

Government 2.0: Building Communities with Web 2.0 and Social Networking



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Introduction — The Future Is Now

Is “government 2.0” coming to a community near you? Will you recognize it if it does? Does such a thing even exist? If so, is it the answer to the shortcomings of more traditional governance efforts or simply another hype storm created by technocrats and marketers in an attempt to generate demand for products that seem to always become out-of-date within hours of implementation? Sometimes it is hard to tell.

Government 2.0 in general describes efforts undertaken by communities, states and the federal government to implement the tools and technologies

developed and adopted by the private, commercial sector of the economy that extend the utility of the Internet. Such efforts are collectively known as Web 2.0. Among those jurisdictions that have chosen to explore the possibilities, the consensus seems to be that Web 2.0 can help government enhance its existing relationship with citizens by creating new avenues of interaction. But based on research conducted by the Center for Digital Government, it is clear that for every community that has decided to explore the possibilities, another has decided not to; at least not right now.

The reasons are varied: Some cite excessive demand on limited infrastructure and bandwidth; others point to security concerns; and many people allude to the difficulty of overcoming the perception that such sites demonstrate no legitimate business use and provide little more than the opportunity for public employees to waste time at work.

In order to make an informed decision for your organization, it is helpful to have an understanding of both the possibilities and pitfalls that separate fact from fictional hype.

According to Wikipedia, the phrase “Web 2.0” was coined in 2004 at the O’Reilly Media Conference. Since then, it has been assigned myriad definitions.¹

Some say Web 2.0 is a new generation of Web applications that foster user collaboration, creativity and connectivity through sites such as MySpace, Flickr, Wikipedia and YouTube. Others contend Web 2.0 is little more than the natural progression of Web technology. There is also a contingent that condemns Web 2.0 as nothing but a clever marketing ploy that has already suckered a good number of people.

O’Reilly Media’s Tim O’Reilly believes Web 2.0 is embodied by applications that deliver richer user experiences and harness collective intelligence — two things most government Web sites don’t do well.²

It is this move from an emphasis on the individual for whom information equates to power to a more collaborative

Daily Pageviews (percent)

Statistics show that viewing of true Web 2.0 user-created content (video), as represented by YouTube, is increasing when compared to Web 1.0/ Web 2.0 transitional content aggregation tools such as MySpace and Flickr.com.



Source: Alexa

group cooperation mentality that is proving difficult for many longtime public employees to envision and accept.

This is the sort of trend government can't afford to overlook, and it seems to strike at the heart of many organizations that have established official policy positions blocking access to social networking sites. The Web 2.0 idea — that all of us are smarter than any one of us — casts a long shadow over the age of the expert, with its reverence for command, control and seniority, and brings with it a new dynamic. It emphasizes the power of the team, but on the Web 2.0 playing field, team members very often have no assigned positions. Nevertheless, a new generation of players is taking the field. They do not classify themselves like their parents or grandparents in organizational charts with tops and bottoms. In many cases, when given the choice, they seem to prefer to bypass the formal organization altogether, favoring instead the loose configurations of social networks.

Workforce Changes

The sheer magnitude of looming retirements has been confirmed by the Office of Personnel Management (OPM) within the federal government. The OPM is the primary agency charged with tracking and projecting changes among the federal workforce. According to the agency's latest predictions, about 300,000 people or 16.2 percent of the federal workforce is expected to retire in the fiscal 2006-2010 period. In the past five years, the actual retirement rate was 14.7 percent of the nonseasonal, full-time permanent workforce (approximately 229,000 people).

Daily Pageviews (percent)

Statistics also show that Encarta Web traffic has decreased significantly, and that user-created content-driven Wikipedia routinely surpassed it in pageviews.



Source: Alexa

Technology Ownership by Household Type

For today's married with children households, the norm is multiple communication tools. A majority now have home broadband connections.

	All Adults (n=2,252)	Married with Child/ Children (n=482)	Other household types (n=1,770)	Other multi-member households (n=1,189)
Cellphone(s) in household	84%	95%	80%	88%
Computer(s) in household	77	93	71	81
At least one household member goes online	77	94	71	83
Have a home broadband connection	52	66	47	55

Source: Pew Internet & American Life Project Networked Family Survey, Dec. 13 2007-Jan. 13, 2008. N=2,252. Margin of error is +/-2%.

The government (state, federal and local) workforce has already outpaced the private sector in regard to the number of older employees eligible for retirement. As of 2002, 46.3 percent of government workers were 45 years of age or older as compared to just 31.2 percent of this demographic within the private sector, especially in occupations that require specialized skills, education and training.³

At the local level, the city of Tucson, Ariz., is just one example of how the retirement wave is starting to break over local government. As of the end of June 2008, the city had seven department director vacancies including police chief, fire chief, finance/budget director, water utility director and neighborhood services director.⁴

As baby boomers move into retirement, they open the way for their children and grandchildren to replace them in public service. However, this new generation of public servants is not looking to take up residence in grandpa's vacant cubicle. For them, work isn't a place you go, but something you do, and you can do it from anywhere as long as you have the appropriate tools. The Bruce Springsteen generation may have been "born to run," but this group, often referred to as Millennials, was born to be mobile and connected to their friends.

The results of a report published recently by a Norwegian software company, titled "State of the Mobile Web," show that in the United States, traffic to social networks, such as MySpace and Facebook, comprises almost 60 percent of Web traffic generated by mobile devices.⁵

Such social networking sites are fundamentally changing the way young people communicate. They text message all day, but when they want to tell their friends about upcoming events, places they have

Growing Up in a Web 2.0 World

Some 93% of teens use the Internet, and more of them than ever are treating it as a venue for social interaction — a place where they can share creations, tell stories and interact with others.

The Pew Internet & American Life Project has found that 64% of online teens, ages 12-17, have participated in one or more content-creating activities on the Internet, up from 57% of online teens in a similar survey at the end of 2004.

39%
of online teens share their own artistic creations online, such as artwork, photos, stories or videos, up from 33% in 2004.

28%
have created an online journal or blog, up from 19% in 2004.

33%
create or work on Web pages or blogs for others, including those for groups they belong to, friends or school assignments, basically unchanged from 2004 (32%).

27%
maintain a personal Web page, up from 22% in 2004.

26%
remix content they find online into their own creations, up from 19% in 2004.

The percentage of online teens who said "yes" to at least one of those five content-creation activities is 64%, or 59% of all teens.

Source: "Teens and Social Media Report," Dec. 19, 2007 - Pew Internet & American Life Project

been and what they've done, they post videos, photographs and text descriptions on their Facebook or MySpace pages.

E-mail — the "killer app" for those over 30 years old — is used only for the type of formal or official communication that once may have required carbon paper. The change is profound, but it isn't complicated. It is 10 percent tools and 90 percent cultural, but it is vital to a generation that has grown up with the Internet and information overload, where even small children are taught that you can't trust just one piece of information, you have to look at many and evaluate everything on your own.

Current government officials need to understand and respect this cultural

reality and the fundamental change it represents; otherwise, our public institutions run the risk of missing the benefits from the creativity that Web 2.0 can unleash, potentially creating a "you can't get here from there" barrier to public participation and discourse.

The Tools — From Individual Expression to Community Building

Much of what we now consider to be Web 2.0 technology had its genesis in the desire of young people for self-expression, peer communication and a new way to stay connected with friends. For example, blogs were originally created to be online diaries. Simply put, blogging was a way to combine a personal Web page with tools that made linking to other pages and applications easier.

Tools, such as MySpace, Facebook, YouTube, wikis and others, further automated the process and made inclusion of pictures, video, music and other customizations much easier and helped further create communities of interest by linking “friends.”

So the question for government is: Do these tools that were originally created to further self-expression really represent and signal a fundamental shift in how we create and manage our relationships and interactions, or are they just modern vaporware, interesting applications that have little practical or lasting value, especially in the public sector?

Seattle’s Chief Technology Officer Bill Schrier, one of the leading local government thinkers on the potential of Web 2.0 in the public sector and a member of the Digital Communities CIO Task Force, has taken a thoughtful look at this very question. In his personal blog, where he identifies himself as the “Chief Seattle Geek,” he looks at the potential Web 2.0 tools have for building better communities.⁶

In his essay, Schrier contends that social networking applications, such as MySpace, Facebook, LinkedIn and Second Life, have

broken new ground. They allow individuals to establish a new, virtual presence to interact with other members of their online community. They provide the opportunity for government to further promote, organize and support small groups in communities, such as anti-crime block watches or neighborhood disaster recovery teams. In his opinion, having (secure) social networking sites for these community groups to interact, learn from each other and educate themselves has great promise.

He goes on to say that moderated blogs

with interactive comments are, potentially, a good way for elected officials to receive input from constituents and interact with them. They might be a supplement to public meetings in the community, but are not without their challenges. For example, blogs — and public meetings — are often monopolized by a few, self-anointed citizen activists, and moderating a blog is a lot of time and effort for a government agency.

Online surveys conducted with tools such as Zoomerang and SurveyMonkey are ubiqui-

The Internet and the 2008 Election: Summary of Findings at a Glance

46%

of Americans have used the Internet, e-mail or phone texting to get news about the campaigns, share their views and mobilize others.

More

Americans have gone online to get political news and campaign information so far than during 2004.

35%

Two new Internet activities have stormed the political stage: 35% of Americans have watched online videos related to the campaign, and 10% have used social networking sites to engage in political activity.

1 in 10

Nearly one in 10 Internet users has donated money to a candidate online at this point in the race.

39%

of online Americans have used the Internet to gain access to primary political documents and observe campaign events.

Young voters tilt toward Obama and his party, which gives the Democrats some advantages.

Despite the increased salience of online sources in the political arena, **wired Americans have mixed views** about the overall impact of the Internet on politics.

Source: Smith, Aaron and Lee Rainie. “The Internet and the 2008 Election,” Pew Internet & American Life Project, June 15, 2008.

tous in the private sector and could be used to help elected officials gauge the mood of a city's residents on particular topics. With any online survey, however, activists and special interest groups can rig the results by "voting early and often." Such surveys won't be statistically valid, but valuable insight may be gained by combining them with traditional surveying techniques conducted via U.S. mail or telephone.

Dynamic Online Collaboration

Wikis, a collection of Web pages designed to enable anyone who accesses it to contribute or modify content using a simplified markup language, certainly hold great promise as tools internal to government.⁷ Government is typically

ees read it and use it because they are involved in it.

According to Schrier, external wikis also offer significant utility for local government. For example, they can be used to deliver information to community members and answer frequently asked questions, including, "What is the best way to recycle a used computer?" or "How do I apply for and use food stamps?" or "Whom should I call about a refrigerator found in the median of a major street?" Again, much of this information can be posted in a more traditional online fashion via public Web pages maintained by government employees; however, by taking advantage of the wiki structure, government is able to include others who may

dent reports, or it can provide greater location information about where the need for social service programs may be greatest based on current requests for assistance. Information from program databases can be displayed on a map, giving policymakers and community members a more complete picture of their community.

Schrier not only has the courage of a pioneer willing to explore the unknown, but also the realistic perspective of someone who knows that successful exploration requires that you survive the journey. He points out that while Web 2.0 technologies may hold great promise for local government, they also present some significant challenges.

Liabilities of Online Participation

Increased citizen participation in the public policy and governance process can be a proverbial double-edged sword. Most would agree that adding voices, perspective, opinion and ideas to public discourse is a good thing, but whether it is done by bringing more people to the meeting or creating new electronic avenues of participation, the process is susceptible to being manipulated by a vocal minority. Web 2.0 technologies are also at risk of being commandeered by such people, but as Schrier rightly points out, "normal" constituents also have additional paths, mechanisms and opportunities to interact with their elected officials.

The possibility of a digital divide that separates communities with easy access to information and communication technology from those without it also must not be overlooked. In such communities, interest and investment in creating electronic participation opportunities must be balanced with more traditional communication methods to ensure everyone has

The collaborative and interactive nature of the wiki gives everyone an opportunity to participate in identifying the best possible solution.

broken up into departments, each with its own unique functions. Departments tend to be siloed groups, and cross-department communication is difficult to establish and maintain. Wikis or similar tools, such as Microsoft's SharePoint or others, could be used to standardize business processes, functions and terms across an entire government. Simple processes, such as "how to handle a public disclosure request" or "how to pay a vendor invoice," are candidates for documentation and improvement through a wiki. Certainly such processes can be documented and put on static Web pages on a government intranet today, but the advantage of a wiki is that many more employees are involved in creating and editing the content, so the process happens faster. Furthermore, employ-

have alternative or better ideas than the government. For example, recyclers, environmentalists, nonprofit and education groups may have great ideas for dealing with e-waste. The collaborative and interactive nature of the wiki gives everyone an opportunity to participate in identifying the best possible solution.

Local government's role is to create public policy and deliver public works within a defined geographic area. Public works can include public safety, social services and development and maintenance of streets, parks and other public facilities. A developing technology tool well suited to support local government is the "mashup." A mashup is a Web application that combines data from more than one source into a single integrated tool. For example, geographic data may add location information to crime or vehicle acci-

an opportunity to participate and a way to request and receive the services they need from their government.

Electronic communication may be a door many will choose to pass through on their way to increased civic participation, but maintaining an appropriate level of civility in such communication can often be a challenge. There is something about the relative anonymity of electronic communication that causes some people to express themselves in vulgar and generally offensive ways that would not be considered in a face-to-face encounter. Monitoring and filtering such things is necessary to maintain productive public communication, but if it is done without a clear policy and explanation of what is and isn't allowed, it may open a government to charges of political censorship.

Increasing communication with constituents through the Internet also increases the type and volume of data and records that are subject to Freedom of Information Act requests covered by state sunshine or public record request legislation. By increasing the number, type and complexity of public records created, governments will likely need to invest more in data storage, archiving, search and retrieval technologies.

Finally there is an "if you build it, will they come" question that only time will definitively answer. Elected officials traditionally seek and value input from constituents on a broad spectrum of public issues. And as an active local government practitioner, Schrier points out that the overwhelming response is silent apathy. Obtaining an accurate picture of what constituents think, want and need, even with the benefits of Web 2.0, will be difficult. Officials in every community will have to decide for themselves if the benefits of perhaps modest increases in participation are worth the necessary investments.



IT Decision-Makers Cautious in Adopting Web 2.0 in the Workplace

More than 40 percent of IT decision-makers across government and corporate sectors have implemented Web 2.0 tools in their companies, but more than half of them may be hesitant to adopt such applications because of concerns about proper usage and security. According to a new survey of business and government organizations by CDW Corp., 31 percent worry that Web 2.0 will be used for personal use rather than work; 28 percent are concerned about information security; and 27 percent worry about employees wasting time.

"Organizations are recognizing the clear advantages of Web 2.0, even though there has been some hesitation among IT decision-makers to adopt these tools," said CDW Vice President Mark Gambill, the company's executive responsible for market insights. "With the increased use of Web 2.0 functions like social networking and blogging as business tools, corporations are starting to re-evaluate tried and true ways of communicating."

According to CDW, Web 2.0 has gained momentum in some places. Fifty-three percent of IT decision-makers across all sectors believe that Web 2.0 applications will substantially improve employee performance in the next five years. Web 2.0 is also important in attracting and retaining the next generation of workers, with 68 percent and 61 percent of corporate and government IT decision-makers, respectively, agreeing with that sentiment.

Additionally, the adoption curve for Web 2.0 applications has a trickle-down pattern. While 67 percent of large businesses have already implemented some form of Web 2.0 applications or tools, IT decision-makers in medium-sized businesses fall slightly behind with 53 percent currently using Web 2.0. Only 27 percent of small businesses and 30 percent of government organizations have adopted Web 2.0.

"Large businesses have greater resources to experiment with new technologies and roll them out to specific sections of an organization over time," Gambill said. "However, Web 2.0 can also be an asset to small and medium-sized organizations by offering increased efficiency and productivity while being easier to implement. As the Web 2.0 landscape evolves, its proven benefits are likely to outweigh its perceived risks across all types of organizations."

Keeping Up With the Neighbors — Some Examples from Around the Country

Oakland County, Mich.

Oakland County, Mich., has been recognized as a leader and has received multiple awards for their use of information technology to improve public service and connect with constituents. However, even they are taking a cautious and thoughtful approach to the development and implementation of Web 2.0 technologies. The county has taken a leadership role in creating a statewide government-to-government site to support IT department staff interested in participating in an online, information-sharing network for e-government technology solutions.⁸ The county's updated Web site also contains Web 2.0 components, such as podcasting, RSS feeds, video and blogging. Future plans call for adding more Web 2.0 components where applicable.

According to explanatory text on the site, the goal is simple: build a better Michigan for all. Oakland County leaders want to share their experiences and successes in developing many cutting-edge technologies and systems with the rest of the state. They see the site as a method and opportunity for all to benefit

from collaboration and partnerships and a way to communicate ideas and solutions.

However, they are currently drawing the line at letting employees have unfettered access to social networking sites, such as MySpace and Facebook. According to Phil Bertolini, Oakland County's deputy county executive and CIO, the county has yet to define a compelling business reason for employees to be logged into such sites during work hours. Public perception that such sites are simply social and do not have great business value is also a concern, so the county's current electronic communication policy prohibits such activity.



San Carlos, Calif.

As of July 1, 2008, San Carlos, Calif., has a new face at the reception desk in City Hall. General fund budget cuts required the elimination of a receptionist position, and instead of appealing to volunteers or implementing other more traditional strategies, Jasmine Frost, a city senior systems analyst, came up with a different idea. She decided that a hosted Web site avatar that resides on a public access computer at the city's main reception desk might just be the answer, and so Carly was "born."

Carly — named after the town — appears in the center of a Monopoly board type menu of city departments and services on the reception desk computer. Walk-in visitors can mouse over the computer menu and click for more information on a service or department. When they do, Carly gets to work and starts explaining city services and which floor of City Hall holds which offices. In addition to this, there is a telephone and department directory available on the desk for the public to call offices directly for

service. Directory maps of departments are also located in several areas throughout the building for the public to reference. Through the use of these tools, customers can directly reach a staff person who can assist them during their visit to City Hall.

Assistant City Manager and Digital Communities Advisory Board member Brian Moura said he doesn't believe an avatar can replace a real-life receptionist. He said that city officials hope to restore the general fund and return a human receptionist to the front desk after voters consider a proposed revenue measure in November 2009. But in the meantime, Carly is substituting for a \$90,000 per year funding cut, and visitors appear to like her.¹⁰



Los Gatos, Calif.

One adult who has decided social networks are for him is Greg Larson, city manager of Los Gatos, Calif., and a Digital Communities Advisory Board member.

Larson began exploring social networking by joining LinkedIn, a tool advertised as a professional's social networking site, but found that he didn't use it even though he had established links to more than 300 people.

On the recommendation of friends, he decided to join Facebook and was impressed with how easy it is to use, and he found it valuable for staying in touch and sharing personal information, stories and photos. He found that what began as a way to learn and stay abreast with all of this "social networking stuff" quickly started to become "addictive."

Larson said he doesn't use Facebook aggressively for work yet, but can see that changing, especially as improvements are made to the system. Through his circle of "friends," Larson has noticed that the site is most widely used by those under 35 years old.

Larson cautions other social network users to quickly change privacy settings to ensure they accurately reflect the amount and type of information they want to disclose and to whom. It is also



important to be mindful that status updates and wall postings will likely be seen by many and probably saved somewhere in perpetuity, and that the cute third-party applets may collect information from your site and be used to encourage others to join.

Denver, Colo.

In Denver, CIO Molly Rauzi works for Mayor John Hickenlooper, who many consider a prime example of a public official who has embraced the possibilities of Web 2.0 technology.

In September 2007, Hickenlooper created a YouTube channel featuring various commercials, public service announcements and other videos that span his six years in office. So far, the site contains 20 clips, which viewers can rate, comment and share with other YouTube members. For elected officials such as Hickenlooper, video-sharing sites and other Web 2.0 applications are seen as an innovative way for government to share information and connect with citizens, particularly younger generations who are the most frequent users of Web 2.0 techniques.⁹

But even for a mayor who likes seeing his inner star shine on YouTube, finding the right balance and approach to social networking tools for a large organization such as Denver can be a challenge and an ongoing process. For example, Rauzi says employees are allowed to access Facebook but not MySpace. The general consensus within the organization is that more adults use Facebook and that it is useful for helping organize

neighborhood collaboration and other business uses. Additionally, the technical staff believes that Facebook presents less of a security risk than MySpace, a site that is seen as more focused on teenage socializing and therefore inappropriate for employees to access during work hours.



Chicago, Ill.

While some jurisdictions are already starting to embrace Web 2.0 and social networking technologies, others are finding their way to it more slowly. For example, Chicago CIO Hardik Bhatt currently has Internet-filtering technology in place that blocks access to social networking sites. However, that is a policy position that is under review since, as Bhatt sees it, the next generation of IT workers will take social networking for granted and will not accept having such sites filtered and blocked from their work computer. Without a change, he is concerned that government may have a tough time attracting Generation X and Millennial workers to public service.



Milwaukee, Wis.

Newly appointed CIO Nancy Olson sees a change taking place in Milwaukee. Until recently, the city had a filter that blocked employee access to social networking sites, but the city has been finding more business reasons to allow access to sites such as Facebook and MySpace. For example, the local newspaper in Milwaukee is using Facebook as a business resource,¹¹ and the mayor's communication director wants to be able to regularly review the site. Additionally, the city business license division is finding that more establishments are using MySpace as their business Web site, and city staff need to access the sites during the liquor licensing process.



Los Angeles, Calif., and New York, N.Y.

Still, others in some of the largest local government jurisdictions are not completely convinced. For example, Los Angeles CIO Randi Levin and New York City CIO Paul Cosgrave generally prohibit employee access to social networking sites. For each, with more than 100,000 and 300,000 employees, respectively, on the network infrastructure, capacity and security are real concerns.

New York City has chosen to pursue a type of hybrid approach and is considering embedding Facebook-style concepts in an application that it is developing to aid social service caseworkers in networking among themselves. The city is also considering using the Wikipedia model as a way to document its enterprise architecture and its technical standards. For Cosgrave, “considering” is still the operative word.

Additionally New York City has an internal capability very similar to what other cities, such as Denver, are doing with YouTube.

The city's Web site uses a proprietary video-on-demand service that allows users to access copies of shows from their government channel NYC TV, which has received 33 New York Emmy awards.

While New York City initially blocks access to social networking sites, they do give employees the option, on an honor system, of using them if in fact they are doing it for city business. Through the use of a filtering tool, employees are reminded of the fact that their computer is provided to them by the city for business purposes and not personal use.

Despite his concerns, Cosgrave said, “It is important that we keep the Internet accessible at all times for legitimate business purposes.”

The Gambler's Dilemma — “Are You In or Out?”

The gambling industry and cable television have somehow managed to define poker playing as a sport worthy of almost constant television coverage on the cable sports channels and, in doing so, they have begun to insinuate the gambler's lexicon into the mainstream population. At the moment of decision, a poker player must decide if the hand he or she

stand, appreciate and participate in social networks result in a wider gap between public officials and constituents or forever cast local government as a rule-bound, out-of-touch employer of last resort?¹²

Or were our mothers on to something when they questioned the wisdom of jumping off the bridge just because all the other kids were doing it? Do the hard-won

Perhaps the greatest potential for Web 2.0 technology in local government is its ability to, as Washington, D.C., CIO Vivek Kundra said, “re-establish the public square” and create and connect communities of interest.

is holding has sufficient winning potential that justifies making a bet. If so, they are deemed to be “in.” If not, they fold the hand, throw their cards into the “muck” and are “out” until the next time the cards are dealt. Right now, local government technology professionals are struggling to calculate the winning potential of social networking and trying to decide if they should be in or out.

According to an article in the July/August 2008 issue of Technology Review magazine, there is no question that social networking is popular. Hundreds of millions of people worldwide visited the sites last year, but does popularity equate to inevitability or create a populist mandate requiring local government to participate in social networking? Will failure to under-

lessons of more traditional public-sector IT project justification still apply when trying to decide if investment in social networking makes good business sense? Is social networking the next incarnation of the “free” municipal Wi-Fi fad? Perhaps as one Task Force member put it, social networking is still primarily a “technology in search of a problem.”

How you answer those questions seems to depend on what kind of role you define for technology within the government enterprise right now and how you see the future. Just as poker players look at the cards and try to calculate the likelihood of success before they bet, there are some common considerations among CIO Task Force members as they decide how to play the social networking hand.

CIO Reservations

The fact that a new set of interactive, community-building technologies, such as blogs, RSS feeds, MySpace, Facebook, LinkedIn, wikis and YouTube-type videos, have increased use of the Internet is not news, but in general, government has still been slow to adapt them for public agency use. There are some good reasons for this.

First, most CIOs recognize that government should not be on the bleeding edge of adopting new technologies. Hard-won, expensive experience show that experimentation with taxpayer funds can end badly.

Second, technology designed for individual expression in a relatively open and often academic environment is not always created with the same kind of management and security capability that is built into more traditional enterprise systems. Networks are more than just an individual PC; they are comprised of every piece of connected hardware, including smartphones, laptops, handheld devices and even USB keys. Each and every piece of hardware that connects to or interfaces with a network and every software application run on a device connected to the network exposes the entire enterprise to increased risk.

Increasing reliance on social networks also raises privacy and data security concerns. Sensitive, official data could inadvertently be displayed over a public network for thousands to see. These net-

works can also create the opportunity for employees to store official data or public records in an unauthorized location or on a media source that lacks proper security and that makes compliance with archiving and retrieval laws and policies almost impossible.

Anti-virus vendor Symantec released a study in March 2008 assessing this issue. Symantec commissioned Applied Research-West to execute the study, and 600 participants were surveyed from different business verticals, including government. Survey participants included 200 IT decision-makers, 200 Millennial



workers and 200 non-Millennial workers, those born before 1980.

The data revealed that Millennials are more likely than workers of other ages to use Web 2.0 applications on company time and equipment. Some interesting figures include: 69 percent of surveyed Millennials say they will use whatever application, device or technology they

want at work, regardless of office IT policies; and only 45 percent of Millennials stick to company-issued devices or software, compared to 70 percent of non-Millennials.¹³

Social Networking Challenges

Social networking sites can also place a heavy burden on enterprise infrastructure. The bandwidth demands for large organizations that allow unrestricted access to audio and video streams can overwhelm networks that were not designed to accommodate large volumes of traffic. This led one large local government, in the summer of 2008, to restrict access to all things “Olympic.”

Many governments have acceptable use policies, limiting the use of information technology to official business only, and there is significant concern that in the absence of a compelling business reason for engaging Web 2.0 tools, they will be accessed more for personal use than public purpose and lead to employees wasting time. But technology doesn't waste time; people waste time, and a majority of the CIO Task Force members believe this issue can be overcome with appropriate policies, employee education and effective personnel management.

However, for every cause for concern, there is also the possibility of significant benefit and improvement. Recent Gulf Coast hurricanes, California wildfires and the interstate bridge collapse in Minneapolis have shown that the ability of government to manage disaster and emergency communication in the historical top down, command and control way no longer exists. Citizens see — and report and share — information in real time thanks to the proliferation of mobile devices capable of transmitting and receiving voice, video and data. Cable

and network news organizations often supplement their reporting with information and images provided by the public. Governments can't control the public's view of incidents the way they once did. If government fails to understand this changing dynamic and does not create the systems and mechanisms to deal with it, public officials will find that they have lost their ability to control the official message in dealing with citizens. However, understanding and exploiting this changing dynamic gives government a terrific opportunity to engage their communities in meaningful and direct ways and to benefit from the information an active and connected citizenry can make available.

Perhaps the greatest potential for Web 2.0 technology in local government is its ability to, as Washington, D.C., CIO Vivek Kundra said, “re-establish the public square” and create and connect communities of interest. Within a city or county, there are many communities: neighborhoods, businesses, schools, religious institutions, social service agencies and many others. Having the tools to connect people with each other and with their elected officials in a flexible and dynamic way creates the opportunity for more information to be available, shared and understood, more opinions and desires heard and for greater participation in the governance process, all of which should lead to better decisions, policies and laws. By creating greater participation, greater transparency is also achieved, giving people a way to better hold government accountable. Perhaps all of that justifies taking a “gamble” on social networking.

Conclusion — Becoming More Relevant by Giving Up Control

For centuries, government has worked within a relatively closed and structured world where elected and appointed officials could design physical spaces and governance processes based on predictable circumstances. New technology and the changing expectations of the governed have introduced a new set of variables. Official office hours and service counters have given way to an expectation that government be available on demand, and control is passing from the public servants to the public served.

Web 2.0 really isn't a technology or group of tools, but something people do — and they do it from wherever they are in

the world with smartphones, BlackBerrys, laptops, etc. Policies and delivery mechanisms must be created that take that into account and that are free of predictable schedules and restrictive geography.

But making that change can be difficult. To be sure, there are risks to be managed. Some are relatively easy to understand, such as the potential security risks of more open and dynamic system infrastructures. Historically, information technology has been seen as a controllable asset, but Web 2.0 and the associated ability to innovate on the fly threatens to take control away.

Some are less clear-cut, such as the political risk that comes from greater

citizen engagement and the expectation that participation brings with it the ability to influence outcomes. A fundamental characteristic of the Web is that it is able to amplify the voices of those who previously could not be heard. Once heard, they will expect to be listened to, and that can place an added administrative burden on government.

There is also a generation of public officials who were taught that knowledge is power and success comes from skillful application of that power. Younger generations tend to see knowledge more simply as a tool to be widely shared, expanded and refined through social media and broad, unstructured collaboration. The inevitable collision of these divergent viewpoints will likely create significant organizational turmoil if a unifying strategy is not identified and put into place.

CIO Strategies

Fortunately CIOs are uniquely situated to help create and implement that unifying strategy. As successful senior executives, they understand organizational history and precedent and can be sympathetic to the concerns of apprehensive peers. As innovators and change agents, they are also in tune with the changing generational and social dynamics of their communities. Steve Jennings, CIO of Harris County, Texas, put it this way, "If we are going to be successful, there has to be something we are moving toward, a vision of the



future.” It can be a difficult task getting an organization to coalesce around a shared vision, but successful leaders believe in the followers’ ability to understand and share in the dream and have the courage to try new things.

Creating a preferred future requires action now in order to prepare the framework of success. Speaking about the potential of Web 2.0 technology, Stuart McKee, national technology officer of Microsoft and former CIO of Washington state, recently said, “It takes 10 years of experience before we really know how best to characterize things. Right now, we are at a ‘lurch-forward point’ where time, location and format don’t really matter anymore.” In order to gain the advantages of lurching forward, it may be necessary to give up control of historical structures. The willingness to find a new structure may be just the thing that is needed to

bring a new relevance to public process and community governance.

Ultimately CIOs must decide for themselves if Web 2.0 technology makes sense for their community and if this is the time to invest in it. And perhaps, tellingly, there

many, consult with many, collaborate with many and then make our own decision. Even now, Web 2.0 is not the real issue for governments seeking to make a move forward to better citizen engagement and governance. The question is: What is the

Younger generations tend to see knowledge more as simply a tool to be widely shared, expanded and refined through social media and broad, unstructured collaboration.

is a developing social networking ethic that may guide them. As Web 2.0 pushes the age of the expert into the history books in favor of collaboration and consensus, there is a growing belief that trusting just one piece of information or one source is insufficient. The developing cultural dynamic challenges us to look at many, evaluate

best approach and strategy for creating a dynamic, flexible and courageous organization that is able to meet the changing needs and expectations of local communities? How that question is answered will define the future of local government: Government 2.0.



Web 2.0 and Social Networking Preparedness Checklist for Local Government

- What problems do Web 2.0 and/or social networking sites solve?
- What opportunities do they present to do something not presently being done or to do something better?
- Have you identified a compelling business case for employee access to social networking sites during business hours?
- Is your organization ready and able to deal with the potential administrative burden of more citizen engagement and participation?
- Is your move to Web 2.0 appropriately balanced with traditional citizen communication and participation opportunities?
- Do you understand and have you prepared for the effect Web 2.0 and social networking will have on public records retention and production policies and practices?
- Are you confident that your enterprise network security policies, practices and procedures are appropriately established in order to allow safe participation in social networking and access to the sites?
- Have employees been trained and do they understand the potential implications of social networking and Web 2.0 applications for privacy and data security?
- Is your enterprise infrastructure sufficiently robust to support employee use of social networks, including the demands of streaming video, audio and multiple RSS feeds?
- Do you have staff that are ready, able and authorized to provide personal insight, pictures, videos and other media into conversations so your social networking activities become more than a regurgitation or duplication of press releases and official statements?
- Do your personnel policies, including acceptable use of government resources, allow employees to access and participate in social networking sites from work computers?
- Do you have an official organizational policy that covers use of Web 2.0 technology and social networking and are employees and supervisors well trained on its application?

Endnotes

- 1 http://en.wikipedia.org/wiki/Web_2.0
- 2 http://www.govtech.com/gt/print_article.php?id=241670
- 3 http://www.naspo.org/documents/Responding_to_an_Aging_and_Changing_Workforce_-_FINAL_compressed.pdf
- 4 <http://www.azstarnet.com/sn/byauthor/246104>
- 5 http://www.opera.com/mobile_report/
- 6 <http://www.chiefseattlegeek.com/web20essay.htm>
- 7 <http://en.wikipedia.org/wiki/Wiki>
- 8 <http://egovsharing.blogspot.com/>
- 9 http://www.govtech.com/dc/379694?id=&story_pg=1
- 10 <http://www.cityofsancarlos.org/news/displaynews.asp?NewsID=406>
<http://www.govtech.com/gt/articles/376514>
- 11 <http://www.facebook.com/pages/JSONline-Milwaukee-Journal-Sentinel/16511263815>
- 12 http://www.technologyreview.com/printer_friendly_article.aspx?id=20922&channel=biztech§ion=
- 13 <http://www.govtech.com/gt/375535>

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