

From Server Side Mashups To Personal Web Services

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About Me

- Committer - Apache Web Services
- Release Manager - Apache Axis2 1.1
- Founder/Lead Developer - Apache Kandula2 , BPEL-Mora
- Working with WSO2 on Axis2, Axiom, Kandula2, WSAS and WSO2 Mashup server.

Overview

- Web/Web2.0
- Definition of Mashup
- Mashup types
- Challenges
- Serverside Mashup tools
- Mashup as a Service

Web / Web 2.0

- Read Write web
 - More interactive and collaborative
 - More content and service providers
 - Blogs, vLogs, Wiki's, Tagging, Mashups, Ajax, Podcasts
 - Data
- Fundamental shifts in the use of Web standards
 - Not an update, but a shift in the mindset
 - Another demand/supply effect ??
 - People had Web pages, but not the correct mechanism
 - Open standards / Open source
 - Enabling the Server side
 - This is actually what Sir. Tim Berners Lee meant the Web to be..
 - First browser was a WYSIWYG editor : it got lost somewhere

Web 2.0 Technologies (wikipedia)

- Rich Internet application techniques, optionally Ajax-based
- CSS
- Semantically valid XHTML markup and the use of Microformats
- Syndication and aggregation of data in RSS/Atom
- Clean and meaningful URLs
- Extensive use of folksonomies (in the form of tags or tagclouds, for example)
- Use of wiki software either completely or partially
- Weblog publishing
- Mashups
- Webservice APIs

Success of the Web

- Successful at enabling person-to-person communication as well as enabling computer-to-person communication
- Content author or a data-driven computer process
 - Generates information in HTML,
 - Deploys the HTML
 - Can be discovered through the publication of the address
- Decentralized nature of the Web
 - Any publisher has equal access to any consumer
- User is free to choose among a variety of sources
 - Sometimes the source will customize it for the user
- Shift toward Raw Data
 - Ajax, RSS, Atom

Ultimate Goal

- Enable machines to do useful work for people
- Develop the Web of XML
 - HTML is a language for people.
 - XML is a language for machines.
 - Search engines/robots
 - RSS
 - AJAX
 - Web Services

Web Service Protocols

- Reasonably complete and near completion
- Widely adopted by large enterprises
- Not adopted by the less sophisticated user
 - Complex protocols
 - Complex tooling
 - Programming-language specific aids
 - Static

Queen, mashed up with 50 Cent (<http://www.q-unit.net/>)

- A “mash-up” is what you get when you mix one song with another song. For example, mix the song “Amazing Grace” with “Happy Birthday”, and you have a mash-up.
- The end result is a whole new song, but with parts of both. A good mash-up is one that actually pulls it off. This is usually accomplished by mixing songs with similar rhythms

Thomas Chapin(<http://www.brainfuel.tv/define-mashup>)

Web Mashup = API [1] + API [2] + API [N]

- **A mashup is a website or application that combines content from more than one source into an integrated experience. Content used in mashups is typically sourced from a third party via a public interface or API. [Source: Wikipedia]**

Interesting Mashup Definitions.....

- It's kinda like what you do with potatoes, grandma.
Mark(<http://www.brainfuel.tv/define-mashup>)
- Squeeze a round peg and a square peg into a triangle hole.
Mick(<http://www.brainfuel.tv/define-mashup>)

....and the best Mashup definition!

- $1+1=3$

Ward Andrews(<http://www.brainfuel.tv/define-mashup>)

Developing Mashups

- Simple
 - But can get complex with sophisticated APIs
- Fast development
 - No upfront engineering. *Just gets it done!*
 - Maybe short-lived
- Many data formats
 - XML, SOAP, JSON, RSS,

Mashup Enablers

- APIs
- Feeds
 - RSS, ATOM, OPML
- Screen Scrapers
- Location data from mobile phones
- Data from local data sources

Creativity

- "We know we don't have a corner on creativity. There are **creative people all around the world**, hundreds of millions of them, and they are going to think of things to do with our basic platform that we didn't think of. So the mashup stuff is a **wonderful way of allowing people to find new ways of applying the basic infrastructures** we're propagating. This will turn out to be a major source of ideas for applying Google-based technology to a variety of applications."

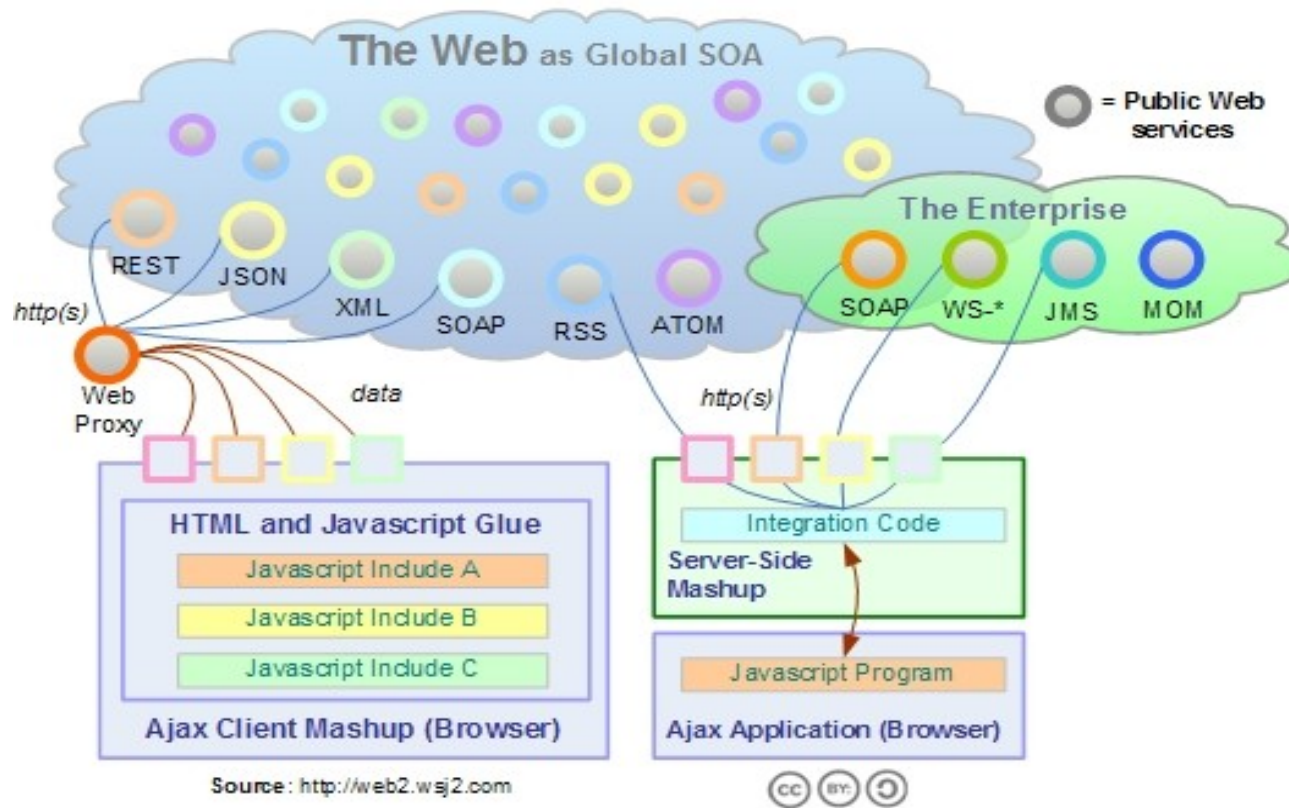
Vint Cerf -Vice President & Chief Internet Evangelist, Google

Mashup Types

- Client-Side Mashup
 - Integration/interaction in the client side
 - Mostly JavaScript in the browser
 - Google Maps Mashups
 - Interactive user experience
- Server-Side Mashup
 - Composing several already exposed services or data sources into a single service.
 - Transforming an exposed service
 - Moving the client side mashup logic to the server

Web Mashup Styles

In-Browser | Server-side



Source: http://web2.wsj2.com/making_the_most_of_the_web_creating_great_mashups.htm

Server Side

- For more power, control and flexibility
 - Rich environment, more options, and resources
- Less security worries
- Less security restrictions
 - No cross domain restrictions
- Browsers that do not understand or have disabled JavaScript
 - Mobile phones
- Less Java script code in the client side

Enterprise Dream

- Hard to integrate or re-use business applications
- Time consuming
- A need for faster effective ways to integrate, build, and re-use applications
- Way for the employees to experiment quickly
 - Promotes in house development
- Internal eco-system of services
 - Assemble services and applications from own repositories
 - Use own data sources
 - Look for services from outside

Challenges

- Identity management
 - WS-Trust
- Reliability
 - Fault tolerance code
- Copyrights
 - Creative Commons
 - Open content + content within the enterprise
- Maintenance
 - Sharing and uploading to an enterprise server
- API providers - no idea what the usage will be
 - API management software
- An open model

Mashing Up Mashups

- Mashup as a service
- Share, upload
 - Might require to do an audit
- Like BPEL, but in a more lightweight easy manner

Server Side Mashup Tooling

- Yahoo pipes
 - RSS or JSON
- IBM QEDWiki
 - Mashup as a widget
- KapowTech
- WSO2 Mashup Sever
 - Mashup as a service

WSO2 Mashup Server

- Personal Web Services
- Mashup as a service view
- XML centric

Personal Web Services

- Further simplifies Web service creation, deployment, and consumption
- Follow HTML's successful paradigm
 - providing an easy-to-install universal server
 - use simple text-based hello world files
 - create an ecosystem of functionality
 - file system based deployment
- Simple to consume + simple to publish = mashup

Personal Web Services

- Services as the building block, XML as the core
- Tools as add-ons
 - Web succeeded because of HTML, tooling will follow
- Service sharing and uploading
- Widgets per service
- Keep your hands dirty : control and power (just like hacking open source code) copy, paste, and edit cycles
- Keeping the existing systems: the mashup server will expose them : convert the data to XML,RSS,ATOM,JSON, IM alerts
- Support for long running services and agents.

Core Services

- Many services will eventuate in UI
 - Automatic DHTML client
 - Services for generating HTML pages
 - IM
 - SMS
 - email
 - HTML Scraping
 - Data Services
 - FTP
 - File System

Management Extensions

- Monitoring
- Management
 - Configuring bindings
- Throttling, logging, etc.
- User registration/security token services
 - (also available as core services)
 - API keys
- Migration services
- Zero-coding scenarios
- Billing services

Questions ???

Thank You !!!

