

# Enterprise Web 2.0, Mashups and SOA ...Oh My!



One of the most difficult challenges facing IT is striking the balance between providing the tools and technology that drive agile development while instilling the proper level of governance to satisfy internal controls. This challenge is further complicated by the arrival of social networking, wikis, blogs and other Enterprise Web 2.0 applications. Often, these tools are brought in the back door of an organization, through department budgets and corporate or personal credit cards. This current approach of grassroots tool adoption is analogous to the original departmental computing craze, where lines of business required better tools so desperately that they brought in "new" computers and software without the approval or knowledge of corporate IT. Enterprise Web 2.0 is occurring now on its own in many corporations; and IT can either facilitate and help manage the process or be faced with at best, duplicate and incompatible tool sets or at worst, exposure or corruption of corporate data. A recent Forrester survey demonstrates the growing awareness and concern of Web 2.0 for corporate IT.

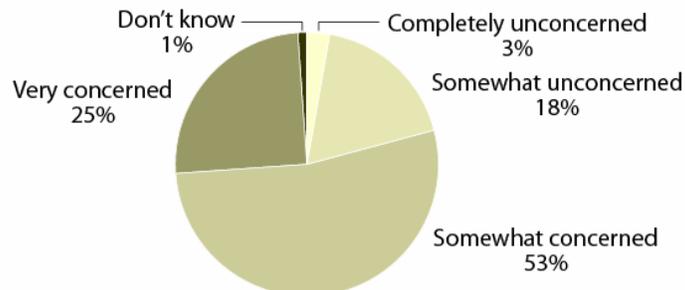


October 2007 "Case Study: Northwestern Mutual's Enterprise Web 2.0 Journey"

### Enterprise Web 2.0 Adoption Is Setting Roots (Cont.)

#### A majority of IT shops report concern with unsanctioned employee Web 2.0 usage

**"To what extent is your IT organization concerned about the risks of employee-driven, unsanctioned use of Web 2.0 tools and technologies (i.e., beyond the tools provided by your IT organization)?"**



Base: 268 IT decision-makers at US firms with 500 or more employees familiar with Web 2.0

Source: June 2007 US Web 2.0 Online Survey

So, how does one embrace technology advances such as Enterprise Web 2.0 and mashups in parallel with enterprise-wide SOA in a manner that does not dramatically increase the risk of enterprise application failures and compliance exposures? Or put another way, how can an enterprise achieve the business objective of promoting agility through Web 2.0 technologies while preserving adequate levels of governance and control to ensure that mission-critical systems are not compromised?



## What is Web 2.0?

Let's start with some basic definitions. **Web 2.0** is the term given to describe a second generation of the World Wide Web that is focused on the online ability to collaborate and share information. Web 2.0 refers to the transition from static HTML Web pages to a more dynamic Web that is more organized around and based on serving composite Web applications to users. Further improved functionality of Web 2.0 includes open communication with an emphasis on Web-based communities of users and the more open sharing of information. Over time Web 2.0 has been seen more as a marketing term than a computer-science-based term. Blogs, wikis, and Web services are all components of Web 2.0.<sup>1</sup>

While most of the Web 2.0 efforts have occurred outside of the corporate firewall, a growing number of companies have begun to adopt what is called Enterprise Web 2.0. **Enterprise Web 2.0** is focused on modernizing or building upon traditional in-house applications with components or widgets from outside of the corporate firewall.

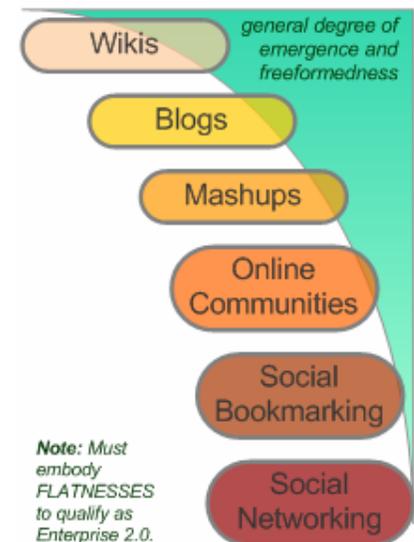
Enterprise Web 2.0 empowers knowledge workers with web 2.0 technologies like wikis, blogs, and mashups; providing them with the information they need, when and how they need it.

As Dion Hinchcliffe points out in the October 22nd, 2007, ZDNET article *The State of Enterprise 2.0*, "Effective Enterprise 2.0 seems to involve more than just blogs and wikis. The discussion often starts with these simple freeform tools but should progress beyond this to other platforms that are better for specific situations."

"For example, enterprise mashups do for user-created Web applications what enterprise blogs and wikis do for user-created content and structure. Predictive market products such as HP's BRAIN platform and online innovation facilitators such as Innocentive are other potentially more sophisticated examples of Enterprise 2.0 platforms. I've witnessed prediction markets in particular become enormously popular in the last year or so as enterprises seek to better tap into the cumulative wisdom of their workers. Social bookmarking is also starting to gain speed in the enterprise as a way of providing a rich information discovery mechanism internally."

The term **mashup** refers to a new breed of Web-based applications created by hackers and programmers (typically on a volunteer basis) to mix at least two different services from disparate, and even competing, Web sites. A mashup for example, could overlay traffic data from one source on the Internet over maps from Yahoo, Microsoft, Google or any content provider. The term mashup comes from the hip-hop music practice of mixing two or more songs. This capability to mix and match data and applications from multiple sources into one dynamic entity is considered by many to represent the promise of the Web service standard (also referred to as on-demand computing)<sup>2</sup>.

## Enterprise 2.0 Platforms



<sup>1</sup> Source: [http://www.webopedia.com/TERM/W/Web\\_2\\_point\\_0.html](http://www.webopedia.com/TERM/W/Web_2_point_0.html)

<sup>2</sup> Source: [http://www.webopedia.com/TERM/m/mash\\_up.html](http://www.webopedia.com/TERM/m/mash_up.html)

There is a long list of vendors that enable and promote Enterprise Web 2.0 software, in fact too long to describe here. A detailed list of vendors across 13 major categories is supplied in Appendix A. The 13 major categories include:

- Blogs and Content Management
- Enterprise Wiki/Blog (must have both combined, 500+ user support)
- Consumer or Workgroup Wikis
- Collaboration:
- Voting, Bookmarking and Tagging
- Widgets and Mashups
- Office Productivity
- Enterprise Applications
- Messaging and E-Mail
- Feeds
- Infrastructure and Tools
- Back-Office and Sales Infrastructure
- Services and Directories

Assuming these tools do exist or will exist in your organization, how do they fit with the larger SOA picture and how can they be managed?

### **How Does Enterprise Web 2.0 Fit with SOA?**

Many Web 2.0 technologies are designed to easily consume Web services, so on the surface it would seem that Web 2.0 is a natural fit for SOA. And it is – from a technical perspective. But as we all know, just because an organization has built out a set of Web services doesn't mean that it's developing an SOA. In fact, it's very easy to follow the path of least resistance when defining Web services and make them project-centric, ignoring or neglecting the broader needs of the enterprise in the rush to meet specific project schedules. Unfortunately, this approach leads to what we refer to as ABOS – A Bunch Of Services that don't further the enterprise's flexibility and agility but simply replicate old styles of applications using new technology. Yes, Web 2.0 technologies combined with Web services can result in engaging and useful applications, but if not properly managed and governed, these department applications are likely to become the equivalent of the quick-and-dirty VB and Excel-based apps of the past and present – fragile application stacks subject to instability because no one in the IT organization understands the application dependencies or even that these applications exist. Dion Hinchcliffe's recent blog<sup>3</sup> on the top ten challenges facing enterprise mashups raises this issue quite coherently, stating "If enterprise mashups unleash hundreds of new applications inside an organization, then who will catalog them, support them, maintain them, and fix them when they break?"

<sup>3</sup> <http://blogs.zdnet.com/Hinchcliffe/?p=141>



Bringing SOA into the picture both clarifies our view and identifies the touchpoints between Web 2.0 and SOA that must be controlled. SOA done correctly is something that must be managed strategically and systematically over a period of years to provide the maximum benefit to the organization. As you can see from the diagram, SOA's primary purpose within an enterprise is to support enterprise scale composite applications and integrations that are capable of doing the mission-critical work of the business, while Web 2.0 is focused on end-user collaborative efforts.

Compromising SOA's objectives to support the participative culture of Web 2.0, while seemingly providing near-term benefits to the business, will clearly cost the business in the mid- to long-term, as services within the SOA become hostage to departmental applications that are unmanaged and invisible to IT. As Yefim Natis of Gartner states in his podcast of October 23, 2007, "without this collaborative approach to SOA, enterprises can easily get distracted by things like Web 2.0... AJAX and the user interface. And it tends to derail the "grand plan" to objectives that are more tactical."

## SOA and Web 2.0: The Top-Level Organizing Principles in Software Continue to Converge and Evolve



Source: <http://web2.wsj2.com>

### Enterprise Web 2.0 and SOA – Achieving the Best of Both Worlds

So what's an IT organization to do with Web 2.0? Fighting it isn't the answer, nor is burying your head in the sand and pretending it doesn't exist. Both of those options will simply cede control of Web 2.0 technologies to departmental developers. The IT organization must strike a balance between the architected, strategic needs of SOA with the ad-hoc, departmental value-add that Web 2.0-based applications can provide to the enterprise.

The right answer to Enterprise Web 2.0 is to bring business-oriented mashup developers under the big tent of SOA, encouraging them to participate in the process of defining and prioritizing needed services, and requiring them to register their use of services so that IT knows who to contact when rev 2 (3, 4, or ...) of those services need to be deployed and prior versions retired. This approach will ultimately drive IT towards a true SOA-based portfolio and project management model, where narrowly focused applications no longer control the funding and staffing agenda; instead, the full set of application needs, both strategic and departmental-based, combine to prioritize the next wave of services to be built out as your SOA matures.



Of course, this is easier said than done – sorting out business priorities and translating them into funded IT projects within an SOA is messy business; and keeping track of who is using which service is not an easy job. End-to-end governance processes over service production and consumption is required to make this fluid IT environment work, beginning with defining a place where bottom-up project-specific service needs can meet and be merged with top-down architectural blueprints, progressing through the actual development and deployment of services in a disciplined manner befitting the strategic nature of SOA to the enterprise, and finally making those provisioned services readily visible, searchable and available to application developers both “old-school” and mashup-oriented.

What makes all of this possible on an enterprise scale is a well-defined design-time service registry/repository; one that supports the software development lifecycle through integrations with development tools such as SCM platforms and IDEs but that also presents a lightweight and easily comprehensible search interface to those departmental business developers who are building the next mashup that will transform the enterprise (or at least their little corner of the enterprise). Add to this the ability to automate governance tracking activities on a granular basis – perhaps with a series of well defined gates on the service production side of the equation and with a “one-click” acquisition and registration approach on the consumption side – and your IT shop has a very real opportunity to both maintain control over strategic development while enabling Web 2.0 activities to flourish within the enterprise. As Natis states in his podcast, SOA done correctly brings the business to a point where “as you’re acquiring applications, especially software as a service, what you’re really acquiring is a collection of services. Once you have acquired this collection of services, and you register them in a registry/repository, they become an asset of the entire enterprise. The boundaries of the application are becoming very thin.” Words to live by in this brave new world of SOA and Web 2.0.

### Ride the Wave ~ How Enterprise Web 2.0 Tools Intersect with SOA

Via Logidex, a design-time repository/registry and governance hub, enabling organizations to actively track and manage services from design and development through deployment. Logidex's unique combination of a repository for services production, a registry for services and artifact consumption, and automated UDDI and ESB publication options provides governance capabilities for the entire SOA lifecycle.

### Summary

Enterprise Web 2.0 and mashups have arrived – look around, more than likely individuals in your organization have been utilizing mashups in your development, even if they don't use that label. The relative ease with which Web 2.0 based applications and mashups are being created carries inherent risk; as an IT leader, you had better have a way for IT to manage and control this risk, or you will be faced with the potential loss of control and data or compromised corporate applications. Properly embraced and governed, however, these same Web 2.0 applications can be used to unleash the true power of SOA in your organization. It's your choice – you can ride the wave or be crashed by it.

## Appendix A

### Attributed to Jeff Nolan

<p><b><u>Blogs and Content Management</u></b></p> <ul style="list-style-type: none"> <li>• Automattic (which is Wordpress)</li> <li>• Blurb</li> <li>• Ekklesia360</li> <li>• Logahead</li> <li>• Loudblog</li> <li>• Lyceum</li> <li>• pMachine</li> <li>• Six Apart</li> <li>• Testpattern</li> </ul>	<p><b><u>Listing Services</u></b></p> <ul style="list-style-type: none"> <li>• Edgeio</li> <li>• LicketyTrip</li> <li>• Cooqy</li> <li>• Zaptix</li> <li>• ListSomething</li> <li>• Zillow</li> <li>• Listable</li> <li>• Jobazaar</li> </ul>	<p><b><u>Enterprise Wiki/Blog</u></b> (must have combined 500+ user support)</p> <ul style="list-style-type: none"> <li>• Atlassian</li> <li>• CustomerVision</li> <li>• iUpload</li> <li>• Socialtext</li> <li>• Stellent</li> <li>• Traction</li> </ul>
<p><b><u>Statistics</u></b></p> <ul style="list-style-type: none"> <li>• Blogbeat</li> <li>• ClickTracks</li> <li>• Coremetrics</li> <li>• FeedBurner</li> <li>• Fireclick</li> <li>• HitBoxPro</li> <li>• Hitslink</li> <li>• Mint</li> <li>• MyBlogLog</li> <li>• Omniture</li> <li>• Performancing Metrics</li> <li>• Pheedo</li> <li>• Sitemeter</li> <li>• WebTrends</li> <li>• VisitorVille</li> </ul>	<p><b><u>Collaboration</u></b></p> <ul style="list-style-type: none"> <li>• Foopad</li> <li>• iFolder</li> <li>• Jotspot</li> <li>• Joyent</li> <li>• SeedWiki</li> <li>• ServerSideWiki</li> <li>• Socialtext</li> <li>• StikiPad</li> <li>• SynchroEdit</li> <li>• Thumbstacks</li> <li>• Web Collaborator</li> <li>• Wikispaces</li> <li>• Writeboard</li> <li>• Writely</li> <li>• Zingee</li> </ul>	<p><b><u>Infrastructure &amp; Tools</u></b></p> <ul style="list-style-type: none"> <li>• Active Endpoints/ActiveBPEL</li> <li>• ActiveGrid</li> <li>• BackBase</li> <li>• Blue Titan</li> <li>• Tibco</li> <li>• Codase</li> <li>• Dojo</li> <li>• Django</li> <li>• JackBe</li> <li>• Laszlo Systems</li> <li>• TextDrive Snippets</li> <li>• Instant Rails</li> <li>• WebORB</li> <li>• GigaSpaces</li> </ul>
<p><b><u>Search</u></b></p> <ul style="list-style-type: none"> <li>• Technorati</li> <li>• Clusty</li> <li>• Gravee</li> <li>• Kratia</li> <li>• Guten Tag</li> <li>• Findory</li> <li>• Exalead</li> <li>• Rollyo</li> <li>• OPML Search</li> <li>• Swicki</li> <li>• Wink</li> </ul>	<p><b><u>Media</u></b></p> <ul style="list-style-type: none"> <li>• Podbridge</li> <li>• Podzinger</li> <li>• Podscope</li> <li>• Podbasket</li> <li>• Podtech.net</li> <li>• PodServe</li> <li>• Talkr</li> <li>• YouTube</li> <li>• Odeo</li> <li>• Vimeo</li> <li>• podOmatic</li> <li>• LendMonkey</li> </ul>	<p><b><u>Project Management</u></b></p> <ul style="list-style-type: none"> <li>• BaseCamp</li> <li>• Backpack</li> <li>• CentralDesktop</li> <li>• iOutliner</li> <li>• voo2do</li> <li>• Ta-da Lists</li> <li>• TimeTracker</li> <li>• dotProject</li> <li>• Quickbase</li> </ul>



<p><b><u>Consumer or Workgroup Wikis</u></b></p> <ul style="list-style-type: none"> <li>• PBWiki</li> <li>• Schtuff</li> <li>• SeedWiki</li> <li>• TWiki</li> <li>• Wetpaint</li> <li>• Wikispaces</li> </ul>	<p><b><u>Messaging &amp; Email</u></b></p> <ul style="list-style-type: none"> <li>• Meebo</li> <li>• eMessenger</li> <li>• Zimbra</li> <li>• RoundCube</li> <li>• Joyent</li> </ul>	<p><b><u>Enterprise Applications</u></b></p> <ul style="list-style-type: none"> <li>• 24SevenOffice</li> <li>• Workday</li> <li>• HelpSpot</li> </ul>
<p><b><u>Feeds</u></b></p> <ul style="list-style-type: none"> <li>• Chuquet</li> <li>• InstantFeed</li> <li>• Feedburner</li> <li>• Feedmarker</li> <li>• FeedoStyle</li> <li>• FrankenFeed</li> <li>• FeedCraft</li> <li>• FeedYes</li> <li>• Gregarius</li> <li>• Joyent</li> <li>• Megite</li> <li>• Memeorandum</li> <li>• NativeText</li> <li>• NetVibes</li> <li>• Newsgator</li> <li>• Odiogo</li> <li>• Pluck</li> <li>• PubSub</li> </ul>	<p><b><u>Voting, Bookmarking &amp; Tagging</u></b></p> <ul style="list-style-type: none"> <li>• Ambedo</li> <li>• BlinkList</li> <li>• BloxOr</li> <li>• Boxxet</li> <li>• CoComment</li> <li>• Digg</li> <li>• Del.icio.us</li> <li>• Dogear (IBM)</li> <li>• StumbleUpon</li> <li>• Furl</li> <li>• Joyent</li> <li>• Kaboodle</li> <li>• ListMixer</li> <li>• OnlyWire</li> <li>• RawSugar</li> <li>• 30DayTags</li> <li>• StockDigg</li> <li>• Rrove</li> <li>• TagCloud</li> <li>• Tagyu</li> <li>• Tags.App</li> <li>• Tendango</li> <li>• SocialMarks</li> <li>• Simpy</li> <li>• Spurl</li> <li>• Yoono</li> </ul>	<p><b><u>Online Storage</u></b></p> <ul style="list-style-type: none"> <li>• Box.net</li> <li>• Mozy</li> <li>• OmniDrive</li> <li>• StrongSpace</li> <li>• AllMyData</li> <li>• Carbonite</li> <li>• Iron Mountain</li> <li>• XDrive</li> <li>• Streamload</li> <li>• Openomy</li> <li>• Swapzies</li> <li>• Amazon's S3</li> </ul>
<p><b><u>Contacts</u></b></p> <ul style="list-style-type: none"> <li>• Plaxo</li> <li>• Jigsaw</li> <li>• LinkedIn</li> </ul>		