

**Web 2.0:
Capture the power of participation
for better business outcomes.**

Benefit from a full range of advanced Web technologies



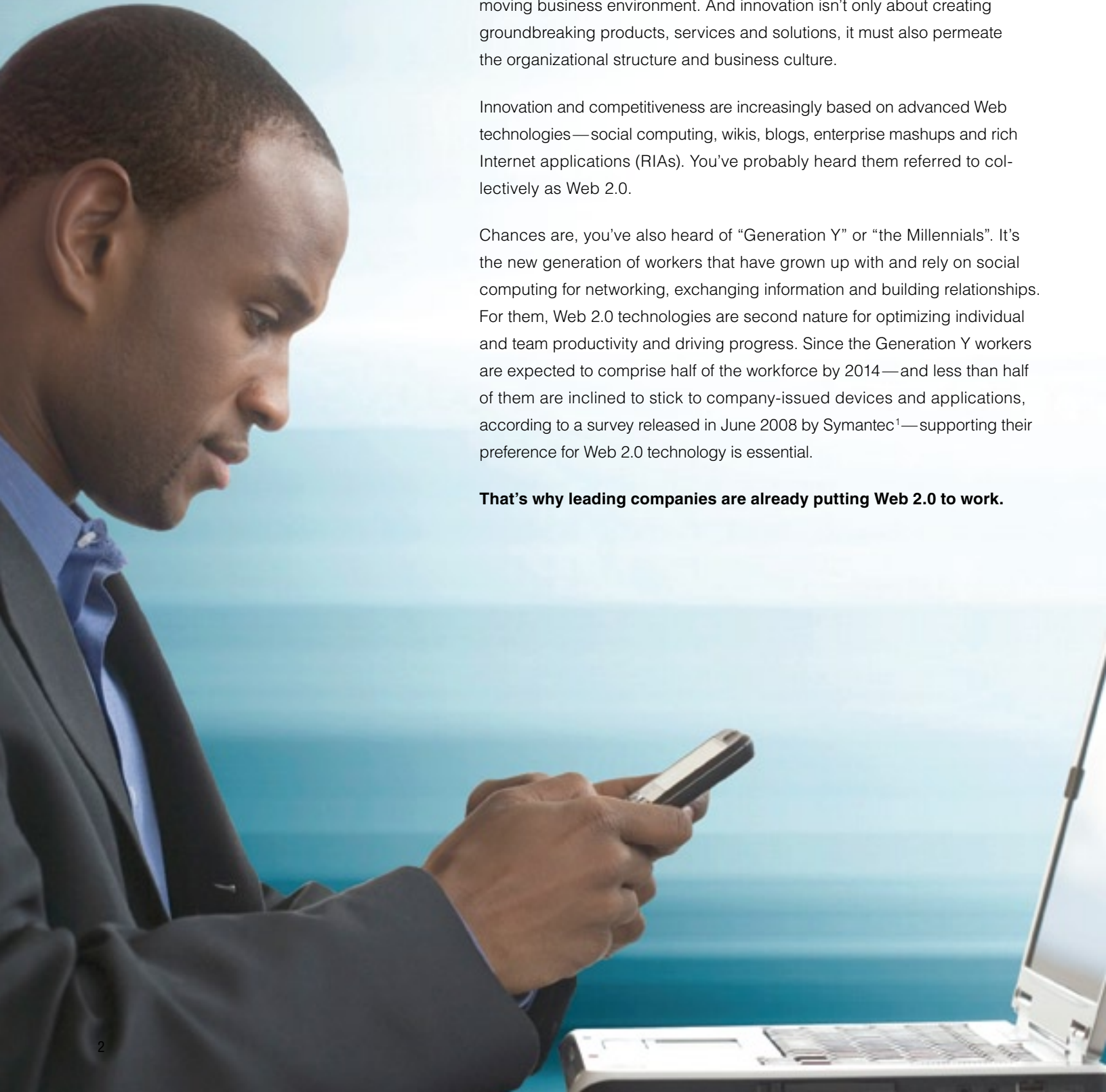
Web 2.0 is rapidly going to work for business

Continuous innovation is critical to competing successfully in today's fast-moving business environment. And innovation isn't only about creating groundbreaking products, services and solutions, it must also permeate the organizational structure and business culture.

Innovation and competitiveness are increasingly based on advanced Web technologies—social computing, wikis, blogs, enterprise mashups and rich Internet applications (RIAs). You've probably heard them referred to collectively as Web 2.0.

Chances are, you've also heard of "Generation Y" or "the Millennials". It's the new generation of workers that have grown up with and rely on social computing for networking, exchanging information and building relationships. For them, Web 2.0 technologies are second nature for optimizing individual and team productivity and driving progress. Since the Generation Y workers are expected to comprise half of the workforce by 2014—and less than half of them are inclined to stick to company-issued devices and applications, according to a survey released in June 2008 by Symantec¹—supporting their preference for Web 2.0 technology is essential.

That's why leading companies are already putting Web 2.0 to work.



What Web 2.0 can do for your business

Web-based technologies and social networking tools enable contextual, agile and simplified information utilization, exchange and collaboration to distributed workforces and networks of partners and customers. Organizations that embrace Web 2.0 will be giving themselves an enormous competitive advantage.


Web 2.0 provides business managers with timely access to strategic and operational information and expertise through a web of interconnected applications, services and devices. It enables information to be delivered and disseminated to where it can best be utilized to make the greatest productive contribution.

Deploying Web 2.0 technologies across your company intranet (termed “Enterprise 2.0”) can help you harness the collective intelligence of your entire enterprise and make it accessible to your employees, customers, partners and suppliers.

Global teams can quickly reach out across time zones, cultures and organizational boundaries to those who can best help them advance a project, bring a product to the marketplace or close a deal. Manufacturers can reach across their supply chain to collaborate on production changes. Pharmaceutical commercialization teams, for example, can collaborate in realtime

with healthcare providers conducting Phase III trials around the world to win government approval. And car dealers can communicate on commonly seen maintenance issues and work directly with design teams at the manufacturer.

With Web 2.0, critical information no longer languishes in organizational silos—limited to narrow use, insights locked away. Instead, it becomes a dynamic and shareable asset that grows in value organically as global teams grab it, add to it and use it to create information-rich solutions. All this enables your company to gain competitive advantage in the form of increased innovation, productivity and agility.



“Up-to-date collaboration and communications tools are also essential for employers wishing to attract the best talent in the industry. The new generation entering the job market is already familiar with instant messaging and social networking tools. These young professionals want to utilize the same capabilities in their day-to-day work.”

—Pauli Nuutinen, CIO, Metso Corporation

The essentials of Web 2.0

Web 2.0 combines new technologies with the organizational behaviors that support them to enable everyone in your organization to make a bigger contribution.

Virtually unprecedented agility

Web 2.0 helps flatten organizational structures. It enables peer-to-peer information exchange, access to expertise, increased collaboration and improved decision making. Organizations can gain flexibility and quickly adapt to change. The agility of Web 2.0 can create business value from the bottom up, enabling the organization to respond to marketplace opportunities in a way that would be difficult for an organization with a rigid, top-down hierarchy to match.

Global transparency

In the face of competition around the world and ever shorter time-to-market cycles, successful organizations need to integrate globally to respond quickly. A fast-changing global business environment is the norm, not the exception. So organizations must reach across the enterprise and out to suppliers, business partners and customers to tap the best information available. Web 2.0 knocks down the artificial and physical boundaries between groups to help make information more transparent and enable global teams to interact more fluidly.

Rapid assimilation of data and content

Web 2.0–based situational development tools help business users create their own applications by transforming and combining the resources they already have with others that they previously could not leverage. Known as enterprise mashups, these applications allow users to access various information sources—enterprise systems, Web sites, software-as-a-service (SaaS) providers, departmental applications and team or personal applications like spreadsheets—and quickly reuse and remix them so they can make better decisions and seize new opportunities. And new Web 2.0 technology–based tools for enterprise application development are providing realtime insight and extended manageability and extensibility.

Meaningful relationships

Compared with traditional communication methods, social media capabilities can strengthen relationships and improve business results. Tapping into social media effectively can help expand and grow access to customers and business partners. You can build active customer communities and nurture those relationships to forge stronger client-customer loyalty and cooperation.

Free-flowing information encourages team members to contribute to the cause. It gives them a better idea of what information their colleagues are using and how they're using it. And it may make them more invested in the success of projects as well as the business as a whole.

Open standards

With Web 2.0, networks continue to build value over time. Information systems grow organically from within the business rather than from above, and the structure of information maps more closely to the real world as it's driven and honed by competition. Following open standards when building the underlying technology is critical to keeping the network transparent and information flowing.



Cardiff University improves its research agenda with social software

Cardiff University is deploying a solution on Lotus Connections software to enable an enterprise-wide directory service that gives researchers and staff the ability to search across the institution for skills, projects, teams and the best knowledge available. They can locate people and information quickly, start interactions immediately and help advance research-based projects through collaboration.

The social software solution is designed to help Cardiff increase collaboration across previously isolated schools and faculties. This greater collaboration is expected to improve staff and student experiences. Enhance and extend teaching methods and materials. And increase efficiencies in research-based projects and grant management.

IBM tools: IBM Lotus Connections software



Web 2.0 goes to work — for you

By driving higher levels of efficiency and flexibility, Web 2.0 will forever change the way businesses operate. And early adopters who deploy Enterprise 2.0 technology today will have greater opportunities to distance themselves from technology laggards. The key is to find a security-rich, reliable and manageable way to realize your vision. To enable new dimensions of imagination and innovation across the enterprise, IBM offers solutions across the three strategic elements of Web 2.0: people, platform and application development.



People and social computing

With the right Web 2.0 strategy, you have the potential to cross boundaries and tap the collective knowledge of the organization's entire value chain. You can foster a more collaborative, dynamic and innovative company culture. You can retain tacit information and expertise—the kind that's often not captured in siloed, top-down structures—and leverage it more effectively. And teams can initiate ad hoc projects organically and reuse patterns.

Building an Enterprise 2.0 environment enables people and information to connect in unprecedented ways. Individuals and teams can join interest- and job-related networks and participate based on preferred working styles. By harnessing the collective intelligence

of customers, organizations have the potential to respond more rapidly to changing marketplace conditions and customer tastes—enhancing customer relationship management.

For example, a global accounting and consulting firm used IBM Lotus® Connections, IBM Lotus Notes® 8 and IBM Lotus Expeditor software to increase the power of employees in the creative process. The solution helped them use “connected thinking” to solve customer problems and resulted in increased participation. And a global auto manufacturer deployed a Lotus Connections solution to more easily identify experts and critical business content regardless of geography, business function or management chain.



PEOPLE



PLATFORM



**APPLICATION
DEVELOPMENT**

IBM's Web 2.0 strategy is built around three key components

We don't just talk about Web 2.0

We have another great example of applying Web 2.0 technologies to establish a successful Enterprise 2.0 environment—our own. Our comprehensive approach with Web 2.0 in our workplace gives us an insider's perspective on how our clients can gain competitive advantage with a greater focus on people, platform and application development.

As one of the largest technology companies in the world, with more than 350,000 employees spread across 165 countries, IBM uses Web 2.0 to simplify its daily work. Our online corporate directory uses a feature called profiles that helps make our world a little smaller. Our employees create online personae based on skills, background, reporting structure and photos, which helps create personal connections in a large organization.

We use blogs, wikis and RSS feeds, among other Web 2.0 tools, to increase employees' productivity and as strategies to leverage the vast benefits of connecting to external communities. Internal blogs give our employees a voice to share their work experience, discuss projects and find information. Within an effective Enterprise 2.0 environment, employees have a central, virtual meeting place, and conversations have no geographic or organizational boundary.

Our internal Web 2.0 innovations often migrate into useful client products. IBM Lotus Connections activities and IBM Mashup Center—now offered as commercial products—were both developed by IBM Research to help IBMers do their jobs more effectively.

Application development

For building enterprise applications, Web 2.0 technology from IBM provides the IT team with realtime insight and control over software development. For business users, Web 2.0 technology from IBM makes applications simple to build, quick to remix and easy to extend. It combines new technologies with existing assets to help employees work in new ways. It enables existing enterprise information and data to be leveraged easily. Application and data reuse plus open-standards-based technology provide the flexibility and scalability required in dynamic and competitive business environments.

Web 2.0 technologies, such as enterprise mashups, present opportunities to fundamentally change the economics of application development by involving the consumers of the application to participate in the creation of the solution. IT can choose to delegate the creation of situational applications to the business teams that need the information; and IT can partner with lines of business to allow business-guided evolution of applications. Applications that could not previously be developed economically, due to their short life cycles or small audiences, now become easily deliverable solutions. By decoupling the underlying information access from how the situational applications are created, high business-value needs can be met from legacy and service-oriented architecture (SOA) information sources.

For example, a global retail distributor wanted to implement a role-based visualization of data across its supply chain. By using the IBM Mashup Center solution, the client was able to combine internal data and Internet-based data (piracy incidents and weather) to create a shipment monitoring dashboard that displayed in-transit shipment details, shipment locations and events that could disrupt shipment.

Another IBM client—a major aircraft manufacturer—used IBM Mashup Center to build an airport search mashup to improve rapid response capabilities. This enabled government officials, in response to a local or wide-spread emergency, to quickly identify the nearest airport than could safely handle an incoming aircraft based on the aircraft's performance characteristics.

“Embedding Avaya realtime communications capabilities into IBM Mashup Center provides enterprises with the agility they need to meet new customer and user demands by communications-enabling their business applications.”

— Lawrence Byrd, director, unified communications architecture, Avaya



Avaya uses mashups to add voice communications to applications

Avaya, a global leader in communication systems, applications and services, is using enterprise mashups as another mechanism to embed communications capabilities within the context of business applications. Communications vendors like Avaya continue to evolve their technologies so that voice can seamlessly integrate into customers' business fabrics. Mashups offer a simple way for them to expose these services—showing in a mashup how they can embed their communications services into any business situation or context to give immediate access and insight and to reduce the latency caused by non-realtime collaboration. For example, while customer service representatives have access to robust customer care systems, other roles such as sales and account executives lack access to those systems.

An enterprise mashup can provide visibility into these customer service applications—as well as the ability to communicate in realtime with the touch of a button—for people outside the customer service function, such as account executives or sales representatives. To understand the current situations in their accounts, individuals can create a mashup to show details of active trouble tickets, locations of customers, available field engineers, and contact details for the customer and field engineer—and to establish a three-way call between the customer, field engineer and account person using Web services.

IBM tools: IBM Mashup Center solution

A smartly executed Web 2.0 strategy provides users with realtime access to relevant, trusted information and applications based on their roles, expertise or preferences. It incorporates Web feeds, including Really Simple Syndication (RSS) and XML, to deliver information where needed, independent of the environment the end user chooses to work in. It aggregates and filters corporate, individual and external information into customized and relevant business insight to reduce information overload. And it underpins responsive user interfaces to make it all easier to work with.

Web 2.0 technologies support the development of social software applications that create a forum for building dynamic networks of coworkers, partners and customers to foster community-based innovation. Enterprise 2.0 further speeds the organization's responsiveness, flexibility and pace of competition.



NAV CANADA uses a testing solution to address the security and compliance of online applications²

Canada's civil air navigation services provider needed to stay ahead of emerging risks and maintain a security-rich flow of business-critical information across internal stakeholders and airline customers. It knew it needed to adopt the latest Web application security technology to do so. NAV CANADA implemented a comprehensive solution that automated security and compliance-related issue testing of its core Web applications, and that easily integrated into its software development life cycle.

NAV CANADA helped enhance the security of its Web applications through best practices such as regular scanning and testing for vulnerabilities through the software development life cycle. Plus, thanks to pervasive solution adoption, the productivity of employees responsible for application development, security and quality assurance was improved.

IBM tools: IBM Rational® AppScan® software



Platform

The World Wide Web is not just a means of communications; it increasingly serves as an application development and delivery platform that allows access practically anytime, anywhere. Internet-based IT capabilities provide economies of scale, low barriers to development and lower up-front costs. Internet-based IT capabilities can easily and quickly capture user-created content and the value created by all participants. It promotes globally integrated virtual enterprises and value networks. And overall it drives a more effective use of information. It enables the discovery and use of expertise across an ecosystem.

Using the Web as a delivery platform can support a faster tempo for developing innovative applications and business models. Quick application development, enterprise mashup creation and process

reengineering can vastly improve business flexibility and efficiency. Teams can quickly connect, communicate and organize to gain a more sustainable competitive advantage based on their speed in seizing opportunity.

Moreover, using the Web as a platform can turn traditional sales and marketing on its head. For example, large enterprises have historically focused on driving revenue through blockbuster products or services for large marketplaces that comprise millions of people. With Web 2.0 technologies effectively using the Web as a platform, companies can also cost-effectively sell and market their products and services to a greater number of smaller marketplaces, those with fewer people in niche market segments. This is commonly referred to as mass customization or the long tail strategy. It enables companies in highly commoditized marketplaces with intense competition to better differentiate themselves and drive revenue.

Web as a delivery platform helps erase boundaries and extend value networks. IBM's software portfolio enables businesses to use the Web as a delivery platform today and into the future. For example, Bluehouse—the code name for new software that provides a platform and user interface for SaaS solutions—provides an innovative and powerfully intuitive set of business applications. With Bluehouse, people can collaborate outside your company firewall, share files, harness social networking for business and meet online instantly.

More than 6,500 enterprises use IBM WebSphere® Portal as their Web delivery platform of choice today. Supporting the latest Web 2.0 technologies and social networking capabilities such as wikis, blogs, tagging and communities, WebSphere Portal software delivers an enterprise-grade platform that CIOs trust, with the governance capabilities and security-rich environment you would expect from IBM.



Yulon Motors provides in-car information that allows users to participate in a value-added, interactive Web 2.0 community

iMove—Taiwan's first Travel 2.0 Web site—provides an in-car service that is built on IBM WebSphere Portal software to deliver maps, traffic reports, entertainment and more to travelers. iMove enables an interactive Web 2.0 community of travelers and travel operators with user-generated content, shared route planning, destination ratings, special events notification and themed routes. The on-board wireless portal and integrated design connects mobile users to multiple back-end data sources through a single, easy-to-use interface. In addition, route plans on iMove can be downloaded and linked to the call center service, providing better customer service to iMove users on the go.

IBM tools: IBM WebSphere Portal software

Innovation—look at the full range of solutions to get the most from Web 2.0

At the heart of its Web 2.0 vision, IBM aims to help businesses build environments that enable employees to do their jobs better and faster. We believe that the user-driven business innovation and flexibility enabled by Web 2.0 are the foundations of the new marketplace.

IBM's technical and consulting skills are at the forefront of Web 2.0 implementations. Our broad solutions portfolio provides solutions in areas from social computing to enterprise mashups to RIAs. And we leverage our leadership in security technologies to help ensure that these solutions are ready for business.

To learn more, take a look at the *IBM Web 2.0 Goes to Work for Business* Web site—www.ibm.com/web20—which provides easy access to a growing collection of Web 2.0 tools and technologies, blogs and communities. These assets, combined with our years of experience, can help you use these technologies to make organizational work faster and easier. They can help you put Web 2.0 to work.

Get the most out of your software investment with the help of a worldwide network of highly skilled services professionals who have deep product knowledge and field-tested experience. Let IBM software

services and select IBM Business Partners help you evaluate, design and deploy software solutions that meet your organization's unique business and technical requirements. Whether you need help with large-scale projects or short-term assignments, there are a variety of technical consulting, training and premium support services available to help you accelerate your success with IBM technology.

“IBM and Microsoft® showed off their social software for businesses at the Enterprise 2.0 Conference in Boston today ... IBM's Lotus Connections looked, at minimum, a year or more ahead of SharePoint in its social computing capabilities out of the box. It was a lot prettier looking, too.”

—C. G. Lynch, CIO.com³



ZSL uses a development and execution solution to develop Web 2.0 assets three times faster⁴

This global IT solutions provider needed to enable members of its developer community to answer each other's questions, build on each other's work and be more productive together to enable workforce collaboration and innovation. It implemented the IBM WebSphere sMash development and execution solution, which incorporates rich interactive features such as wikis, blogs, forums and a search engine.

The company found that it could now build a Web application in three and a half weeks. It reduced its time to market for developing Web 2.0 assets by 67 percent. And it took 90 percent less time to implement best-in-class programs. Moreover, it could reuse 25 percent of software code. And it gained out-of-the-box functionality versus the two and a half days it previously took to install comparable software.

IBM tools: IBM WebSphere sMash software

Ready to start?

Web 2.0 technologies can help companies compete globally in new ways, but they still have to be implemented as cost-effectively, reliably and securely as the rest of the IT infrastructure. To efficiently and successfully implement Web 2.0, you need a trusted adviser who can provide strategic advice about the full range of Web 2.0 technologies and the organizational changes that can best leverage that investment.

Further, Web 2.0 is not just about software and hardware. Blogs, e-mail, instant messaging, wikis, enterprise mashups and RIAs are important tools, but they don't provide full value to the organization without cultural change. Social media applied to business marketing involves human interactions such as listening, cultivating and participating in the continuous dialogue among customers, partners and stakeholders about issues relevant to the business marketplace.

IBM provides Web 2.0 solutions and expertise to help your business grow as it moves toward Enterprise 2.0. We have the insight and experience to help you successfully implement the underlying technologies and make the transition to a Web 2.0 culture. IBM can help you provide the tools that make it easier for your employees to stay engaged, invested and committed.

For more information

To learn more about Web 2.0 solutions from IBM, contact your IBM software sales representative or visit:

ibm.com/web20

or

ibm.com/press/us/en/pressrelease/23641.wss



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Lotus Software
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Cambridge, MA 02142
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Produced in the United States of America
October 2008
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