



【IBM SOA講堂】 Lotus動員協作： IBM Mashup Center (and Lotus Mashups)

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Agenda

- **Mashups 101**
- IBM Mashup Center Overview
- How it works
- Integration with WebSphere Portal

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.

The screenshot displays a web application interface with three main components:

- Search:** A form with fields for "ETA", "Libelle POD" (set to "Singapore"), and "Libelle fournisseur", with a "search" button.
- Generic Map:** A map of Southeast Asia showing cities like Singapore, Kuala Lumpur, and Medan.
- ImprovedDataViewer:** A data table with columns for "ETA", "Libelle POD", and "Libelle fournisseur".

Below the map, another "ImprovedDataViewer" shows a more detailed data table with columns for "ETD", "ETA", "Transit Time", "POL", "Libelle POL", "POD", "Libelle POD", "Navire", "NO Voyage", "Compagnie", and "Feeder Arriv".

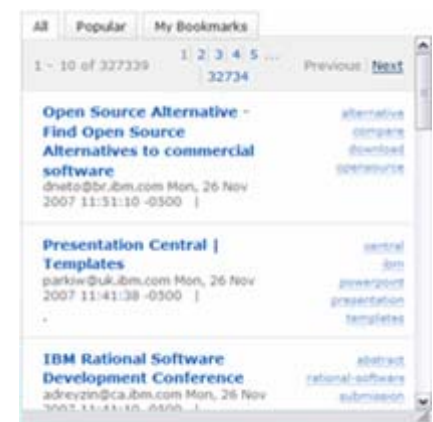
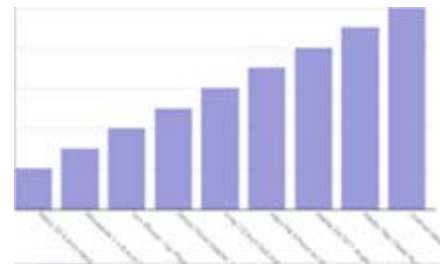
ETD	ETA	Transit Time	POL	Libelle POL	POD	Libelle POD	Navire	NO Voyage	Compagnie	Feeder Arriv
2007-10-05	2007-10-08 3		VNSGN	HO CHI MINH CITY THBKK	BANGKOK	HETHI BHUM 5110		SUPPLIER CARRIER		

- Rapid creation (days not months)
- Reuses existing capabilities, but delivers new functions + insights
- Requires limited to no technical skills

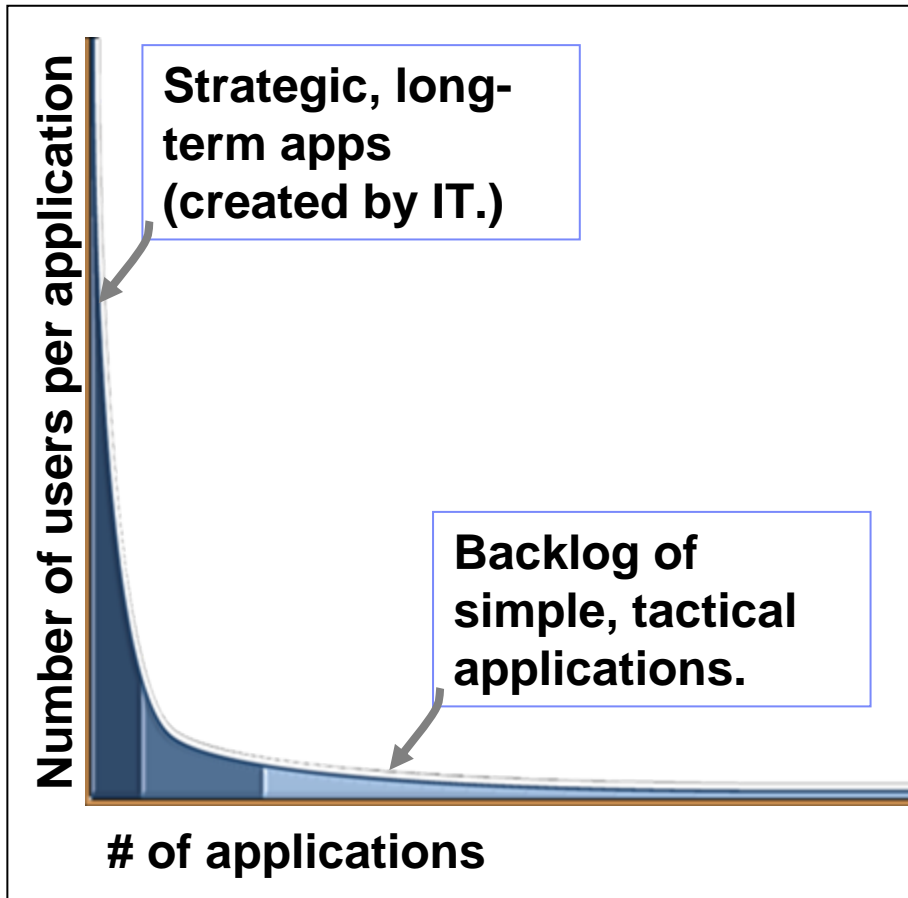


What is a Widget?

- 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.
- “Mashable” widgets pass events, so that they can be wired together to create something new.



Mashups: Solving Pent up Demand for Applications



Business Challenges

- Lack of agility – IT can't respond fast enough to business requirements
- Spreadsheet “apps” hard to manage, share, keep current
- Silo-ed, outdated information

IT Challenges

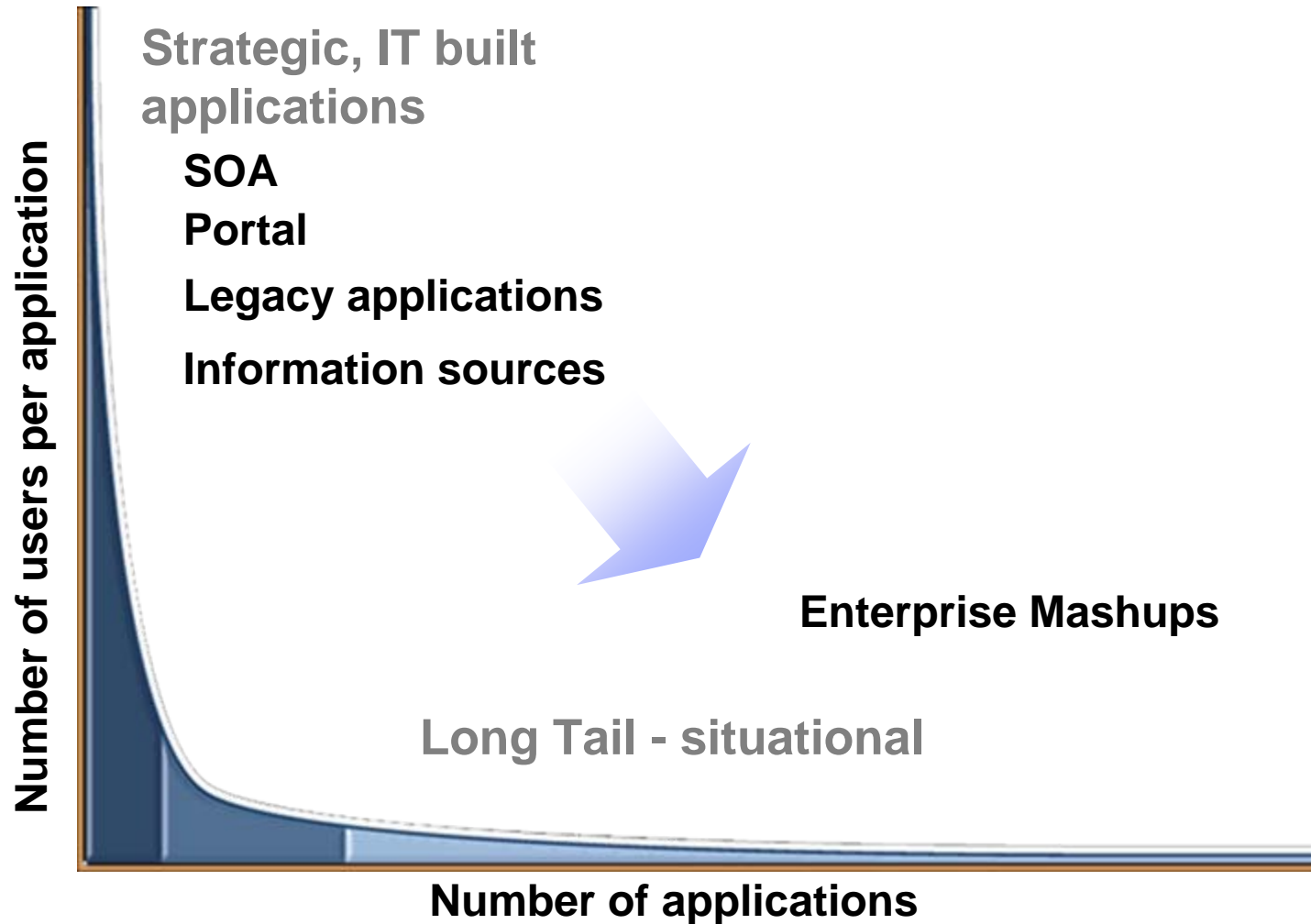
- IT is backlogged and suffering from too many business requests
- Underground or “shadow” IT
 - Security violations
 - Loss of information

What Makes Mashup Platforms Unique?

		Mashup Development	Traditional IT
Scope	Time to value	Days to weeks	Months to years
	Lifespan	Variable, often short	Long lived
Process	Dev. phases	Ad-hoc or good-enough	Defined, scheduled
	Governance	De-centralized, community	Formal, centralized
	Evolution	Top-down, centrally driven	Organic
Users	Application builders	LOB, individuals, groups	Corporate IT
	Targeted users	Small teams or known user	Large groups
Technology	Technology	REST, RSS, ATOM, AJAX, JSON, XML, etc.	SOAP, WS-*, J2EE, BPEL, etc.



Enterprise Mashups Leverage Existing Assets to Address Situational Needs





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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

- **Create and Assemble** new applications by reusing existing data and services
- **Unlock** Enterprise, Web, Personal and Departmental Information
- **Develop** widgets from enterprise systems
- **Discover** and **share** mashups, widgets, feeds, and services
- **Transform** information into new feeds





IBM Mashup Center Components

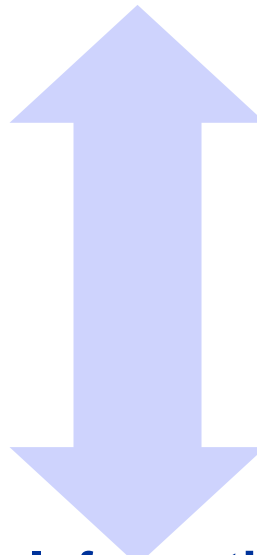


Assembly Centric

Lotus Mashups: Quickly and easily create and assemble mashups on-the-glass. Create dynamic widgets.



Common Catalog: Sharing & discovery of mashable assets.



Information Centric

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 Create and Share New Mashups

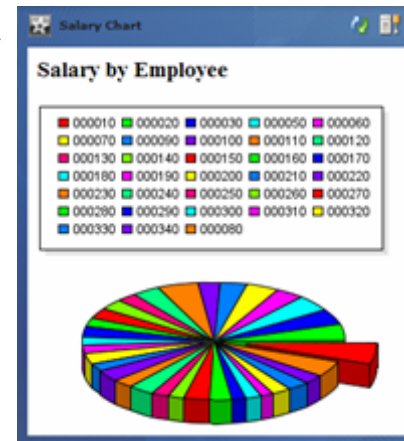
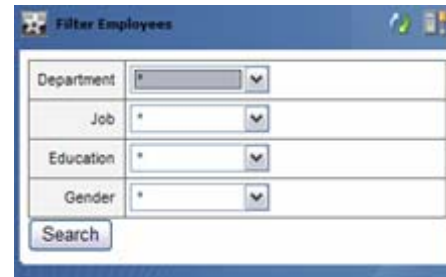
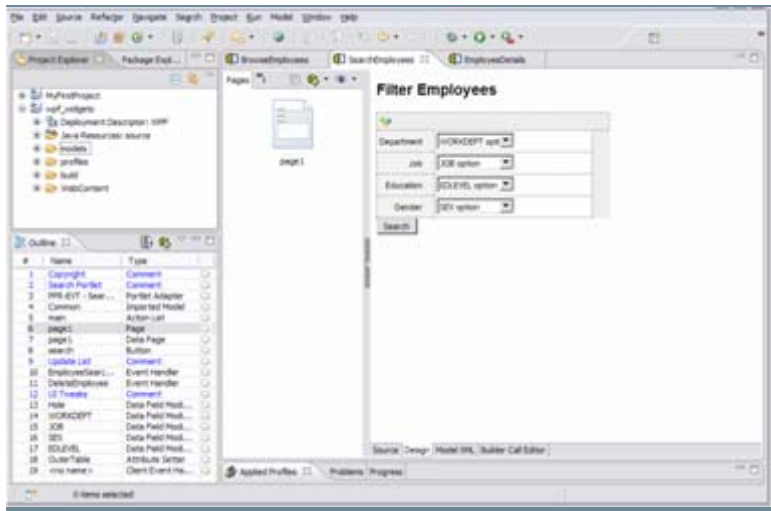
Zero-footprint, browser-based tool supports easy drag-and-drop assembly of situational applications by non-technical users.

			<ul style="list-style-type: none"> ■ Share – public or by user/group. ■ Automatic wiring ■ Embed ■ Edit Source ■ Customize look and feel
<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!



Delete Employee						
ID	000050					
First	John					
Initial	B					
Last	Geyer					
Department	E01					
Phone	6789					
Hire Date	1949-05-17					
Job	Manager					
Education	16					
Gender	M					
Birth Date	1925-09-15					
Salary	40175.00					
Bonus	800.00					
Commission	3214.00					

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	O21	Manager	16





Easily Discover and Share Mashups, Widgets, & Feeds

Title	Tags	Updated	Rating	Author
Aggregate Policy Mashup	aggregate, policy, mashup	5/17/08 12:19 PM	★★★★★	nicole
Bar Chart (XML)		5/18/08 10:26 AM	★★★★★	nicole
	information, xml	5/17/08 12:19 PM	★★★★★	nicole
	mashup	5/17/08 12:19 PM	★★★★★	nicole
	sample	5/17/08 12:19 PM	★★★★★	nicole
	try, gmt, time, timezone	5/17/08 12:19 PM	★★★★★	nicole
Country List Service	country, list	5/17/08 12:19 PM	★★★★★	nicole
Customer List		5/18/08 10:39 AM	★★★★★	nicole
Expiring Policies Mashup	policy, mashup	5/17/08 12:19 PM	★★★★★	nicole
GPA Query	access, gpa, statistics	5/17/08 12:19 PM	★★★★★	nicole
IBM Emerging Tech Blog	emerging, technology, blog	5/17/08 12:19 PM	★★★★★	nicole
Insurance Mashup	weather, insurance, mashup	5/17/08 12:19 PM	★★★★★	nicole
MyCo Customer list	excel, customer	5/17/08 12:19 PM	★★★★★	nicole
National Park Forecast Mashup	weather, forecast, mashup	5/17/08 12:19 PM	★★★★★	nicole
National Park XML	national park, zipcode, xml	5/17/08 12:19 PM	★★★★★	nicole
New alphaWorks Technologies	alphaworks, emerging technology	5/17/08 12:19 PM	★★★★★	nicole
	ator, ministry	5/17/08 12:19 PM	★★★★★	nicole
		5/18/08 10:17 AM	★★★★★	nicole
	al, insurance	5/17/08 12:19 PM	★★★★★	nicole
	mashup	5/17/08 12:19 PM	★★★★★	nicole

Showing 1 to 20 of 27

Top Tags
access aggregate

Categories

- :: General
- :: Enterprise
- :: Project
- :: CRM
- :: Finance
- :: Sales
- :: Production
- :: Mobile
- :: Human Resources
- :: IT

Callout 1: A single central catalog for feeds and widgets

Callout 2: Secure and govern access and use

Callout 3: Tagging and Rating promotes collaboration, re-use, and business self service

Facilitate sharing & reuse through the catalog

Securely Unlock Enterprise Information

Home New Feed x

Select the feed data source.

Source:

- enterprise**
 - DB2 XML Columns (pureXML)
 - Domino Server
 - IBM Information Server
 - IMS Transaction
 - LDAP Directory
 - Relational Database Query (SQL)
 - SAP Application Functions
 - Tivoli Directory Integrator
 - Web Service
- departmental**
 - Access Data File
 - Comma Separated Value File
 - Excel Workbook
 - Existing RSS or Atom Feed (Registration)
 - XML Document

Previous Cancel Next

Unlock Enterprise, Departmental, Web and Personal sources.

Out-of-the-box Plug-ins to common information sources. Create new feeds in minutes

Easily create custom adaptors for unique needs or legacy systems

Create mashable assets from structured and un-structured data sources

Transform, Merge, Mix, and Utilize Information

The screenshot shows the IBM InfoSphere MashupHub interface. On the left, there is a sidebar with a list of operators: Source, Combine, Filter, For Each, Group, Merge, Sort, and Transform. The main workspace contains a visual workflow with three operators connected in a sequence: 'Insured' (Source), 'Texas' (Filter), and 'Transform' (Output). Three callout boxes provide additional information:

- Top Callout:** Mash multiple sources into net-new feeds
- Right Callout:** Output in RSS, ATOM or XML based on consuming application or widget
- Bottom Callout:** Fast and easy, but powerful, visual editor for precise control over information flows

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Mashup Offerings - Features

Mashups

IBM Mashup Center

Lotus Mashups (Assembly-centric)

- Graphical, browser-based assembly tool
- Easy-to-use IDE for codeless creation of dynamic widgets

InfoSphere MashupHub (Information-centric)

- Data connectors and feed generation
- Visual, data transformation tooling

Catalog +
Community



WebSphere sMash (Scripting-centric)

- Dynamic language environment for creating and delivering REST-style components that can encapsulate business logic or compose a series of service calls.

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

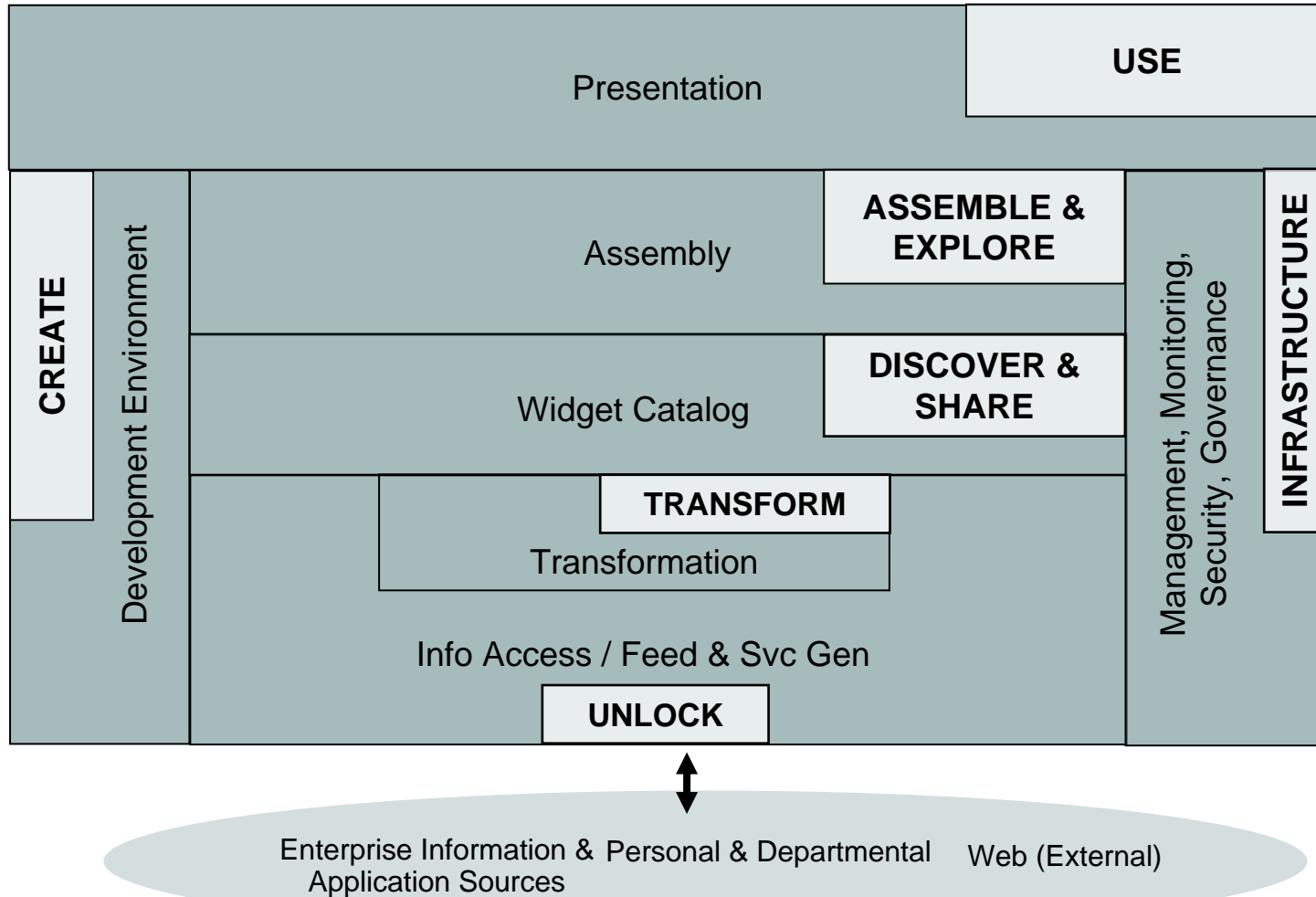


Agenda

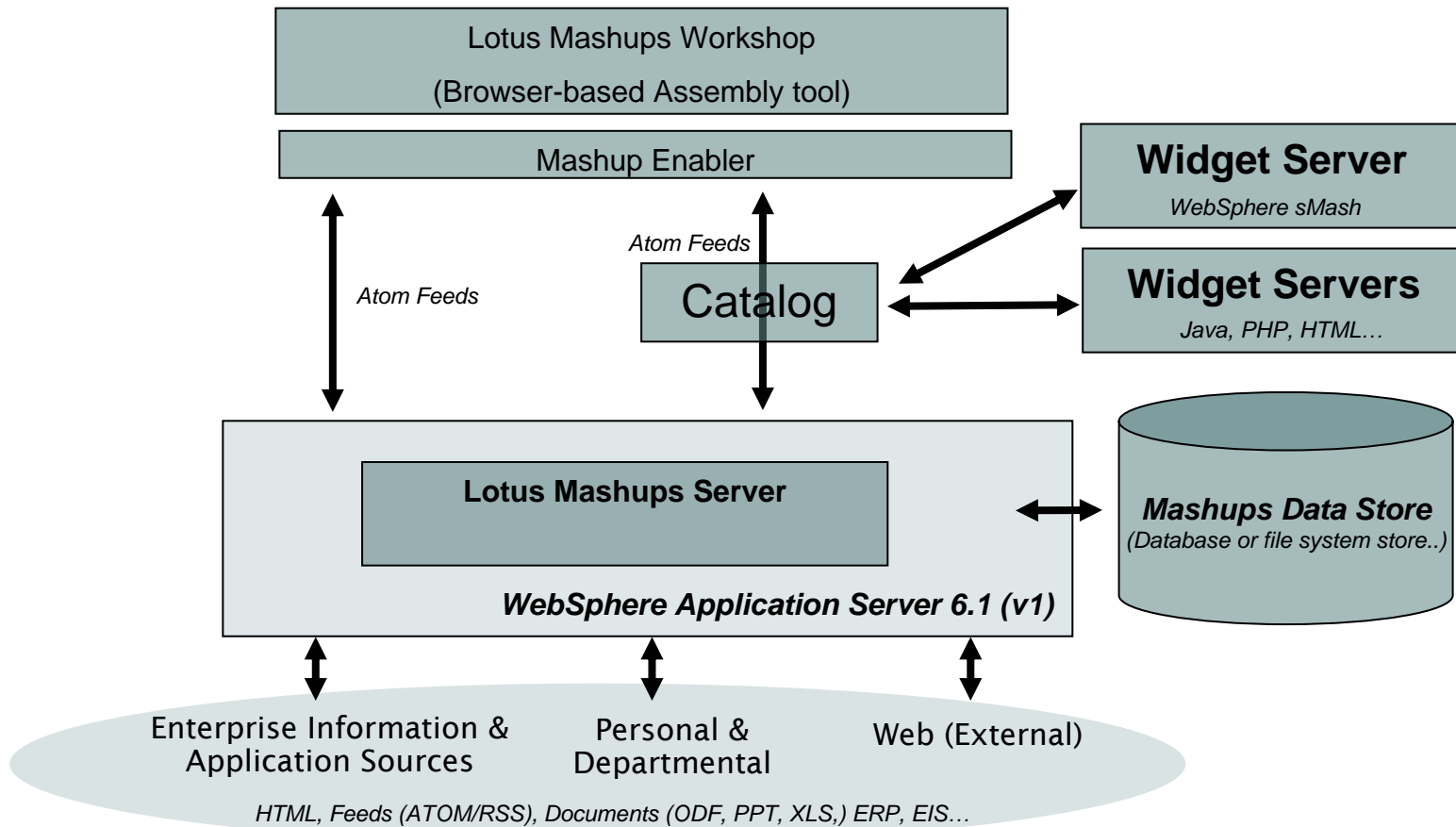
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Mashup Marketecture

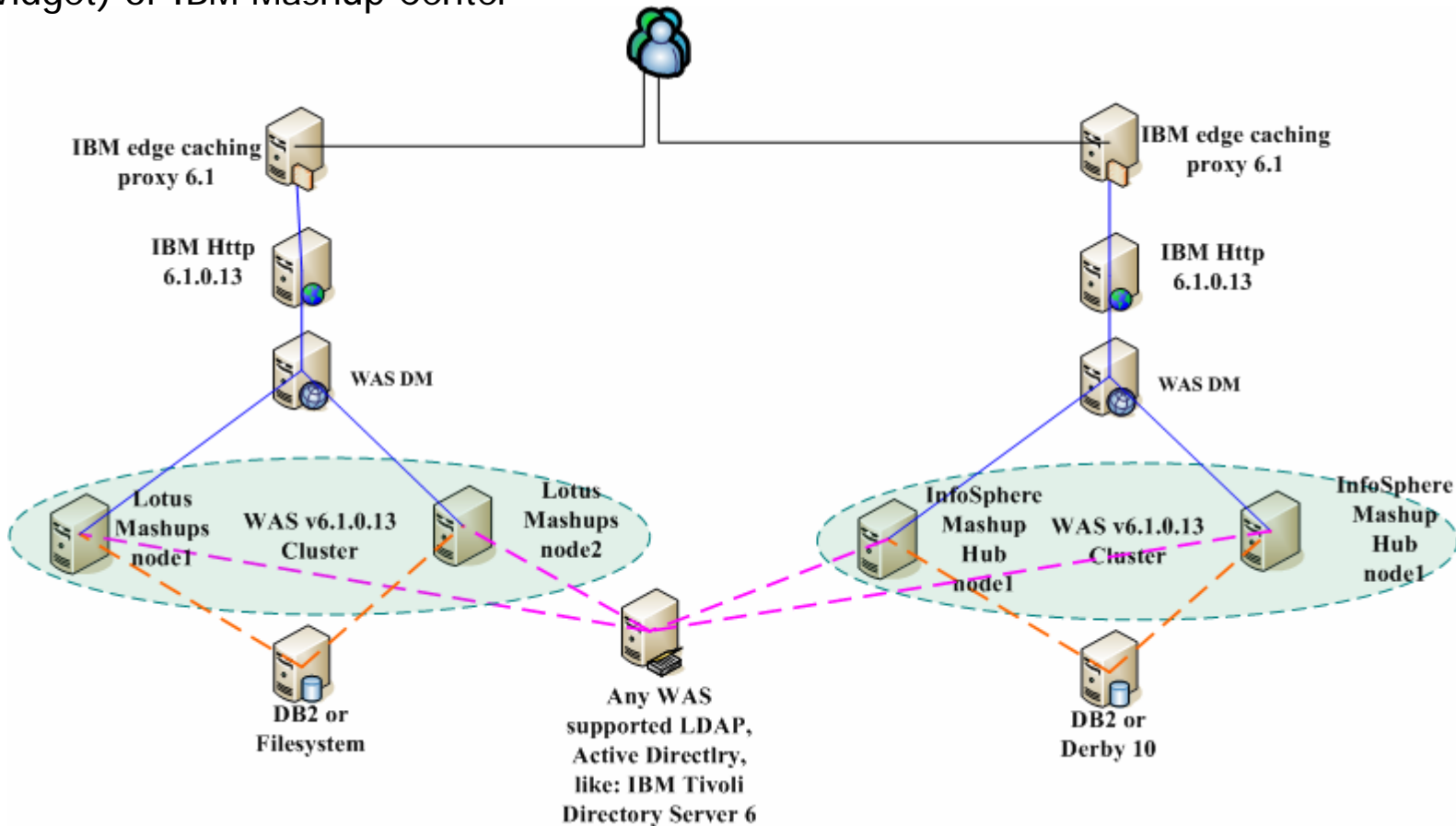


Lotus Mashups Architecture



Lotus Mashups Topology - Cluster

You can independently scale each part (Lotus Mashups, InfoSphere Mashup Hub, and each iWidget) of IBM Mashup Center



Define widget according to the iWidget spec

- A simple XML style iwidget

```
<iw:iwidget id="helloWorld" xmlns:iw="http://www.ibm.com/xmlns/prod/iWidget"
supportedModes="view edit" mode="view" lang="en">
  <iw:content mode="view">
    <![CDATA[
      <div>Hello World</div>
    ]]>
  </iw:content>
</iw:iwidget>
```

- No interface to write
- Anything that can generate html or XML can generate an IWidget, just need to be url addressable
- Widget definitions can be hosted anywhere
- The namespace indicates this is an iWidget
- Wrap your html content in a CDATA tag

Put a widget at work

- Code a line of HTML markup like this on a regular **Mashup page**.

```
<span id="myHelloWorld" class="mm_iWidget"><a  
  href="/helloWidget/helloworld/hello.xml"  
  class="mm_Definition"></a></span>
```

- ▶ Each tag with class set to be 'mm_iWidget' need a page wide unique id.
- ▶ That unique id is used by iWidget framework to namespace each widget instance.
- ▶ That unique id is used to identify each widget instance and also used to help with widget communication.
- ▶ iWidget framework uses the url to load widget definition and start the life cycle of a widget. If the url is a different domain or port, we will automatically load the widget definition and all resources through a server side proxy.





Demo of a Simple Mashup

The screenshot displays the IBM Lotus Mashups interface within a Mozilla Firefox browser window. The interface is titled "demo" and includes a navigation bar with "Tools", "Content Feeds", "Tools", "Favorites", and "Collaboration" menus. The main content area is divided into several widgets:

- Customer List:** A table displaying customer information with columns for Customer Name, Address, Zip, and Contact. The "Cisco" row is highlighted in yellow.
- Customer Chart:** A bar chart showing revenues for Q1, Q2, Q3, and Q4 across the years 2005, 2006, and 2007. The legend indicates that the bars represent Revenues Q1 through Q4.
- Google News:** A widget displaying news articles related to Cisco, including "Reminder - Cisco Announces Upcoming Schedule of..." and "Cisco Introduces World's Most Advanced Network...".
- Critical Situations:** A widget showing "Critical Situation Tickets for CSCO", with a specific ticket #643960 listed as urgent, contacted by John Lee, and described as needing authentication for accessing different parts of data.



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Enterprise Mashups and Portals

- Enterprise Mashups deemed valuable for a larger audience could be pushed out to portal for additional management and IT control, such as role-based security, rich personalization services, etc.
- Portals can also consume feeds and widgets generated by lightweight mashup environments.



IBM Mashup Center



Mashups, widgets, feeds

IBM WebSphere sMash

Integration With WebSphere Portal

- JSR 286 iWidget Portlet will be available on the Portal catalog for WebSphere Portal 6.1
- Currently supported Use Cases are:
 - ▶ Add widget to a page
 - ▶ Add widget to portal
 - Using a url
 - Using Lotus Mashups Server
 - Browsing the Mashup Hub
 - ▶ Eventing between widgets and portlets
- JSR 168 iWidget Portlet will be available on the Portal catalog for WebSphere Portal 6.0, 5.1.x, and just WebSphere Application Server 6.1
- Currently supported Use Cases are:
 - ▶ Add widget to a page
 - ▶ Add widget to portal
 - Using a url
 - Using Lotus Mashups Server
 - Browsing the Mashup Hub



Demo

The screenshot shows the IBM WebSphere Portal interface in Mozilla Firefox. The browser address bar shows a local URL: `http://localhost:10040/wps/myportal/...`. The portal navigation includes 'Home', 'Getting Started', 'Web 2.0 Introduction', 'Feeds', 'Gadgets', 'CSA', and 'google'. A search bar is present with 'All Sources'.

The main content area features a 'Reminder' section with the text: 'Monday, June 9, 2008. No reminders found'.

Below this is an 'iWidget Viewer Portlet' displaying HTML markup for two widgets:

```

<p>Here is that same StrikeIron iWidget
<span id="strikeiron" class="mm_iWidget" >
  <a class="mm_Definition"
href="http://localhost:9080/strikeiron/catalog/zipCodeInfo/zipCodeInfo.xml"></a>
</span>

<p>Here is that same AccuWeather iWidget.
<span id="mweather" class="mm_iWidget">
<a href="http://localhost:9080/accuWeather/accuWeather/AccuWeather.xml" class="mm_Definition">
</a>
<span class="mm_ReceivedEvent">
<a href="#strikeiron" class="mm_SourceEvent">
zipCodeOut
    
```

A 'Render Widget Tag Markup' button is located below the code.

The second 'iWidget Viewer Portlet' shows the rendered output of the AccuWeather widget for Holyoke, MA. The current temperature is 33°C (RealFeel: 34°C). The weather is 'Partly sunny' with a sun and cloud icon. The forecast includes:

- Tonight:** Mainly clear, warm and humid. Low 18°.
- Tomorrow:** Shows and a heavier t-storm. 34°F/16°F.
- Wednesday:** Clear. 29°F/11°F.
- Thursday:** Mainly clear. 28°F/10°F.
- Friday:** Mostly cloudy. 26°F/13°F.

A radar map is also visible, showing the region around Holyoke, MA, with cities like Albany, Boston, Hartford, and New York City marked.



Reference

- <http://www.ibm.com/developerworks/lotus/products/mashups/>

- <http://www.alphaworks.ibm.com/betasite/tech/mashuphub>

- For Partners
 - ▶ on PW Events Calendar:
<http://www.developer.ibm.com/partnerworld/pwhome.nsf/Calendar?openview>
 - ▶ IBM Lotus Sales Talk Partner Quickr
<http://extranet.lotus.com/salestalk> User Name: Sales Talk Password: golotus

Thank You!

