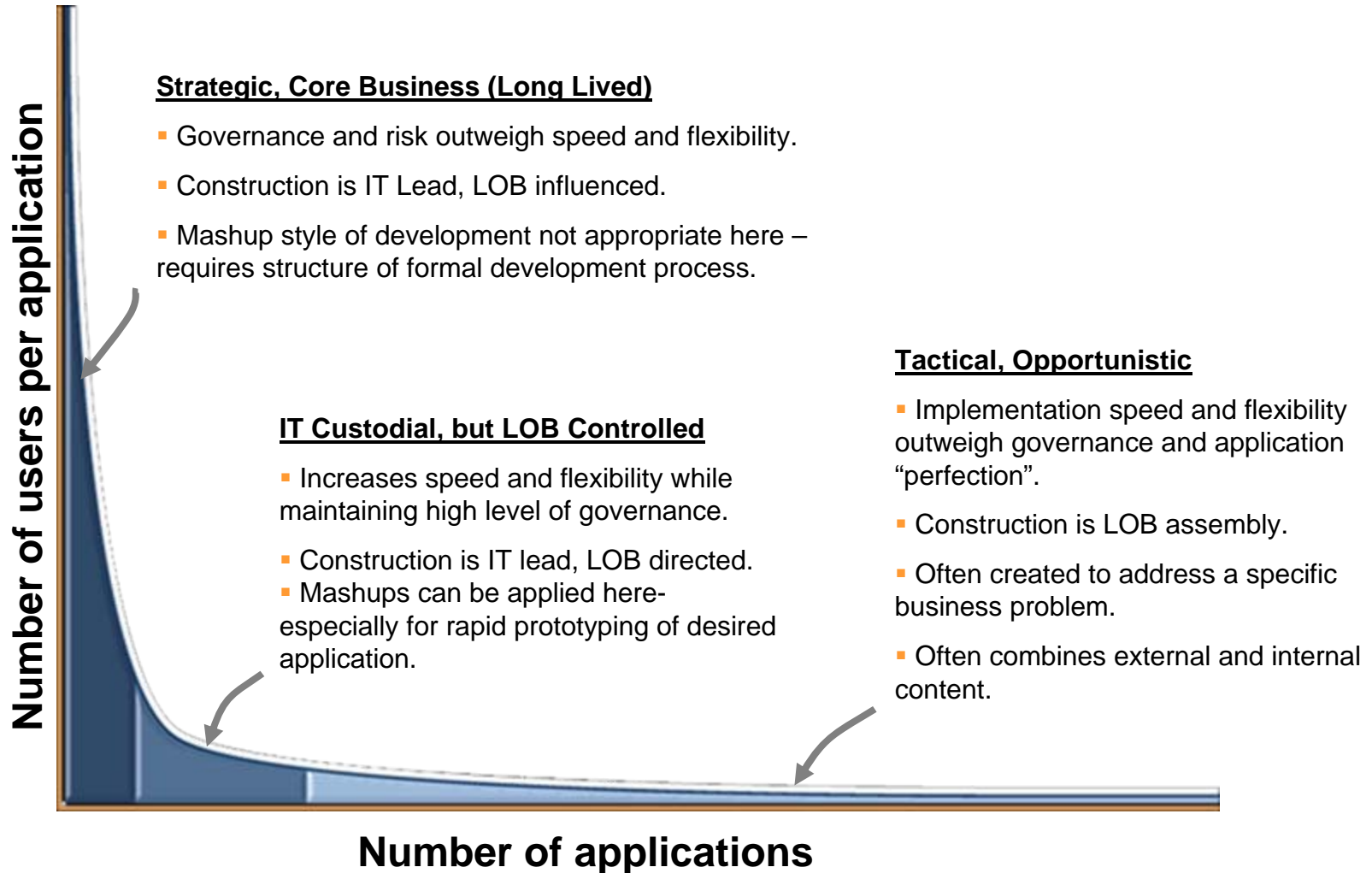
(Economist Intelligence Unit Survey, January 2007)

End-to-End Mashup Workflow

The mashup development process relies heavily on reuse of existing assets.



When to Use Mashup Style of Development



The Business Value of Mashups

Why should businesses care about mashups?



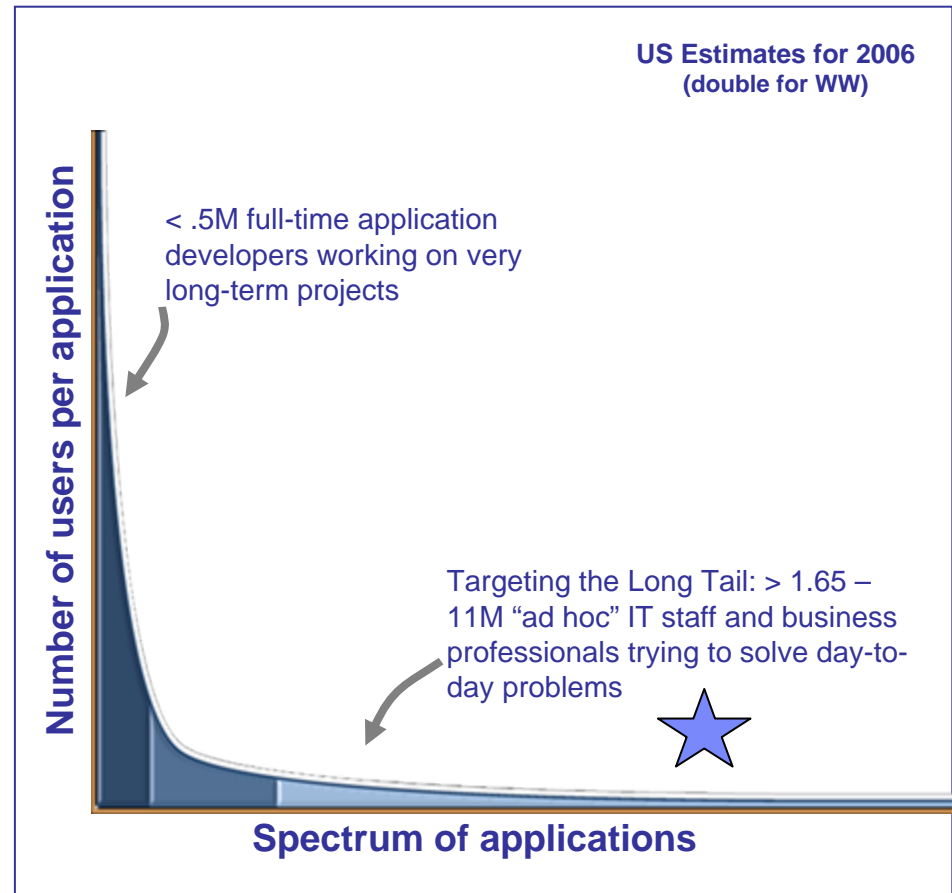
Mashups Can Solve Pent-up Demand for Application

Situational Applications

1. Rapidly created to address an immediate need of an individual or community
2. Typically, but not necessarily, short-lived (a just-in-time solution)
3. Good enough
4. Built by domain experts (knowledge workers) to solve their own problems

Why Companies want Mashups:

- **Foster innovation** by unlocking and remixing information in ways not originally planned for
- **Quickly uncover new business insights** by easily assembling information from multiple sources on the glass
- **Increase agility** by supporting dynamic assembly and configuration of applications
- **Speed development and reduce development costs** through lightweight integration, reuse and sharing



Faster, Cheaper Delivery of Applications

- Opportunity to:
 - Save time and money through reuse and lightweight integration techniques
 - Sharing and discovery of internal content and data a key enabler
 - Increase productivity
 - Lower skill sets needed to assemble new applications
 - > Leverage the palette of widgets and APIs from across the web

Google Gadgets



New mashup



programmableweb.com



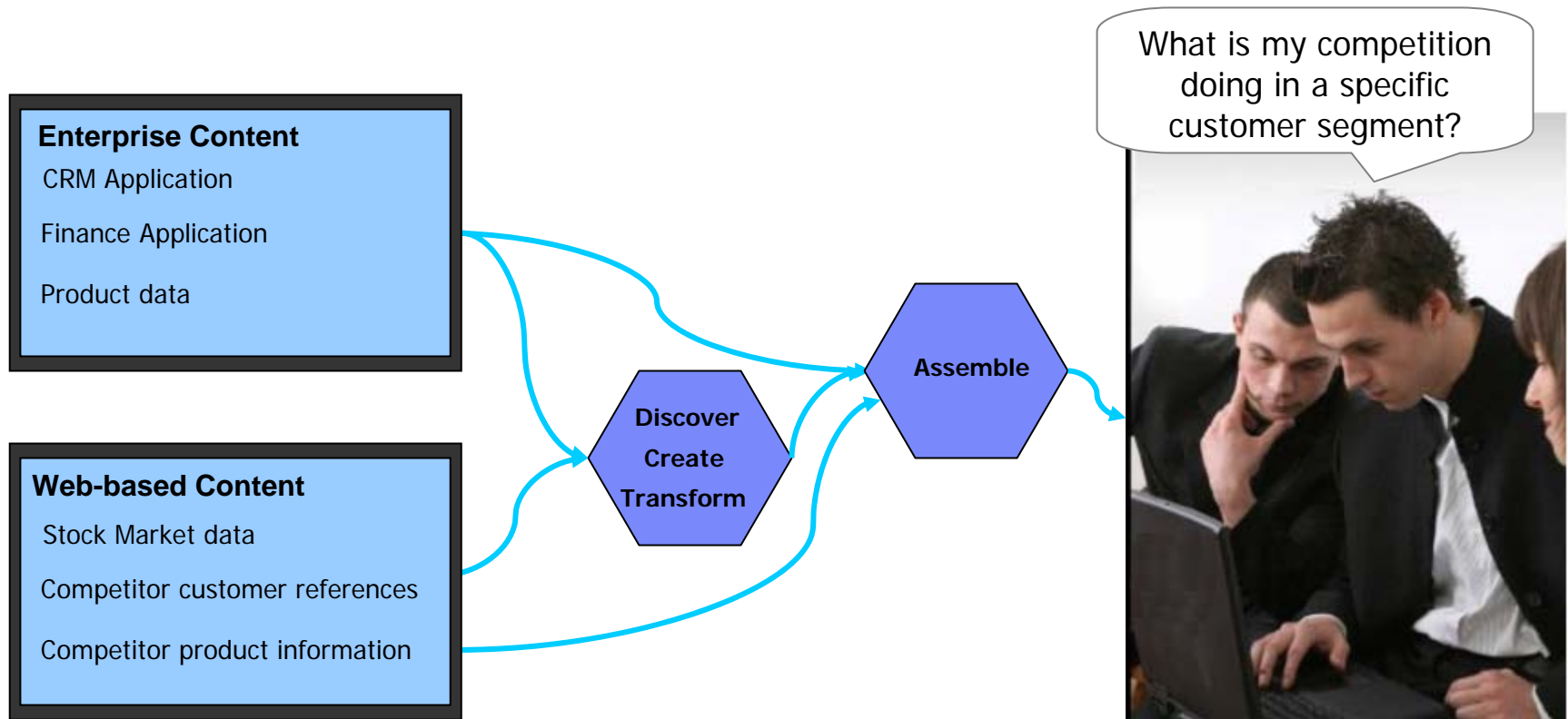
IBM Catalog

Item	Stage	Updated	Rating	Author
Accounting	Accounting	3/20/08 1:34 PM	★★★★	IBM Lotus
CRM	CRM	3/20/08 1:34 PM	★★★★	IBM Lotus
Customer Support	Customer Support	3/20/08 1:34 PM	★★★★	IBM Lotus
Document Management	Document Management	3/20/08 1:34 PM	★★★★	IBM Lotus
ERP	ERP	3/20/08 1:34 PM	★★★★	IBM Lotus
HR	HR	3/20/08 1:34 PM	★★★★	IBM Lotus
Marketing	Marketing	3/20/08 1:34 PM	★★★★	IBM Lotus
Project Management	Project Management	3/20/08 1:34 PM	★★★★	IBM Lotus
Supply Chain	Supply Chain	3/20/08 1:34 PM	★★★★	IBM Lotus
Training	Training	3/20/08 1:34 PM	★★★★	IBM Lotus
Web 2.0	Web 2.0	3/20/08 1:34 PM	★★★★	IBM Lotus
Workflow	Workflow	3/20/08 1:34 PM	★★★★	IBM Lotus
Business Intelligence	Business Intelligence	3/20/08 1:34 PM	★★★★	IBM Lotus
Collaboration	Collaboration	3/20/08 1:34 PM	★★★★	IBM Lotus
Mobile	Mobile	3/20/08 1:34 PM	★★★★	IBM Lotus
Security	Security	3/20/08 1:34 PM	★★★★	IBM Lotus
Integration	Integration	3/20/08 1:34 PM	★★★★	IBM Lotus



Gain Valuable Insights

Gain valuable insights and solve business problems more effectively by remixing enterprise and web information.



Better Align IT and Business

- Ease of rapid prototyping supports improved communication and requirements sharing, leading to more customer-focused applications.
- Self-service capabilities:
 - Helps minimize “shadow IT”
 - “Do it yourself” IT will be expected by ‘millennial’ generation weened on facebook
- By providing mashable components, IT becomes more relevant to the business.



Extend Reach and Value of SOA

Mashups can help to:

- Illuminate the value of SOA to business users by making it more visible
- Drive the creation of well designed services
- Increase service reuse
- Make SOA simple to use

Mashups are the “last mile” of SOA



Top Challenges and Tips for Handling them

- **No industry-wide agreement on a widget standard yet**
 - IBM has created a lightweight widget model which is well aligned with other widget models (like Google and NetVibes)
 - IBM's goal is to define a standard for widgets. As part of this effort, IBM is leading a new widget specification workgroup in OpenAJAX.
 - Leveraging the experience from the Google Gadget integration, our IBM widget model, and the JSR 168/286 + WSRP standards to create a well integrated OpenAJAX widget spec.
- **Security**
 - Concerns around mashing internal data with external (non trusted API)
 - Potential for malicious, malformed code (rogue widgets)
 - Need to provide isolation between widgets
 - Industry looking to establish standard cross-domain secure communication mechanism (OpenAjax Alliance Hub 1.1)
 - IBM Mashup Center will support secure mashups
 - Authentication, credentials, authorization
 - Isolation of widgets via alliance hub

Introduction to IBM Mashup Center



IBM Mashup Center

A complete end-to-end mashup platform, supporting line of business assembly of simple, flexible, and dynamic web applications – with the management, security, and governance capabilities IT requires.

- **Assemble** new applications by reusing existing data and services
- **Unlock** Enterprise, Web, Personal and Departmental Information
- **Create** widgets from enterprise systems
- **Discover** and **share** mashups, widgets, feeds, and services
- **Transform** & mix information into new feeds
- **Explore** different combinations to uncover new insights



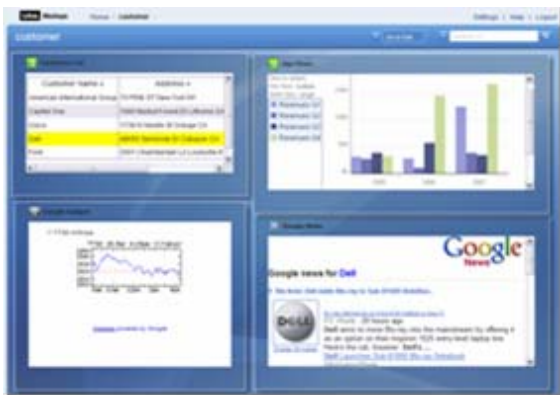
Unleash productivity and foster innovation by supporting self-service application development

** Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way.*

IBM Mashup Center Components

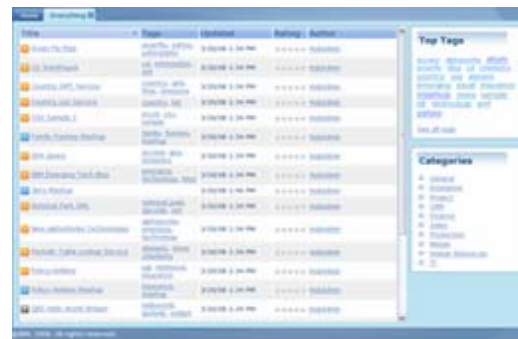
Lotus Mashups

Quickly and easily assemble mashups on-the-glass. Create dynamic widgets.



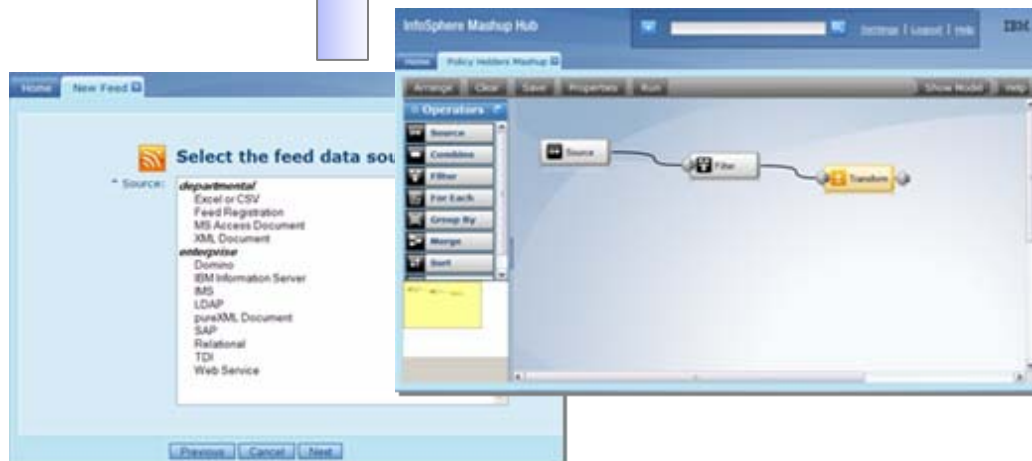
Catalog

Sharing & discovery of mashable assets.



InfoSphere MashupHub

Unlock and share web, departmental, personal and enterprise information for use in REST-style Web2.0 applications. MashupHub includes visual tools for transforming and re-mixing REST-style feeds.



Quickly Assemble and Share New Mashups

Zero-footprint, browser-based tool supports easy drag-and-drop assembly of situational applications by non-technical users.

			<ul style="list-style-type: none"> • Share – public or by user/group. • Automatic wiring • Embed • Save new assemblies as widgets • Edit Source
<p><i>Out-of-the-box, business-ready widgets.</i></p>	<p><i>Intuitive, on-the-glass wiring of widgets & feeds.</i></p>	<p><i>Ability to set widget preferences.</i></p>	<p><i>And Much More!</i></p>

Rapidly Create Dynamic Widgets

Easy-to-use, Eclipse-based IDE helps to reduce the time and cost of creating dynamic, interactive widgets. Using the tool's wizard-based interface, developers of all skill levels can build powerful widgets— without coding!

The image illustrates the development of dynamic widgets using an Eclipse-based IDE. A large blue arrow points from the IDE to four examples of widgets:

- Filter Employees:** A form with dropdown menus for Department, Job, Education, and Gender, and a Search button.
- Salary Chart:** A 3D pie chart titled "Salary by Employee" with a legend of 20 colored squares corresponding to employee IDs.
- Employee Details:** A form titled "Delete Employee" with fields for ID, First, Initial, Last, Department, Phone, Hire Date, Job, Education, Gender, Birth Date, Salary, Bonus, and Commission.
- Employee List:** A table listing employee details.

ID	First	Initial	Last	Department	Job	Educ
000010	Christine	I	Haas	A00	Pres	18
000020	Michael	L	Thompson	B01	Manager	18
000030	Sally	A	Kiwan	C01	Manager	20
000050	John	B	Geyer	E01	Manager	16
000060	Irving	F	Stern	D11	Manager	16
000070	Eva	D	Pulaski	D21	Manager	16

Easily Discover and Share Mashups, Widgets, & Feeds

- Facilitate reuse by publishing new mashups and widgets right from the browser-based tool to the catalog.
- Quickly discover the most useful assets by reviewing community feedback, including tags, user ratings, and commentary.
- Apply appropriate levels of governance by securing who can see what assets. Provide oversight thru auditing, logging, and monitoring.
- Speed development of new mashups and reduce learning curves by discovering and then “tweaking” existing mashups to create new applications.



Facilitate sharing & reuse through the catalog

Securely Unlock Enterprise Information

Create mashable assets from both structured and un-structured data sources.

- **Connect:** Connectors for core systems; allow for faster deployment and rapid solution creation
- **Unlock:** Create feeds from personal, departmental, Web, and enterprise sources (SQL databases, Excel, CSV, XML, SAP, LDAP, MS Access, Domino, etc.)
- **Scale:** Ability to “Web 2.0” enable existing systems by pulling information into MashupHub catalog via feeds
 - *Extends SOA efforts to Web App, Desktop, Mobile, Portal, and Mashup Makers*
 - *No changes required for existing systems*
- **Secure:** Security and Governance
 - *Leverage of LDAP; pluggable into existing IT infrastructure*
 - *Auditing, centralized reporting, monitoring and logging*



Transform, Merge, Mix, and Utilize Information

- Advanced Transformation and Mixing allows existing core systems to be better utilized and shared. No need to copy or replicate data sources. Information can be mixed and combined.
- Flow Editor and Engine for transforming and remixing feeds to create new feeds. Supports import, filter, merge, union, sort & group, transform & publish.
- Feeds can be consumed by a variety of different mashup tools and products, from Lotus Mashups to Portal.



IBM is Focused on Mashup Security and Standards

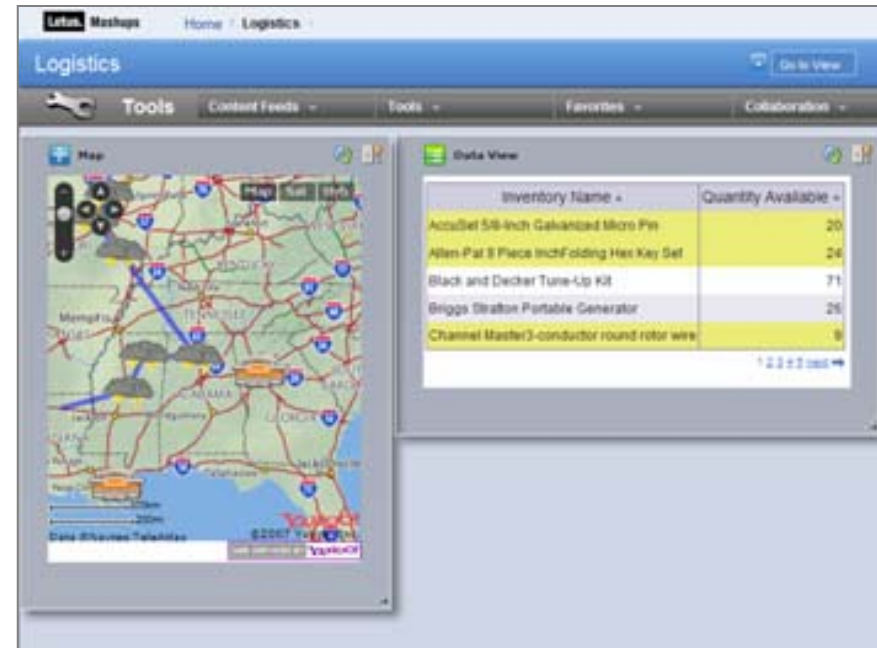
- Ensuring security of information in a mashup
 - IBM donated its secure mashup technology to the OpenAjax Alliance, who will build it into their OpenAjax Hub 1.1
 - This technology allows information from different sources to communicate, but it keeps them separated so malicious code can be contained and kept out of enterprise systems.

- IBM is also driving towards a common widget standard and widget/gadget interoperability through OpenAjax



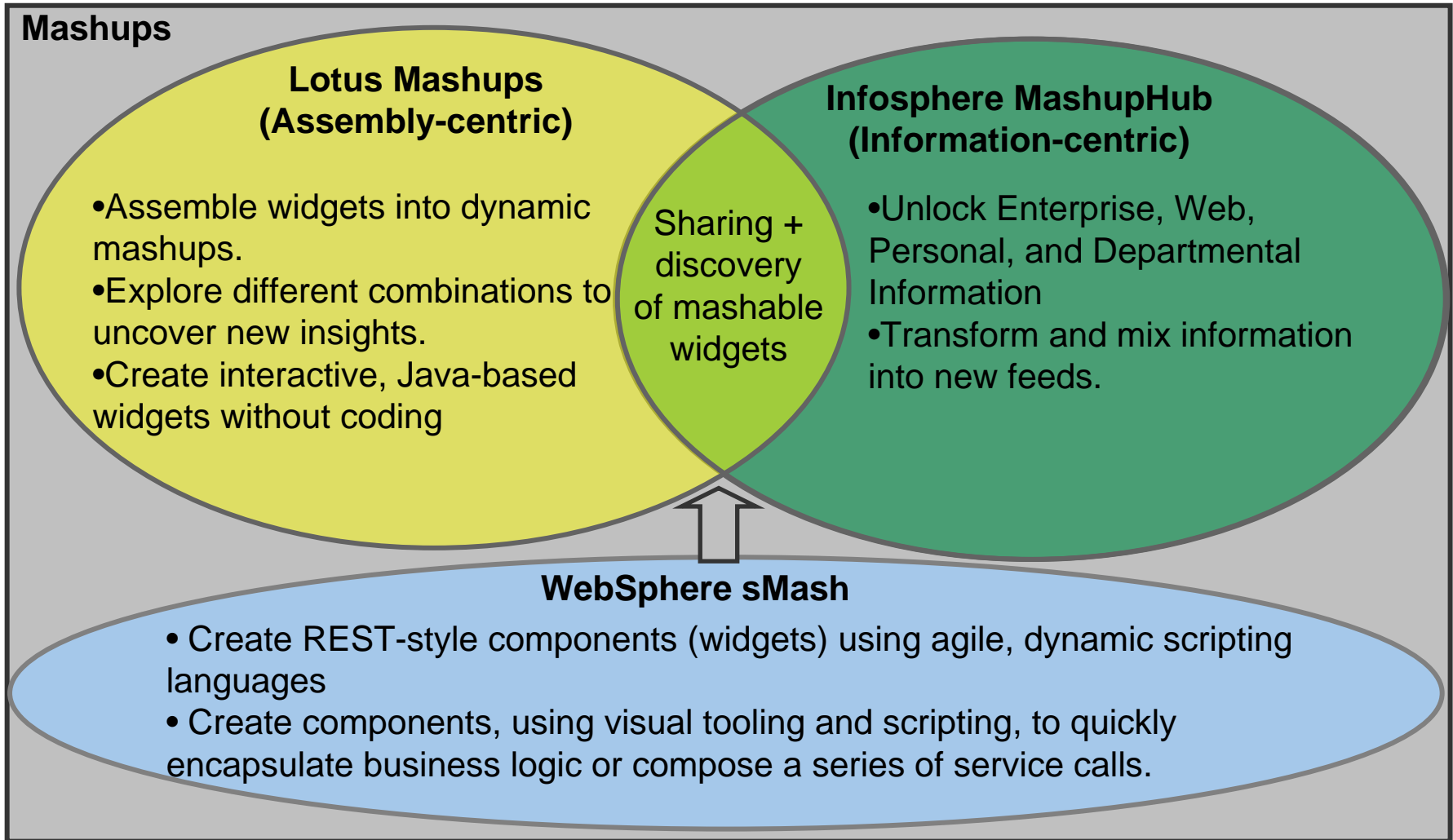
Key Benefits

- **Foster innovation** by unlocking and remixing information in ways not originally planned for.
- **Reduce application backlog and improve productivity** by empowering line of business, self-service application development.
- **Increase agility** by supporting dynamic assembly and configuration of applications.
- **Speed development and reduce development costs** through lightweight integration, reuse, and sharing.
- **Quickly uncover new business insights** by easily assembling information from multiple sources on the glass.
- **Better align IT and business** through rapid prototyping.
- **Make SOA more business-relevant and visible**, increasing reuse of services.



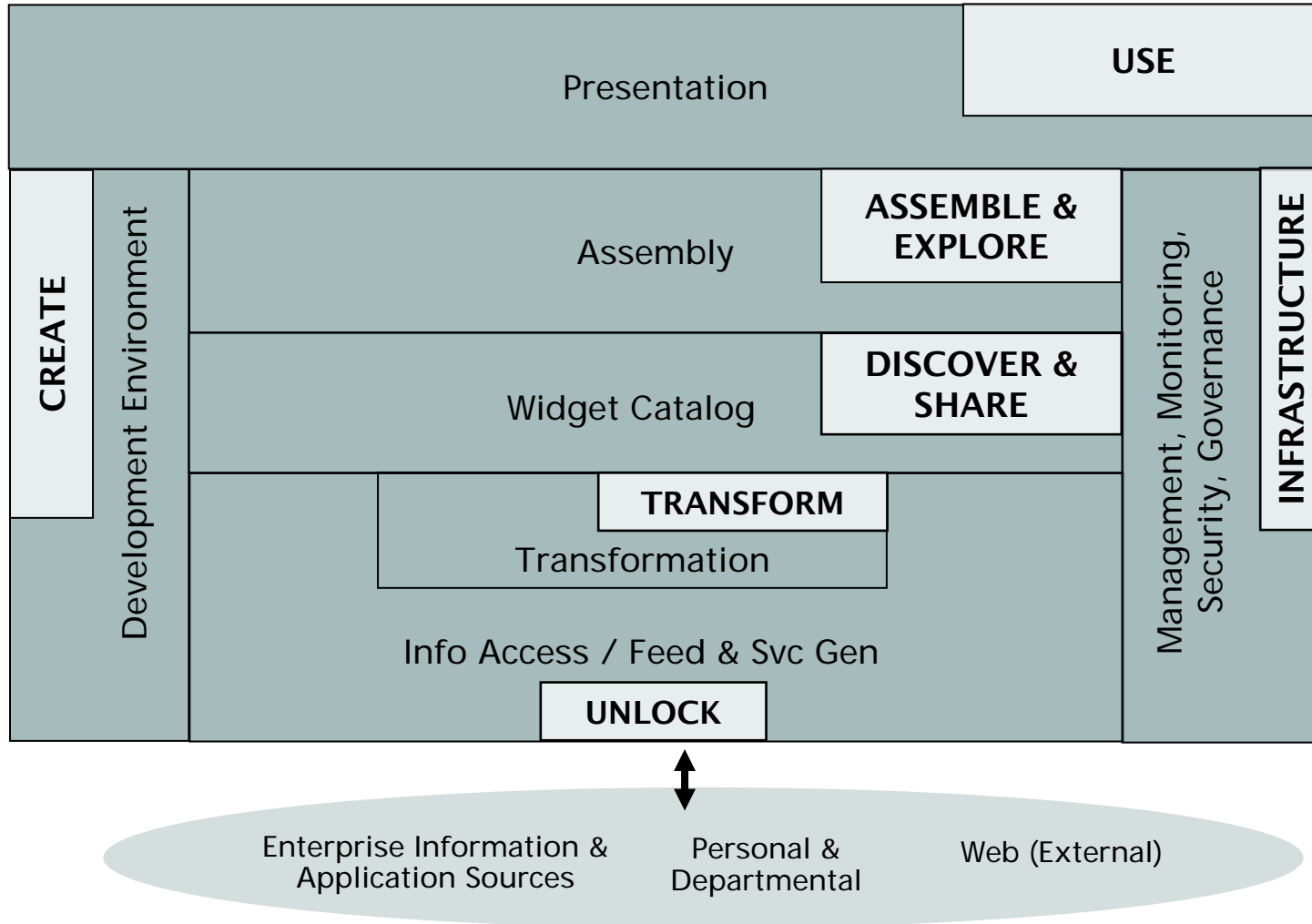
Create simple, rich web applications in just minutes!

IBM Mashup Offerings and Roles



• Completed Widgets, including dynamically scripted together services can also be used in standalone web applications, portals, or rich client applications

Mashup Marketecture



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