A PUBLICATION OF e.REPUBLIC

GOVERNMENT TECHNOLOGY®

VOL22 ISSUE06 SOLUTIONS FOR STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE JUNE 2009

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REWIRING AMERICA

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WHY THE SMART GRID IS BIG, BOLD AND POTENTIALLY BEAUTIFUL

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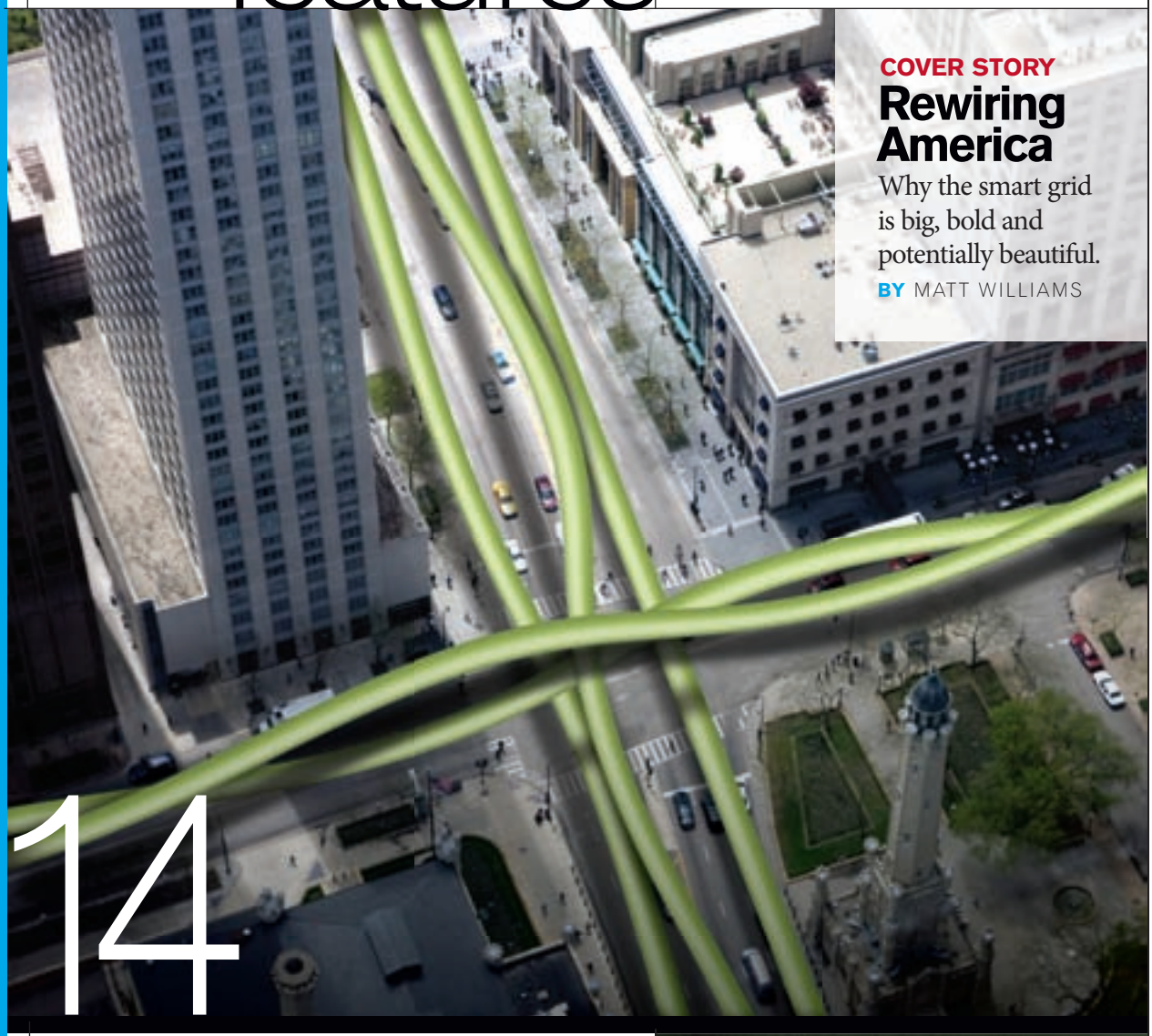

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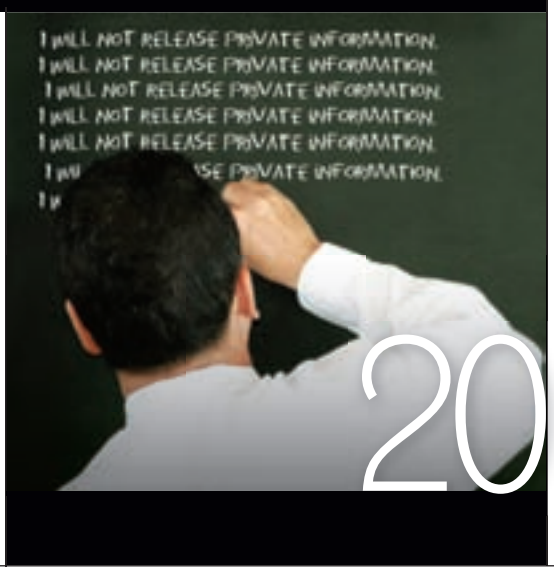

The inside pages of this publication are printed on 80 percent de-inked recycled fiber.

Government Technology (ISSN# 1043-9668) is published monthly by *Government Technology*, 100 Blue Ravine Road, Folsom, CA 95630. Periodicals Postage Paid at Folsom, Calif., and additional offices. POSTMASTER: Send address changes to: *Government Technology*, 100 Blue Ravine Road, Folsom, CA 95630 SUBSCRIPTIONS: Subscription inquiries should be directed to *Government Technology*, Attn: Circulation Director. 100 Blue Ravine Road, Folsom, CA 95630, 916/932-1300. Canada Post Publication Agreement #41578525, undeliverables 27496 Bath Road, Mississauga, Ontario L4T 1L2 or e-mail subscriptions@erepublic.com.

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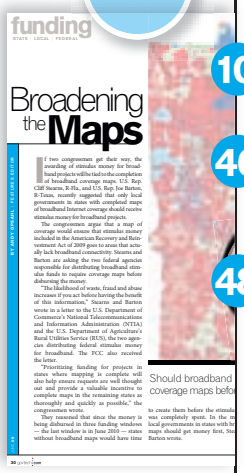

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point of view

BY STEVE TOWNS
EDITOR

Collaboration Pays Off

If President Barack Obama's first 100 days prove anything, it may be that his administration's collaborative style is building support — or at least buying some time — in the state IT community.

Obama's economic stimulus package is pumping billions of dollars into state and local economies, but it also comes with aggressive requirements for providing transparency into how those dollars are spent — and the task of meeting those requirements is falling, by and large, into the laps of CIOs. Governors will sign off on the veracity of stimulus spending reports that are sent to the federal government, but CIOs will build the systems and processes that track those dollars and deliver spending data to citizens and policymakers.

It's a job that comes with a rapidly approaching deadline and — as of May 1 — very little information on how to meet it. Although billions of dollars are already flowing into state programs, the U.S. Office of Management and Budget (OMB) still hadn't issued guidelines telling states what spending data they should track and how they should track it.

Speaking to state CIOs in late April, Dave Quam, director of the Office of Federal Relations for the National Governors Association, summed up the situation pretty well:

"We are in day 74 of the American Recovery and Reinvestment Act — one of the largest spending bills of all time — and we don't have all the rules," he said, during the National Association of Chief Information Officers (NASCIO) midyear conference. "The thing to have fixed in your mind right now is Oct. 10. That is the deadline for states to report back to the federal government on how all of this money got used. That's new for government. You haven't done this before, and it's going to be a challenge."

Yet, for all the challenges, CIOs and other state officials seem to be giving the administration the benefit of the doubt. During its first 100 days, the Obama administration has earned a reputation for listening to the concerns of state and local officials — and this issue is no different.

"The federal government is asking for help," said Quam, speaking one day after meeting with federal officials on stimulus implementation issues. "They're listening to what states have to say, and they're taking those suggestions and implementing them. That's fantastic news because it's an opportunity for all of us to help solve this and try to get it right."

That sentiment was echoed by CIOs attending the NASCIO conference, who said the administration's willingness to consider feedback from states and localities offers a refreshing change from previous years. And the bold goals of Obama and his technology team are sparking optimism in the government IT community, even if it's tinged with some skepticism.

States may push back once stimulus reporting details are revealed. And it remains to be seen how far Obama can push his government transparency and participatory democracy agenda. But for now, there's an appreciation for the administration's collaborative approach and a palpable sense that these guys might be onto something big.

"They tell us routinely, if they get this right — and they'll need states' help to get it right — they'll change government forever," Quam said. "And I think they're right." GT

Raise Your Voice

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Microsoft Unveils Cloud Computing Applications for Government

REDMOND, WASH. — Microsoft waded into an increasingly crowded pool of cloud-computing suppliers in April with six on-demand applications designed for government agencies.

Among the offerings are public-records tracking, case management, and licensing and permitting applications. All are built on the company's Microsoft Dynamics CRM platform and delivered as subscription-based services.

Most of the applications already are in use by government agencies as traditional on-premises software, said **Amir Capriles**, a Microsoft strategic alliance manager. "These are not brand-new applications, per se. They're new in the way they can be deployed," Capriles said. "The difference is that we'll offer them in the cloud."

Capriles said the applications — which are designed for groups of five to 25 users — target government processes that are now largely done manually.

Microsoft also unveiled a new Web site, **www.publicsectorondemand.com**, which it hopes will become a hub for idea-sharing among government agencies, Microsoft and solution developers.

"Our expectation is that as more dialog occurs in our online community, more of our partners will develop solutions that will be offered in the cloud," Capriles said. "So we expect our offerings to grow over the next year." — STEVE TOWNS, EDITOR

Critical Infrastructure Is at Risk, California IT Security Chief Says

SACRAMENTO, CALIF. — The nation needs to do a better job of protecting critical infrastructure from cyber-threats, according to **Mark Weatherford**, chief information security officer of California. Weatherford, speaking in May at a security summit at Government Technology's Conference on California's Future, outlined ambitious plans for California in hopes that the state can lead the way in the steep climb to protect critical assets from cyber-terrorists. To facilitate that consistency throughout the state, Weatherford said he is working with Microsoft to develop a standardized desktop configuration.

MARK WEATHERFORD

Weatherford said 90 percent of all Web applications have at least one vulnerability, and the goal for California is to develop a standard methodology for testing the security of computing platforms. "We need consistency, and we need to build everything on an enterprise model, one platform," he said.

The state has $7 billion worth of IT projects under way, he said, and he'd like to see a cadre of security engineers involved in those deployments as they occur in order to avoid problems later.

— JIM McKAY, JUSTICE AND PUBLIC SAFETY EDITOR

Govtech.com Hot List

govtech.com

Here are the 10 most popular stories on Govtech.com from April 4, 2009 to May 4, 2009.

1. **ESRI's Jack Dangermond: GIS for Better Government Transparency** Dangermond explains the role of GIS in smart grid, stimulus tracking and open government. www.govtech.com/gt/652976
2. **Site Reveals Salaries of New York State Employees** Conservative think tank launches Web site with comprehensive state financial data. www.govtech.com/gt/383701
3. **Top 10 Secrets of Earned Value Management** A principles-oriented methodology for planning and executing projects. www.govtech.com/gt/393091
4. **Swine Flu: Is Government Ready to Telework?** Government agencies could be forced to enact emergency business continuity plans. www.govtech.com/gt/649394
5. **Gopal Kapur: Six Secrets to IT Project Management Success** President of the Center for Project Management reveals steps to good project management. www.govtech.com/gt/638722
6. **Enterprise Architecture Demystified** What is enterprise architecture and who is it intended to benefit? www.govtech.com/gt/418008
7. **GT News Wrap: Texas Declares Sovereignty, E-Gov, Conferences** A roundup of news from the world of government IT. www.govtech.com/gt/638308
8. **Digital Dashboard Will Track California Technology Projects** California CIO releases project management rules, launches new transparency effort. www.govtech.com/gt/639309
9. **New York State Refocuses on Regional Wireless Communication Systems** $2 billion statewide network was canceled in January due to performance issues. www.govtech.com/gt/635218
10. **Alabama's New "Where's My Refund?" Online Service** Site allows Alabamans to check status of state tax refunds. www.govtech.com/gt/90240

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big **picture**

PHOTO COURTESY OF USDA.GOV

Smart Agriculture

Smart buildings, smart grids, smart infrastructure — these terms are bandied about more often than ever. In this image, technology is incorporated into an ordinary pivot irrigation system, making it a smart agricultural device. Notice some sprinkler heads are off while others are active. This is due to broadband wireless monitoring technology, developed by the U.S. Department of Agriculture, that records and transmits soil-moisture levels. This pilot project in Georgia enables farmers to effectively irrigate soil without wasting water.

Four Questions for Bill Bryan

CIO, MISSOURI

PHOTO BY JAY FRAM

BILL BRYAN BECAME CIO OF MISSOURI IN JANUARY, AFTER SPENDING 18 YEARS AS AN ASSISTANT ATTORNEY GENERAL IN THE MISSOURI ATTORNEY GENERAL'S (AG) OFFICE. WHILE AT THE AG's OFFICE. HE BUILT A REPUTATION FOR HANDLING COMPLEX CASES AND CHAMPIONING NEW TECHNOLOGIES TO MAKE ATTORNEYS MORE EFFECTIVE.

1

What are your priorities?

The first challenge is the state Web sites. We can get the most bang for our buck and time by improving our Web presence and letting citizens know what we're doing, how to get information from us and how to access services more efficiently. Also, we're in the third year of a consolidation effort, and the consolidation to date has been largely financial. We gathered the money, people and other assets, but we haven't set about using them in a unified way. That, I think, is our long-term goal.

2

Utah recently moved to a 4/10 government workweek for economic and ecological reasons. Do you see things like that being made possible through a more robust Web platform?

Absolutely. If you don't have a Web presence in the U.S. today, you don't exist. Our analytics show that browsers like Safari are increasing rapidly. That tells us we're getting lots of people who are accessing our Web pages from mobile devices like iPhones. This is a trend that states can't ignore. If we're not providing services and information this way, we won't be serving our constituents well. I think it's going to provide us a lot of opportunity. As we move to more Web-based platforms, we're going to modernize systems.

3

What impact will the economic stimulus have on your IT projects?

It's very difficult to tell. There are many different projects in all the agencies that are under consideration, and almost all of them have an IT component. There are things we're specifically interested in that'd help us improve our network and capability for reaching out to corners of the state that are really independent of other agencies. But this is a rapidly moving target, and it's hard to say how much we'll benefit.

4

What's on your wish list?

Unified communications. I'd like to see an investment that would allow us to provide productivity tools that would let our employees collaborate and [work remotely]. GT

EDITOR'S NOTE: THIS INTERVIEW WAS ADAPTED FROM A MARCH TELECONFERENCE CONDUCTED BY PAUL TAYLOR, CHIEF STRATEGY OFFICER OF THE CENTER FOR DIGITAL GOVERNMENT.

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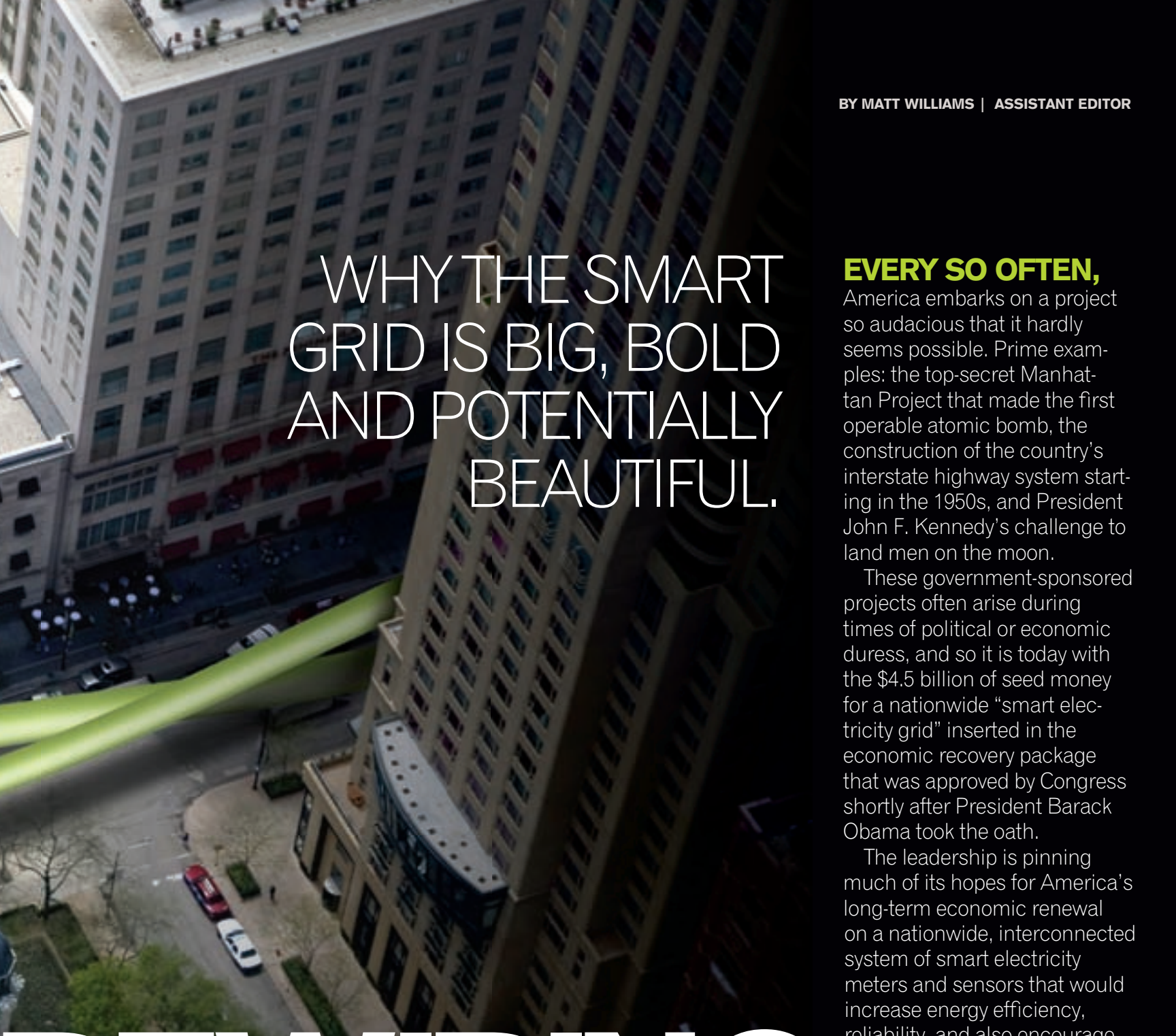


BY MATT WILLIAMS | ASSISTANT EDITOR

WHY THE SMART GRID IS BIG, BOLD AND POTENTIALLY BEAUTIFUL.

REWIRING MERICA

EVERY SO OFTEN, America embarks on a project so audacious that it hardly seems possible. Prime examples: the top-secret Manhattan Project that made the first operable atomic bomb, the construction of the country's interstate highway system starting in the 1950s, and President John F. Kennedy's challenge to land men on the moon.

These government-sponsored projects often arise during times of political or economic duress, and so it is today with the $4.5 billion of seed money for a nationwide "smart electricity grid" inserted in the economic recovery package that was approved by Congress shortly after President Barack Obama took the oath.

The leadership is pinning much of its hopes for America's long-term economic renewal on a nationwide, interconnected system of smart electricity meters and sensors that would increase energy efficiency, reliability, and also encourage "green" technologies like wind and solar generation and hybrid cars.

It won't be an easy feat. There are parallels between the country's attempt to build a new electricity network and astronaut Neil Armstrong's first steps on the moon, said Jim Marston, Texas regional director of the Environmental Defense Fund.

"NASA knew where they were trying to get and they knew where they were, and so after the goal was announced, they spent a little while figuring out the path to get there. Shortly after that, they actually put the engineering on the ground," Marston said.

Government's Pivotal Role

The smart grid, Marston said, is still in the planning stage, but more smart grid test projects are under way at the local level, in places like Miami; Austin, Texas; Massachusetts; and Southern California. State and local governments have facilitated many of these projects in partnership with nonprofits or technology vendors.

In April, Miami launched a $200 million smart grid project called Energy Smart Miami, with the goal of connecting almost all homes and businesses in Miami-Dade County to a smart grid by 2011. The project is being driven by the Florida Power & Light utility company, supported by General Electric and Cisco Systems. Much of the project will be funded by Obama's economic stimulus package.

Massachusetts is signing off on a few communities' smart grid pilots, which are mandated by the state's 2008 Green Communities Act. In one such test, 15,000 smart meters will be installed in homes in Worcester, Mass., by National Grid, a London-based electricity generator.

In Austin, Texas, the municipally owned utility company will finish deploying smart meters to the city's homes later this year. And a public-private initiative that includes the City Council has been formed to study how to best use the smart meters to transform Austin's energy infrastructure.

And Southern California Edison, one of the largest utility companies in the U.S., will install 5 million smart meters in its coverage area by 2012. Edison estimates that the smart meters will save peak power consumption that's the equivalent of one big power plant. The move toward smart grid is being motivated by California's renewable energy portfolio standard that requires electricity companies to get at least 20 percent of the power they distribute from renewable sources by 2010.

What's a Smart Grid?

Though regulators, politicians, vendors and environmentalists haven't come to a consensus on what exactly constitutes a smart grid, one of its core features will be "smart" electricity meters that integrate IT. Smart meters will be installed in homes, businesses and public buildings — virtually anywhere there's a wall socket. Known in the power industry as "advanced metering infrastructure," a smart meter sends a constant stream of data back to the utility companies.

From the distribution side of the equation, a smart grid would give utilities much greater control, and the ability to minimize power outages and catastrophic failures. Many utility companies today don't have the IT on their grid to automatically detect where power is knocked out. They still rely on phone calls from affected customers. In addition, the smart grid would eliminate manual meter reading, which means no more trips into residents' backyards. In the future, an interconnected web of sensors could monitor the electricity grid and solve load-balancing issues and other problems before they cause an outage.

"They could actually do switching of the network remotely to first identify the outage, then switch around the outage, thereby lessening the number of people who are affected by the outage," said Guerry Waters, vice president of marketing and strategies for Oracle's Utilities Global Business Unit. "Understanding where that needs to occur and being able to do it quite rapidly would be advantageous to the electric industry."

From the consumer side, homeowners would conceivably save on their bills via a new class of products that would rely on two-way communication. Today a refrigerator can't "speak" to the electricity grid — communication, therefore, is only one way. But

A SMART(ER) DATA CENTER

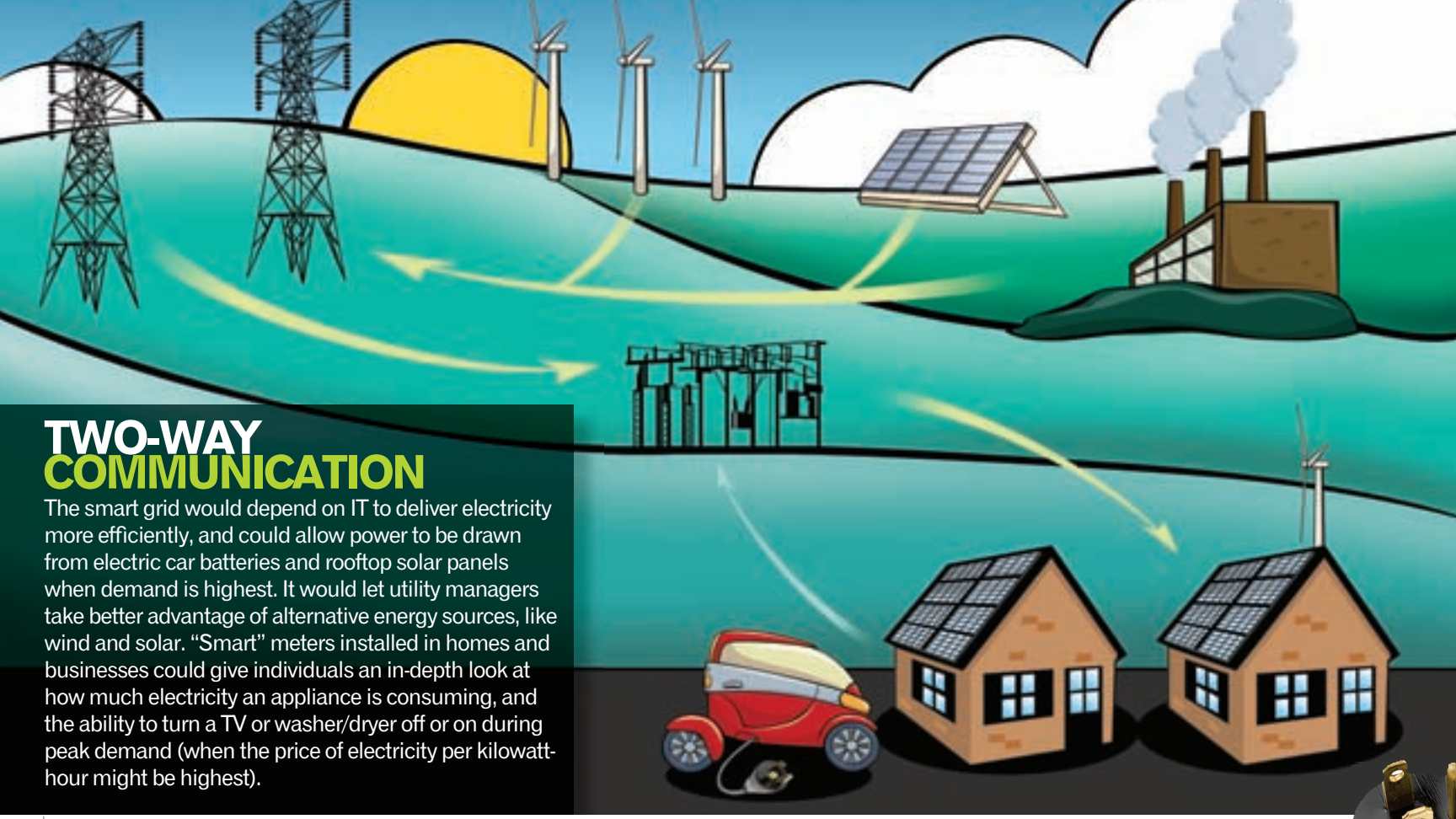
Because of the smart grid's expansive scope, it's easy to overlook how it could impact stand-alone data centers, which will remain a mainstay of IT for the foreseeable future, whether or not a nationwide smart grid is built.

With data centers and servers accounting for 2 percent of the nation's total electricity consumption, according to the U.S. Environmental Protection Agency, the smart grid would presumably help decrease consumption, and thereby save money. This would be a welcome development for cash-strapped government IT departments that have no choice but to pay the costs of maintaining their data centers.

According to calculations in April 2009 by the U.S. Department of Energy's Energy Information Administration, energy-related projects funded by the economic stimulus package are projected to reduce peak demand 5 percent by 2030, and reduce "line losses" — the amount of electricity lost during transmission — by as much as 28 billion kilowatt-hours.

These numbers suggest the smart grid would be more energy efficient and less strained — factors that likely mean lower costs for power consumption.

"Cooling is one of the most significant costs for a data center, so if we can build that kind of [smart grid] technology and more efficient servers to put in those buildings, then we're really going to be able to reduce overall usage," said Tony Erickson, global utilities director of EDS.



TWO-WAY COMMUNICATION

The smart grid would depend on IT to deliver electricity more efficiently, and could allow power to be drawn from electric car batteries and rooftop solar panels when demand is highest. It would let utility managers take better advantage of alternative energy sources, like wind and solar. "Smart" meters installed in homes and businesses could give individuals an in-depth look at how much electricity an appliance is consuming, and the ability to turn a TV or washer/dryer off or on during peak demand (when the price of electricity per kilowatt-hour might be highest).

someday, powered by the grid's intelligence, a washing machine or thermostat could be programmed to only turn on when citywide demand is lowest. This could be achieved by redesigning the appliance itself or installing "smart plugs" at electrical sockets.

To make this new consumption model profitable, utility companies might adopt what are called "demand response" pricing models that charge users more per kilowatt-hour during peak demand and less when the electrical grid isn't burdened. Utility companies are already testing several prototypes of online, Web-based dashboards that give homeowners a near real-time look at how much electricity each appliance in their home is consuming, and the ability to turn appliances on and off based on that information.

A utility company itself could also turn off infrastructure in a home, and the possibilities extend beyond electricity, Waters said. "One that was very clear that [Oracle] talked about to the municipal water groups was leak detection. The other would be the ability to do automatic remote connects or disconnects, or restrictions on the water. … The last one is having prepaid metering." Smart metering could also identify water abusers during droughts, he said.

> "Several communities and organizations — government, private and commercial — are forming [smart grid] **standards** **boards**, and just like the battle between the Blu-ray and [high-definition] DVD format war, we'll see which ones win out."
>
> **Tony Erickson**, *global utilities director, EDS*

In the long term, the smart grid is also expected to help electricity generators make better use of renewable energy, like wind power and solar panels. The world's heightened awareness of global warming — and America's political will to cut down on imported oil — is expected to open up the proverbial floodgates for renewable energy. The U.S. economic stimulus package, by itself, is expected to spur an installed national capacity of wind power that's 67 percent greater than it would otherwise have been, according to the U.S. Department of Energy.

The issue at hand is that in the future, electricity generation is expected to be more decentralized and intermittent than it's traditionally been, when the bulk of electricity came from huge coal-fired power plants and nuclear reactors. Wind farms and solar panel arrays will be sprinkled across the country, and the smart grid will efficiently manage an electricity supply that's incoming from all directions, which isn't possible today.

Also, since wind and solar are intermittent power sources — they can start and stop abruptly — the smart grid would give utilities much-needed data about where the sun and wind is, so they could make informed decisions about when to fire up a backup power plant to meet peak demand.

And if hybrid cars and electric vehicles ever hit the streets en masse, they could plug into the grid, too.

Finally the smart grid would be built on an IT backbone via hardware and software contained in sensors. Affixed to key junctures, like transformers and substations, these sensors would collect data and quickly correct potential problems. It remains to be seen if

SMART CYBER-SECURITY

Constructing the smart grid would be the beginning, but it's by no means the end of the story. If the smart grid is built out to maturity someday, in Austin or even nationwide, security experts say it could be vulnerable to cyber-attacks.

Computer spies from China, Russia and other countries are tunneling into the U.S. electricity grid to study America's infrastructure, *The Wall Street Journal* reported in April. An unnamed intelligence official told the newspaper that hackers have left behind software tools that could be turned on during a war in order to damage critical infrastructure systems.

Many utilities are upgrading security infrastructure on the smart grid by replacing the proprietary protocols on transmission towers and substations that were once only secured with passwords, and replacing them with encrypted, authenticated identities assigned to each smart meter, according to Jim Alfred, director of product management for Certicom, a company that provides encryption solutions for utilities that are installing smart meters.

This overhaul will allow network managers to oversee the millions of additional endpoints — a thermostat is one example — that will be created by the smart grid, Alfred said.

Watchdogs and industry experts caution that the smart grid could be even more of a hacker's paradise because its network of sensors, wireless technology and home-based energy meters would allow multiple entry points into the system. CNN.com reported in March that security services firm IOActive determined a malicious hacker "with $500 of equipment and materials and a background in electronics and software engineering" could simultaneously take command of smart grid metering infrastructure of thousands or millions of homes and businesses.

A December 2008 report from the U.S. Department of Energy's Electricity Advisory Committee said utilities are increasingly using digital devices in substations to improve protection and increase reliability and control. "However, these remotely accessible and programmable devices can introduce cyber-security concerns," according to the report. While smart grid technology offers more layers of control, it will require built-in security during the implementation, according to the report.

The North American Electric Reliability Corp. (NERC) has developed Critical Infrastructure Protection standards to address cyber-security issues. But in a letter to its members in April, NERC Chief Security Officer Michael Assante expressed concern that only one-third of them had identified "critical assets" and "cyber-critical assets."

"One of the more significant elements of a cyber-threat, contributing to the uniqueness of cyber-risk, is the crosscutting and horizontal nature of networked technology that provides the means for an intelligent cyber-attacker to impact multiple assets at once, and from a distance," Assante wrote.

this information would be transmitted over power lines, proprietary-use networks, wireless technology or the Internet, Waters said.

"Today there is actually two-way communications going on in the electrical grid, but it's usually over some very protected circuitry and communications that are guarded very closely," he said. "So the idea now is that the utility industry will open up to have one common way to communicate with all the devices of the smart grid."

So in its simplest form, the smart grid will be composed of smart electricity meters, sensors and a grid that draws power from a system of generators that's more decentralized than it is today. The trick will be building that system atop today's antiquated grid, which can't be discarded outright because it can't be turned off.

Old and Always On

If Thomas Edison, who's credited with inventing centralized distribution of electricity, were to travel from his era in the early 1900s and arrive at present, he'd probably recognize many components of the modern-day U.S. electricity grid, writes author Nicholas Carr, in his newest book *The Big Switch: Rewiring the World, from Edison to Google*. On the other hand, Edison's contemporary Alexander Graham Bell — who invented the telephone — would be baffled by modern-day telecommunications.

"The interesting thing is that, by and large, the electricity grid in the U.S. is kind of the last of the ancient industries that has not yet been completely revamped," said Tony Erickson, global utilities director for EDS, a subsidiary of Hewlett-Packard. "So this whole concept of smart grid is something that people have been talking about for 20 years, but we're just now kind of getting there."

In other words, the electricity grid is like a 100-year-old legacy system that's been left in the dust by telecom and the Internet. But it's not as cut-and-dry as replacing an old computer system, because turning off the electricity grid isn't an option and large-scale power outages can't be tolerated. When the Northeast Blackout of 2003 struck the Eastern seaboard and left 50 million people in the dark, the biggest power outage in North America's history cost the economy at least $6 billion.

WINDY WOES
Utility companies say the biggest challenge of relying on wind power is that it's at the mercy of Mother Nature. It could be windy for 15 minutes and then dead calm a half hour later. A smart grid would help draw upon other power sources more intelligently when the wind turbines aren't turning.

The power industry and government regulators recognize that coming quickly to agreement on standards for the smart grid's equipment and IT will speed its construction, Erickson said. But the country can't wait for those standards to be written, Erickson said, because by the time they're approved, the technology — the smart grid — would be outdated.

"Several communities and organizations — government, private and commercial — are forming [smart grid] standards boards, and just like the battle between the Blu-ray and [high-definition] DVD format war, we'll see which ones win out," Erickson said. "Eventually I'm confident we will have open standards, because those standards will be what spur entrepreneurial people to create the technology that's going to help us drive this thing forward. So we're kind of building it in-flight, and we have to keep the lights on while we do this."

In the meantime, communities like Austin are launching their own smart grid projects.

In December, a coalition that included the Austin City Council; Austin Energy, the city-owned utility company; the University of Texas; the city's chamber of commerce; and the Environmental Defense Fund announced the Pecan Street Project, an initiative to redesign every facet of Austin's energy infrastructure. A main focus of the project will be to figure out how to take advantage of Austin's smart meters.

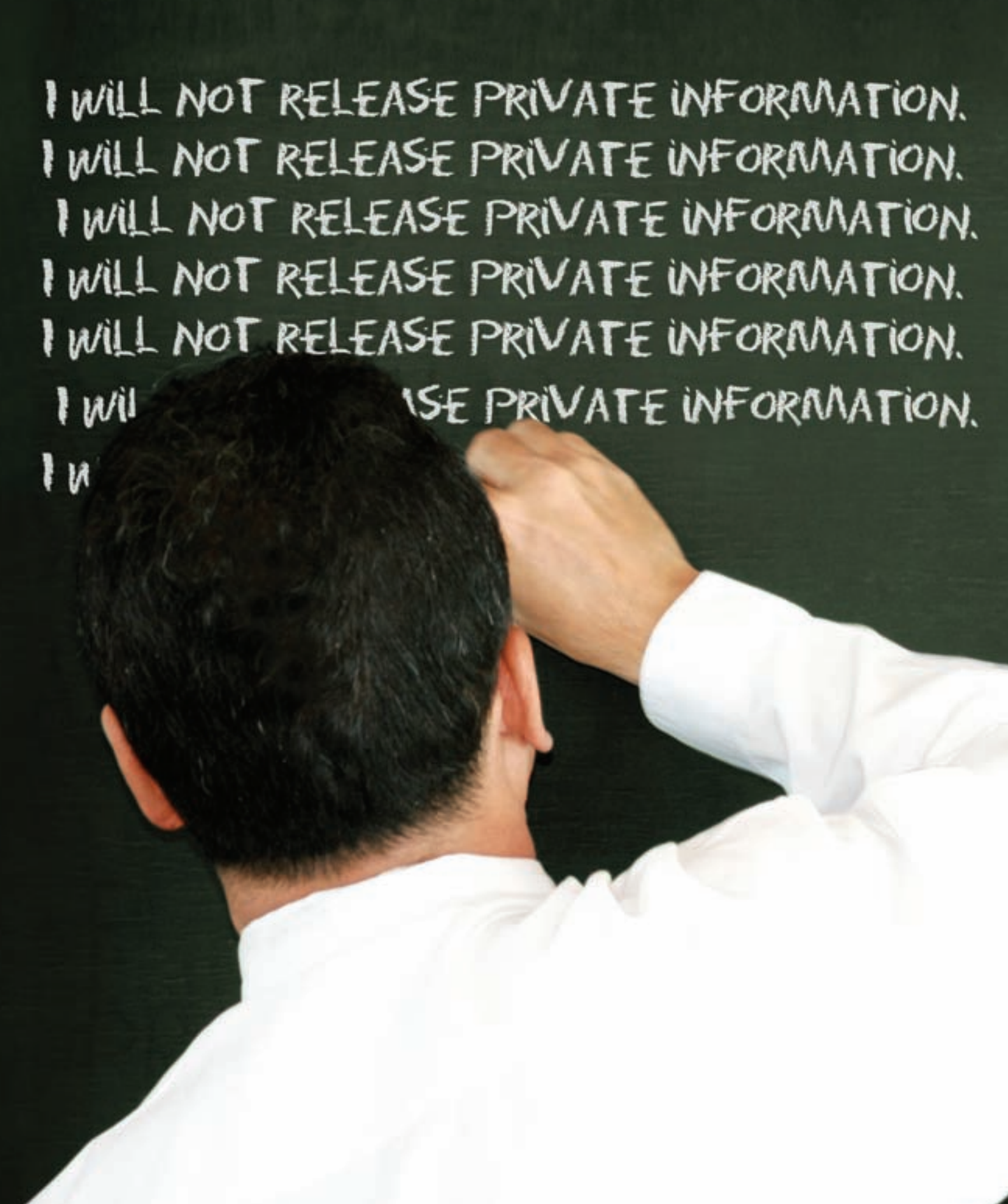
> "The interesting thing is that, by and large, the electricity grid in the U.S. is kind of the last of the **ancient** **industries** that has not yet been completely revamped."
>
> **Tony Erickson**, *global utilities director, EDS*

The project will attempt to add more distributed renewable energy in Austin than currently exists elsewhere in the U.S., dramatically reduce the amount of energy that's consumed, and shift the energy that's consumed to be more coincident to the time that renewable energy is available. In addition, Marston said the stakeholders want to create a new business model that will allow electric companies to thrive — rather than just survive — in an environment in which less electricity is being sold, and distributors own less of the electricity that's being used.

"A big part of the project is smart grid, but it's not only smart grid. It's smart appliances, smart plugs as well as smart meters," Marston said. "The idea is we will use all of these technologies to dramatically reduce and shift load, and use consumer choice and even real-time rates to help that work."

The government side is what makes the project possible, he said.

"The municipal utility company, Austin Energy, is fairly unique because the board of directors is the City Council, so it's the same folks who also do land-use planning, zoning and building codes," Marston said. "So I think many of the things we'll be doing will not be directly at the utility, but putting a building code in, for example, that says all new homes, with a few exceptions, will have to have solar hot water heaters in them. For instance, we'll probably say all new parking garages in them will have to have discharging for plug-in hybrids." GT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HILTON COLLINS | STAFF WRITER

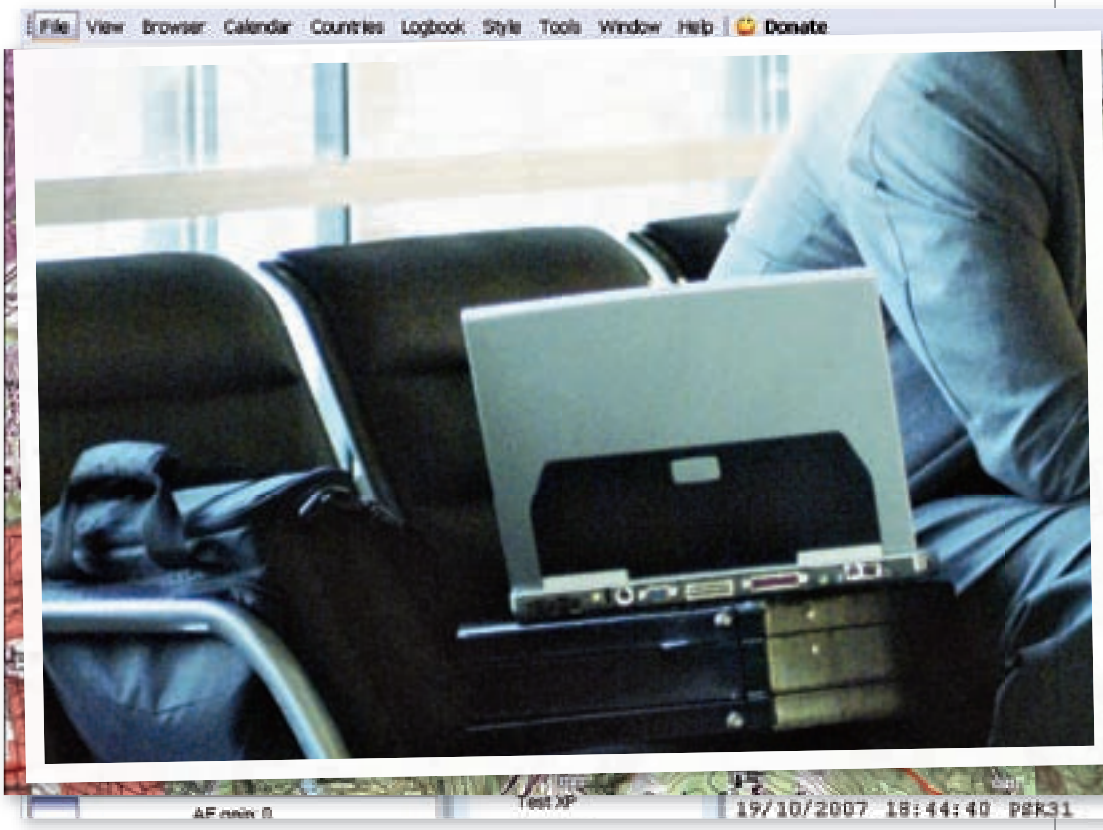
WHEN PUBLIC-SECTOR EMPLOYEES MISTAKENLY CAUSE DATA BREACHES, THEY PUT CITIZENS, AND SOMETIMES THEIR AGENCIES, AT RISK.

The Weakest Link

If you work in IT, recent goings-on in the security realm could be enough to make you throw your arms up in despair and kiss the safety of your data goodbye. Reports make it seem downright hopeless.

The 2008 *Data Breach Investigations Report* released by the Verizon Business Risk Team compiled data from more than 500 forensics cases the team handled from 2004 to 2007, comprising more than 230 million breached records. Although some of the breaches were attributed to malicious activity, human error contributed to 62 percent of the cases.

And things don't look much better in government. News-savvy professionals may have kicked off the year by reading sobering figures released by the Identity Theft Resource Center (ITRC), a nonprofit that educates organizations on fraud and identity theft mitigation. In 2008, more than 2 million government and military records were accidentally compromised, and 638,000 were compromised while data was housed on laptops and other mobile equipment. That's nearly 2.7 million total breached records.



Misadventures in Data

Although IT managers may not immediately think of accidental breaches when data security comes to mind, these types of errors have often popped up in the public sector recently.

Case in point: On Dec. 18, 2008, the *Concord Monitor* reported that the names, addresses and Social Security numbers of more than 9,000 citizens enrolled in Medicare Part D were included in an e-mail attachment that New Hampshire's Department of Health and Human Services sent to health-care providers. And why? Someone goofed, according to the newspaper.

"We have a process in New Hampshire where staff periodically send out informational updates to our health and human service providers with regards to any changes or information pertinent to the Medicare Part D program," said Nancy Rollins, associate commissioner of the department.

On Dec. 1, 2008, the department e-mailed 61 service providers informing them that New Hampshire would be offering fewer plans in the 2009 program. But the message's Microsoft Excel attachment contained quite a bit more.

"Part of the workbook also contained information regarding low-income subsidy

individuals who are on Medicare Part D," Rollins said. The private information belonged to more than 9,000 individuals, about half of New Hampshire's 18,000 program enrollees at the time.

"The data, however, wasn't easily discerned unless you actually went into the workbook and clicked on a couple of other tabs, and then you had to scroll from right to left, so you had to really dig for this," Rollins said.

On Dec. 4, one of the providers, Granite State Independent Living, called to notify the state that it had received the extra data. Health and Human Services went to work on the issue.

> "We're finding it's taking months for these entities — whether it's government or the private sector — to realize they've been breached. Not only that — they're not the ones realizing it."
>
> **Eric Brohm,** *senior security consultant, Verizon*

"We immediately contacted all of our original folks that we had sent the e-mail to, asked them to delete the e-mail and attest to the fact that they had indeed deleted the e-mail," Rollins said.

Some of the service providers forwarded the e-mail to other recipients however. In the end, Rollins recalled, about 481 recipients received more information than they were supposed to.

Health and Human Services also asked providers to follow up with the agencies to whom they forwarded the information and ask them to delete it, and the department also requested written confirmation that the e-mail was deleted. In addition, the department created a three-person team to review information-handling procedures.

New Hampshire's breach, as embarrassing as it was, isn't an anomaly in government. Breaches have been in the news — either due to mistakes by personnel or while data was in transit.

- ✓ In October 2008, *The Indianapolis Star* reported that a spreadsheet with names, Social Security numbers and birth dates of 3,300 people charged with minor drug and alcohol offenses was mistakenly posted to the Indianapolis government Web site for 11 days.
- ✓ In October 2008, *The Charleston Gazette* reported that a laptop containing personal information of more than 500 West Virginia state employees was stolen from a contractor's parked vehicle.
- ✓ In July 2007, *The North County Times* reported that credit card and checking account information for about 1,200 people who had enrolled in city recreation

programs was posted in a public folder on the Encinitas, Calif., city Web site for three months.

- ✓ In August 2007, *The New York Daily News* reported that a laptop containing the names, addresses, Social Security numbers and pension information of about 280,000 New York City retirees was stolen from a restaurant. The laptop had been in the possession of a contractor.

In the Indianapolis and Encinitas cases, as in New Hampshire, the compromised organizations didn't know about the breaches until quite some time after they occurred. According to the Verizon report, that's not uncommon in the public or private sectors.

Too Little, Too Late?

Verizon's figures reveal that it was months before 63 percent of breached organizations knew about them, weeks for 18 percent, days for 14 percent, hours for 3 percent and years for 2 percent.

"We're finding it's taking months for these entities — whether it's government or the private sector — to realize they've been breached. Not only that — they're not the ones realizing it," said Eric Brohm, a senior security consultant for Verizon. "The realization is often coming from the third party in three out of four of those cases."

As Brohm said, 75 percent of breaches cited in the report were discovered by a third party, and 66 percent of them involved information the breached organizations didn't even know existed.

So how are organizations letting such an embarrassingly high number of breaches slip through the cracks? The problem may be a collective case of poor information management.

"The No. 1 thing they are not doing now that they should be doing is monitoring the IT security measures they already have in place," Brohm said. "A very simple example of that is: We do a lot of cases where people have great, verbose Web logs that are logging every bit of information on every single transaction that comes and goes from their site. The evidence of the breach is right in there, but no one's bothering to look at it."

He said in many of the risk team's cases, organizations haven't audited their systems. Consequently they haven't tracked what data they have, where it goes and what applications or devices store it.

Jay Foley, executive director of the Identity Theft Resource Center (ITRC), advises organizations to be sure their audits include reviews of policies and procedures for data handling and privacy. Documentation should explain how pieces of information are dealt with, from dissemination to destruction.

"There should be policies on what information we publish — i.e., what stuff do we put on our Web site? What criteria does it meet? Secondarily [we should examine] how we handle the information as it goes across the desks of our organization's people, as it's stored after-hours, as it reaches its final destination in our organization, and where it's stored on a permanent basis until it's recommended for disposal. Last, but not least, how do we dispose of it?" Foley said.

And it wouldn't hurt for employees to be told why the information is so important to protect, he said.

"My favorite example of all time: You walk in and the clerk is asking you to fill out a form. You look at it and say, 'Why do you need my Social Security number?' and he says, 'Well, because it's on the form,'" Foley said. "If that's the only understanding your people have of what's on the form and why it's there, how can I walk away from your office thinking I'm safe and that you'll protect my information?"

The ITRC offers training and consulting on breach mitigation to organizations. Linda Foley, co-founder of the center with her husband Jay, said she asks a set of typical questions to clients whose employees carry data on mobile equipment.

"If the cause of the breach was the fact that someone had taken information home to work on and their laptop was stolen from the front seat of their car while they were in a gym: No. 1, why is the laptop not hidden? No. 2, why is it going home? No. 3, why is there personal identifying information, such as Social Security numbers, on that laptop?" she said.

She said governments should get creative in protecting Social Security numbers that are

stored in the office or can be accessed on the move. As an example, she cited anonymous studies in which participants are identified by randomly generated numbers.

At the ITRC, even she doesn't have permission to see all types of information, and she's an executive there. "I don't have permission to see certain files, because I don't have a need to know. Checks and balances — I don't need anyone's Social Security number for any purpose whatsoever; therefore, I should not ever see them."

Kevin Mitnick, founder of Mitnick Security Consulting, said it all comes down to employee awareness and diligence. Sophisticated software may be what people think of when they want to secure against external breaches, but human error on the inside is a different kind of threat.

PHOTO BY MONTY BRINTON — JOHN WILEY & SONS

"Technology, I don't think, can prevent some employee from faxing off something that's inappropriate," Mitnick said. "Technology could be used to encrypt information, but training people is not a technology problem. It's a people problem."

Nightmare in the Breach

In 2007, the Lynchburg, Va., government found out firsthand why it's important to assess information-management procedures. *The (Lynchburg) News & Advance* reported in June 2007 that the personal information of more than 1,000 municipal employees and retirees — including birth dates and Social Security numbers — was included in an Excel spreadsheet attached to an RFP posted to the procurement section of the city's Web site.

The reason? Lynchburg wanted solicitations from third parties to provide pharmacy services, so it placed the RFP on its procurement page. One vendor asked the city for an extract of medical codes, which helped the vendor determine the city's usage of prescriptions. Lynchburg saw no problem providing this information but decided that if one vendor could see it, all of them should have access.

The information was put in a spreadsheet and attached to the online RFP. The problem was that the spreadsheet also had the names of employees and retirees who filled prescriptions during that year under the city's previous pharmacy coverage, along with other personal information.

"Technology, I don't think, can prevent some employee from faxing off something that's inappropriate. Technology could be used to encrypt information, but training people is not a technology problem. It's a people problem."

Kevin Mitnick, *founder, Mitnick Security Consulting*

According to Lynchburg Human Resources Director Margaret Schmitt, no city employees thoroughly examined the spreadsheet to omit the extraneous data, so when the affected employees and retirees Googled themselves, their personal information was included in the search results. Bad news for Lynchburg.

"When Google looked at our site, it also went into attachments. It's something we found out after the fact — that Google, when it crawls across your site, also crawls across attachments," Schmitt said. "That's where our problem came: that it was on Google. Not that it was actually posted on our site, but that Google picked it up."

The city discovered the problem after an employee's spouse Googled herself to find out what a potential employer could see about her on Google. She found her name, birth date and Social Security number on the search engine.

"I think the attachment was there less than 10 days, so once we found out about it we took the information off the Web site," Schmitt said. But the city had to contact Google to get the technology giant to remove the searchable information from its indexes, which didn't happen until weeks later.

Lynchburg no longer automatically adds attachments to RFPs and has since placed data-sharing and handling procedures under review, she said. The city had already been trying to improve IT security, but the breach made the issue more pressing.

"I think an incident like this caused us to have a little bit more urgency in getting things put together," she said. "It also is, unfortunately, one of the best examples of why people need to pay attention to things like security policies, because they talk about how you manage data in a global sense."

After the Exposure

Sure, data breaches can be horrific, but depending on the information that's compromised, they might not necessarily be earth shattering.

"In my opinion, exposing Social Security numbers is not the gravest breach in the world. Because all it takes is an Internet browser and a credit card to get anybody's Social Security number in a matter of seconds," Mitnick said.

The chief targets are medical, financial, bank account and credit card information.

"You don't have to be a private investigator. You don't have to be law enforcement," he said. "All you really have to know is where to look, where this information is being sold legally."

Mitnick wouldn't disclose specific information brokers or databases, but he may have been referring to sites like secret-info.com, which was mentioned in a 2005 Newsmax.com article, Social Security Numbers Are for Sale Online. The site offers Social Security number searches for $45 by credit card. A thorough Google search turns up similar brokers that have varying degrees of checks and balances to ensure that

CONTINUED ON PAGE 28

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CONTINUED FROM PAGE 24

requestors are legit. Bestpeoplesearch.com offers Social Security number searches for free from "publicly available data systems" but says a requester must provide documents to substantiate the request and that the people whose numbers are searched will be notified.

It would help ensure the safety of Social Security numbers and other personal data if local governments prevented breaches. Citizens expect cities, counties and states to safeguard their privacy.

In Verizon's forensic work, Brohm said employees who caused accidental breaches were often terminated, depending on the severity of the mistakes.

"As we're progressing with an investigation, we may find that some individual may no longer be a point of contact because they were let go due to a breach," Brohm said. "It makes our job that much tougher because when you usually go onsite for these things, there's a lot of finger pointing. A lot of politics takes place in the background because people are afraid that they're going to be terminated at the end of it."

Schmitt said "appropriate disciplinary action" was taken against the employees in Lynchburg who were found responsible for the city's breach, but she would not say exactly what that action was.

"You don't have to be a private investigator. You don't have to be law enforcement. All you really have to know is where to look, where this information is being sold legally."

Kevin Mitnick, *founder, Mitnick Security Consulting*

In Brohm's opinion, organizations must enforce existing data-handling procedures so employees don't become lax.

"Companies just aren't enforcing policies enough to make that person second-guess whether or not to send that e-mail that may or may not contain information," Brohm said. "There's so much breaking of the policies that go on within organizations that it's not so much having the policies in place, but enforcing the policies."

Moving On

Even if governments take corrective action after the incident, accidents can't be undone and the information is still compromised no matter what happens behind the scenes.

While governments can't go back in time, they can work hard to regain citizens' trust. After its breach, the New Hampshire Department of Health and Human Services sent a letter to many affected citizens. Rollins said the letter advised them on what they could do to protect their credit rating. The department also set up a phone bank that operated for two weeks.

According to the *Concord Monitor*, the phones were manned from 8 a.m. to 4 p.m. and had voicemail for after-hours calls. "It was basically like a war room where we had a huge whiteboard," Rollins said. The room had information on hand so people would know what to say to callers with questions.

In Lynchburg, Schmitt contacted city manager Kimball Payne about its breach, and they began citizen outreach and remediation immediately.

"We initially sent a letter to them that said, 'Hey, we messed up. Here's the scope of the problem,'" Schmitt said. The city also created a hotline for employees to call and had a public meeting. "The city manager and I stood up in front of 200 people and begged their forgiveness, essentially," she said.

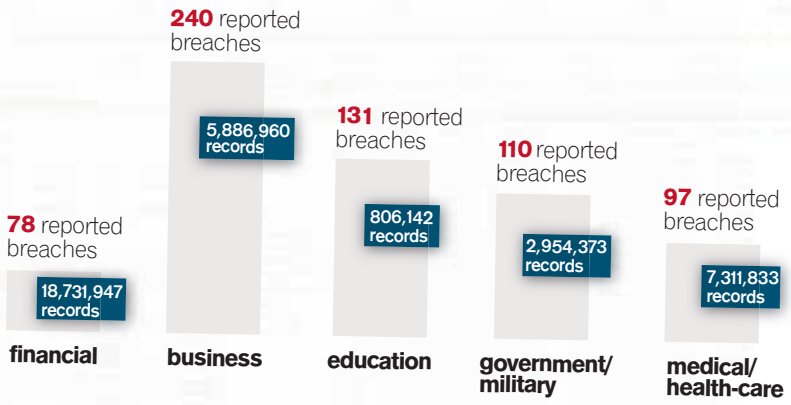
Lynchburg also followed up with those who were affected and offered identity-protection services for a year.

The process was tense for Schmitt. "I've been in some really difficult situations. This is the first time that I've ever stood in front of a group of employees who I thought were going to throw something at me," she said. "It was a very difficult thing but at the same time, I think we earned a lot of respect for standing up, not making excuses and just admitting the fact that we made a mistake." GT

Breach Breakdown

The Identity Theft Resource Center's (ITRC) 2008 breach report provides a snapshot of data breaches in different areas of the professional world. The researchers mined articles published that year for information on data breaches in the United States, and 2008 saw **656 data breaches**, up 47 percent from 2007's 446.

The 656 breaches encompassed 35,691,255 compromised records in these five sectors:



Where causal factors for the breaches could be identified, the ITRC grouped them into five categories — insider theft, hacking, data on the move, accidental exposure and subcontractors. The subcontractor category, when breaches occurred while data was with third parties, could overlap with the other four. The data-on-the-move category, when equipment like laptops and removable devices containing data was misplaced, and the accidental exposure category were attributed to human error.

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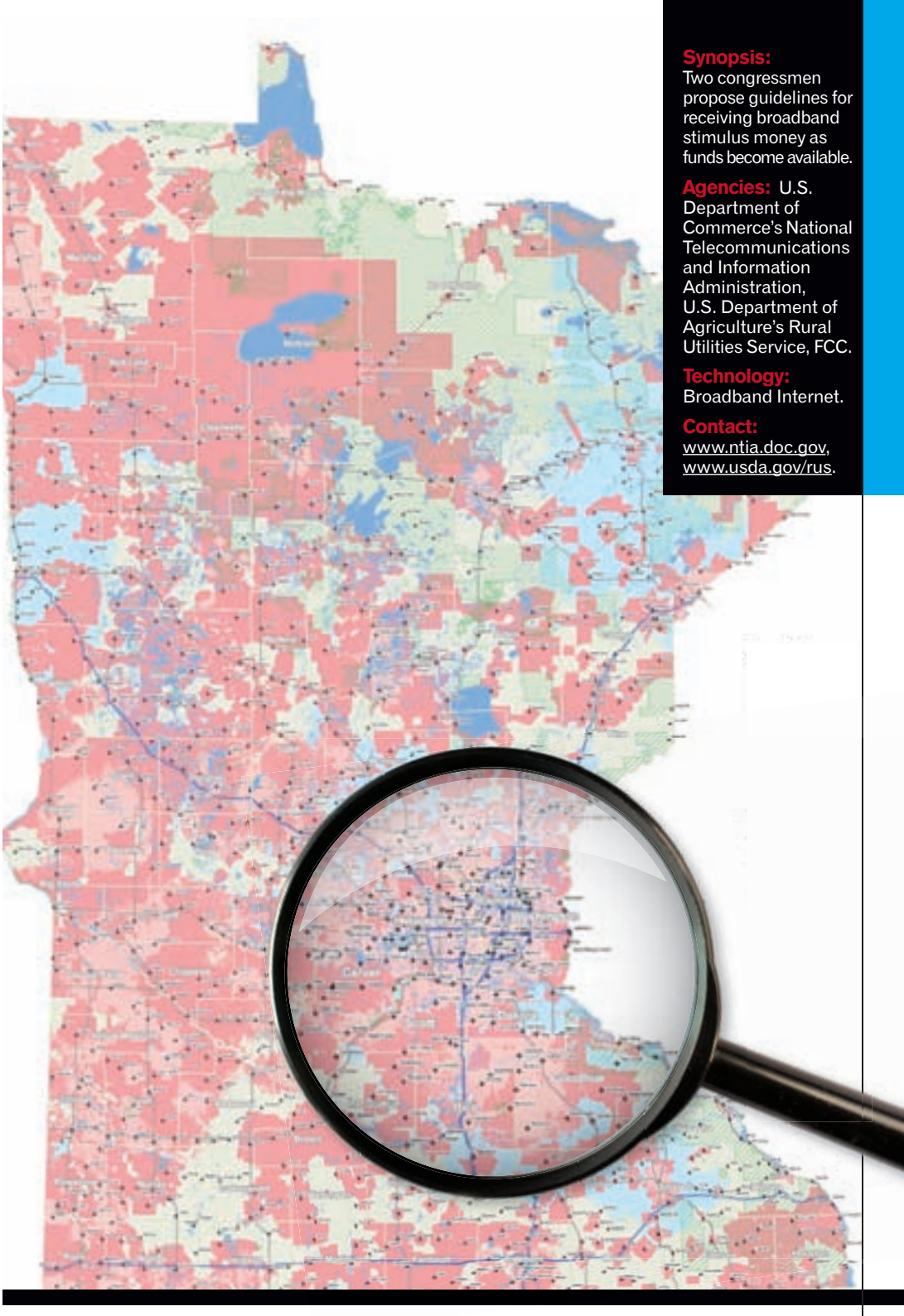
Broadening the Maps

Synopsis: Two congressmen propose guidelines for receiving broadband stimulus money as funds become available.

Agencies: U.S. Department of Commerce's National Telecommunications and Information Administration, U.S. Department of Agriculture's Rural Utilities Service, FCC.

Technology: Broadband Internet.

Contact: www.ntia.doc.gov, www.usda.gov/rus.



Should broadband stimulus applicants complete coverage maps before receiving funding?

BY ANDY OPSAHL | FEATURES EDITOR

If two congressmen get their way, the awarding of stimulus money for broadband projects will be tied to the completion of broadband coverage maps. U.S. Reps. Cliff Stearns, R-Fla., and Joe Barton, R-Texas, recently suggested that only local governments in states with completed maps of broadband Internet coverage should receive stimulus money for such projects.

The congressmen argue that coverage maps would ensure that stimulus money included in the American Recovery and Reinvestment Act of 2009 goes to areas that actually lack broadband connectivity. Stearns and Barton are asking the two federal agencies responsible for disbursing broadband stimulus funds to require coverage maps before distributing the money.

"The likelihood of waste, fraud and abuse increases if you act before having the benefit of this information," Stearns and Barton wrote in a letter to the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) and the U.S. Department of Agriculture's Rural Utilities Service (RUS), the two agencies distributing federal stimulus money for broadband. The FCC also received the letter.

"Prioritizing funding for projects in states where mapping is complete will also help ensure requests are well thought out and provide a valuable incentive to complete maps in the remaining states as thoroughly and quickly as possible," the congressmen wrote.

They reasoned that since the money is being allocated in three funding windows — the last window is in June 2010 — states without broadband maps would have time to create them before the stimulus money is completely spent. In the meantime, local governments in states with broadband maps should get money first, Stearns and Barton wrote.

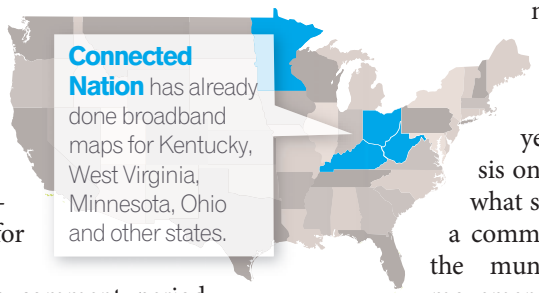
Too Late?

The NTIA has access to a separate $350 million pot that's largely intended to create a national broadband map. The agency will

announce its time frame and strategy for that map when it releases the application requirements in June or July, according to Mark Tolbert, a spokesman of the NTIA. But it raises a question: What purpose will that map serve if it plays no role in ensuring stimulus money goes to areas that are truly lacking broadband?

Acting FCC Chairman Michael Copps indicated a possible answer in a response letter to Stearns and Barton. He said the information would be valuable for future broadband efforts that aren't related to the stimulus.

"I do not expect that Recovery Act funds will be able to bring broadband to all corners of the country (that is why a national broadband plan is so important)," Copps wrote, noting that the NTIA would decide whether or not maps would be required for governments to get stimulus money intended for broadband.



Connected Nation has already done broadband maps for Kentucky, West Virginia, Minnesota, Ohio and other states.

The NTIA's public comment period on requirements for the broadband stimulus money ended in April. The organization expects to know if it will require maps by the end of June, according to Bart Forbes, a spokesman of the NTIA.

More Granular Coverage

A nonprofit called Connected Nation, widely viewed as having the top broadband mapping expertise in the country, would likely do that mapping for states.

Phillip Brown, the national policy director of Connected Nation, said most states, if not all of them, could complete maps before the stimulus funding runs out if they move quickly.

"It is possible to create a broadband map fairly rapidly. The maps that we recently finished for Minnesota as part of the Connect Minnesota initiative were begun and finalized within four months," Brown said.

However, some believe that Connected Nation's maps won't report enough specifics about the coverage to be useful. For example, Connected Nation's maps provide the overall average speed available in a local government, but some neighborhoods in a community might have only 256 Kbps of broadband while others have 4 Mbps. Connected Nation's maps don't offer those specifics about broadband speed. The maps show what areas are served or not served by broadband, and whether they have wireless, cable, DSL or fiber broadband.

A community that decides it needs 4 Mb of bandwidth throughout its boundaries would have trouble using such a map to identify specific areas that are lacking that speed.

Connected Nation is working with broadband providers to gather that data, according to Wes Kerr, senior manager of GIS for Connected Nation. He said it has become more common during the last two years to put emphasis on who has access to what speed in all parts of a community. Before that, the municipal broadband movement focused simply on whether people had broadband in general, Kerr explained.

Kerr said he had no reason to believe that broadband vendors — the source of Connected Nation's coverage data — would oppose providing more granular data on speeds within a community. However, they'll need to devise a system for reporting those speeds, he said.

One industry observer suggests a different approach. Instead of a map in the traditional sense of the word, the NTIA and RUS should require governments to submit comprehensive inventories of all relevant technology within their areas, said Craig Settles, a municipal broadband analyst. That would include an inventory of the various connection speeds offered in the community. A Connected Nation map, in its current form, doesn't provide this.

"You need to understand what providers you have, what technology you have, what vertical assets you have — like lampposts. What are all the things you currently have that would facilitate an effective broadband network? If you do that, by default, you are mapping," Settles said. GT

Broadband Stimulus Best Awarded by States, Regulators Say

For broadband stimulus money to reach the most deserving local governments, the National Association of Regulatory Utility Commissioners (NARUC) thinks states should vet applicants instead of federal agencies. NARUC sent a letter advocating that view to the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) and the U.S. Department of Agriculture's Rural Utilities Commission (RUS), both of which will distribute the $7.2 billion set aside from the American Recovery and Reinvestment Act (ARRA) for broadband infrastructure.

NARUC insists that both the NTIA and RUS are too bogged down by prior commitments to judge thousands of broadband stimulus applications within the 18 months remaining before the money must be spent.

"Neither [agency] can possibly complete the tasks assigned under ARRA without a very significant staff expansion," the letter asserted.

NARUC recommends asking governors to form groups familiar with their states' own broadband landscapes to judge local government applications using the NTIA and RUS awarding criteria.

"On the state side, you have the agencies, officials and staff who already deal with these issues every day. They have the knowledge and local insight to know where broadband service is, where it isn't and where it needs help," said Robert Thormeyer, director of communications for NARUC.

The organization thinks public utility regulators, which it represents, are especially well suited for the job.

"They are closest to the geography of the consumers, and they know where service is and where it isn't. They get a lot of complaints about service from customers and they know the lay of the land," Thormeyer said.

In NARUC's scenario, the NTIA and RUS would still need to sign off on the awards the states recommended.

The NTIA has received numerous letters from organizations advocating various ideas for distributing broadband stimulus money. The organization expects to announce how it will distribute the funds by the end of June, according to Bart Forbes, a spokesman of the NTIA.

Synopsis: Report says contract terms might be stifling competition in state and local IT procurement processes.

Contact: Michael Kerr, senior state and local director, TechAmerica, 703/284.5324, www.techamerica.org.

Tight Terms

TechAmerica says inflexible contracts in state and local government hinder competition and cause high prices.

BY MATT WILLIAMS | ASSISTANT EDITOR

"Overly prescriptive" contract terms are discouraging competition among vendors for state and local government IT projects, according to a recently released paper by TechAmerica called *Transforming Procurement for the 21st Century*.

"In all too many [state and local governments], procurements have become standardized, less transparent, lacking in free and open communication and negotiation, and made tense by lack of trust between the parties," according to the technology industry trade group, which formed this year after a merger of the American Electronics Association, the Information Technology Association of America and two other organizations. "These attributes are symptomatic of increasingly prescriptive and risk-averse procurement policies," the paper said.

The trend hinders innovation and causes slow procurements that don't deliver the newest technology, TechAmerica contends. Another outcome is that fewer vendors are willing to bid on IT contracts because the terms and conditions are inflexible. And companies that do bid often charge higher prices because government contracts impose unusually high risks and costs on vendors.

Seeking Flexibility

Terms and conditions attached to IT procurements have become a higher-profile issue for TechAmerica's members in recent years, according to Michael Kerr, senior director of state and local government for the organization.

"Some states have taken on a more flexible posture and some of the easily adapted terms and conditions," he said. "But for every state we see progress, we see more onerous terms and conditions pop up in other states."

The report was spurred by developments in the Midwest, including a study commissioned by the Iowa Legislature that examined how the state was being impacted because its IT contracts don't include limitation of liability, Kerr said. He added that the federal government's contracting terms could offer a model for reform.

"Many of these bridges around terms and conditions have been crossed at the federal level. There's a lot of lessons learned that the states and localities could look to, and perhaps even attempt to model some of their terms after the federal government," he said.

State and Local Growth

Improving the procurement process will become even more important during the next few years, according to TechAmerica's paper, because state and local government IT spending is expected to grow to $72 billion annually by fiscal 2011. This would make the state and local market a bigger IT buyer than the federal government.

A 2008 survey by *Government Technology* suggests that vendors and government workers agree that IT procurement has room for improvement. Fifty-seven percent of more than 200 government respondents said terms and conditions in government bids tend to increase project costs. Seventy-four percent of vendor respondents agreed.

"It seems that some states have worked it out to the point that they don't have overly adversarial or contentious procurements, and some of that is probably due to the fact that their terms reflect norms like you see in the federal and commercial markets," Kerr said.

As a first step toward reform, TechAmerica recommends that each state engage with its vendor community and also with the national organizations that have an interest in procurement, like the National Association of State Procurement Officers. GT

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Special Report

BY STEVE TOWNS | EDITOR

Digital Dashboard Will Track California IT Projects

California CIO's office releases project management rules and launches new transparency effort.

California is unveiling a Web-based dashboard designed to let anyone track the progress of major state government technology projects.

The online tool will show if projects are on time and within budget, as well as track a series of other "vital signs" like user acceptance, political risk, technical viability and business value. Information will be updated monthly for the state's largest and most complex technology initiatives, said Adrian Farley, chief deputy director of policy and program management at California's Office of the Chief Information Officer.

The dashboard — which will display progress across more than 15 categories using simple red, yellow and green graphics — will track all IT projects undertaken by California executive branch agencies, Farley said. The effort could be the first of its type in the nation, he added.

"In terms of the granularity of reporting, this is unprecedented," he said. "We're requiring a significant degree of transparency into project progress."

Project Management Overhaul

The dashboard is part of a larger initiative to standardize IT project management techniques throughout California state government. California CIO Teri Takai released new policies April 9 that spell out how agencies should manage technology deployments, as well as what information must be reported to the state CIO's office.

Besides feeding better public transparency, the reporting requirements let Takai's office provide tighter oversight of technology projects and step in when initiatives falter.

"We'll use the information to manage the overall portfolio of projects and ensure that the investments the state is making continue to be relevant and valuable," Farley said. "Also, it provides an opportunity to see that we have the right resources dedicated to projects and to intervene when necessary — whether that means bringing in an external, skilled resource or ensuring that the business folks are appropriately focused on the project."

> "In terms of the granularity of reporting, this is unprecedented. We're requiring a significant degree of transparency into project progress."
>
> **Adrian Farley,** *chief deputy director of policy and program management, California CIO's office*

Measuring Complexity

The new project management policies include a more sophisticated approach to rating the complexity of technology deployments. Previous guidelines looked primarily at the cost and technical difficulty, Farley said. The new policy takes into account a number of additional factors, including the political environment and whether a system must work across multiple layers of government.

Farley said the new assessment tools provide a more realistic estimate of the risks associated with a technology deployment. Such an approach may have helped prevent high-profile project failures like California's unsuccessful effort to replace its statewide child support system in the late 1990s, he said. Although the system was technically proficient, it ultimately was undone by politics and other outside factors. California abandoned the system in 1997 after five years of work.

The new complexity ratings also will determine the amount of training and experience state project managers must have before leading IT initiatives.

Under the new rating system, California's biggest and most complicated projects are designated "high criticality" and carry monthly reporting demands, as well as the highest skill requirements for project managers. Examples include California's effort to build a new statewide human resources system — known as the 21st Century Project — and a $200 million effort to upgrade technology for the Department of Motor Vehicles.

The new project management policies are in effect, and the first reports were due in May. The CIO's office expected to launch the project dashboard in mid-May, Farley said. GT

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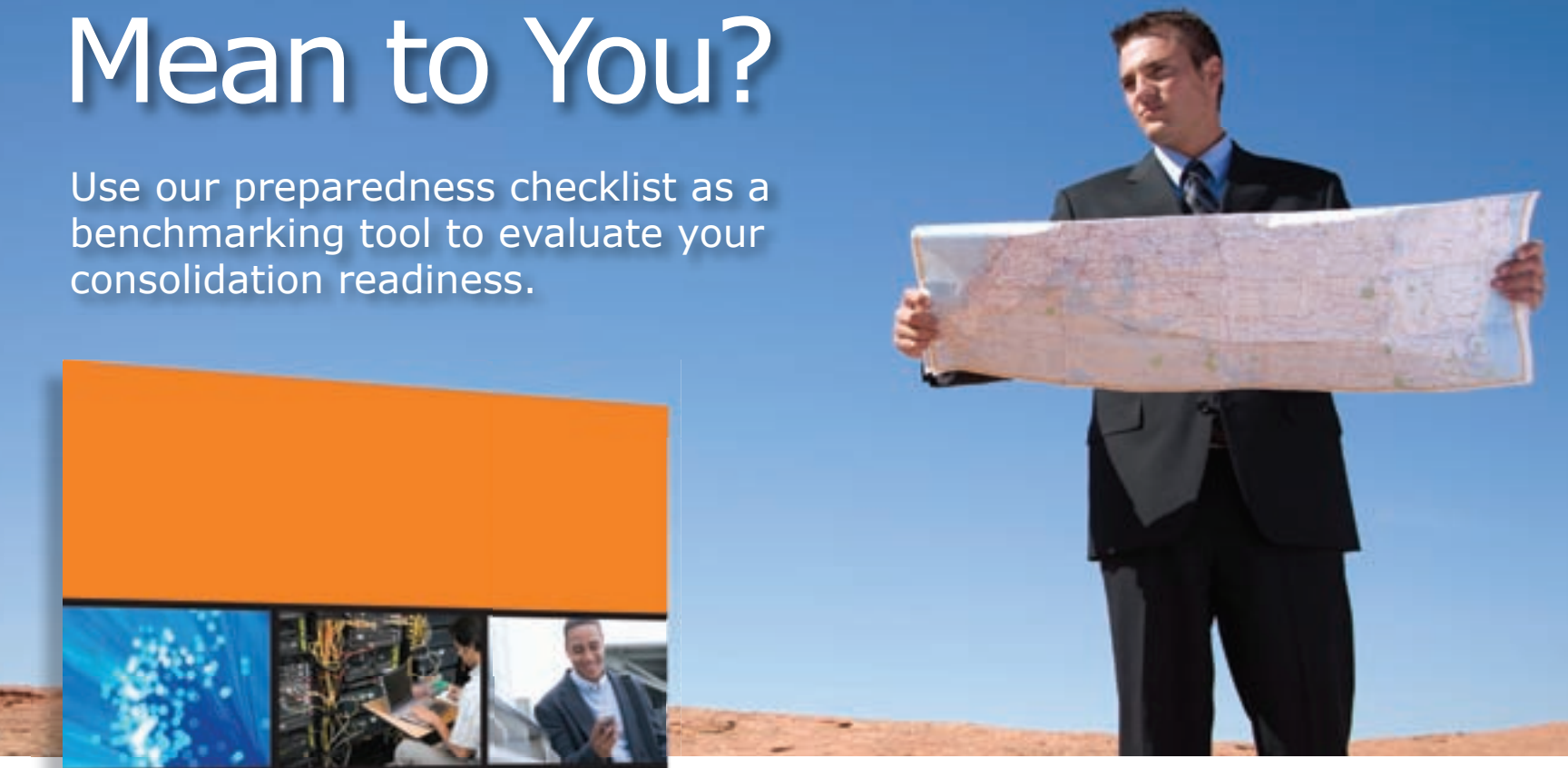

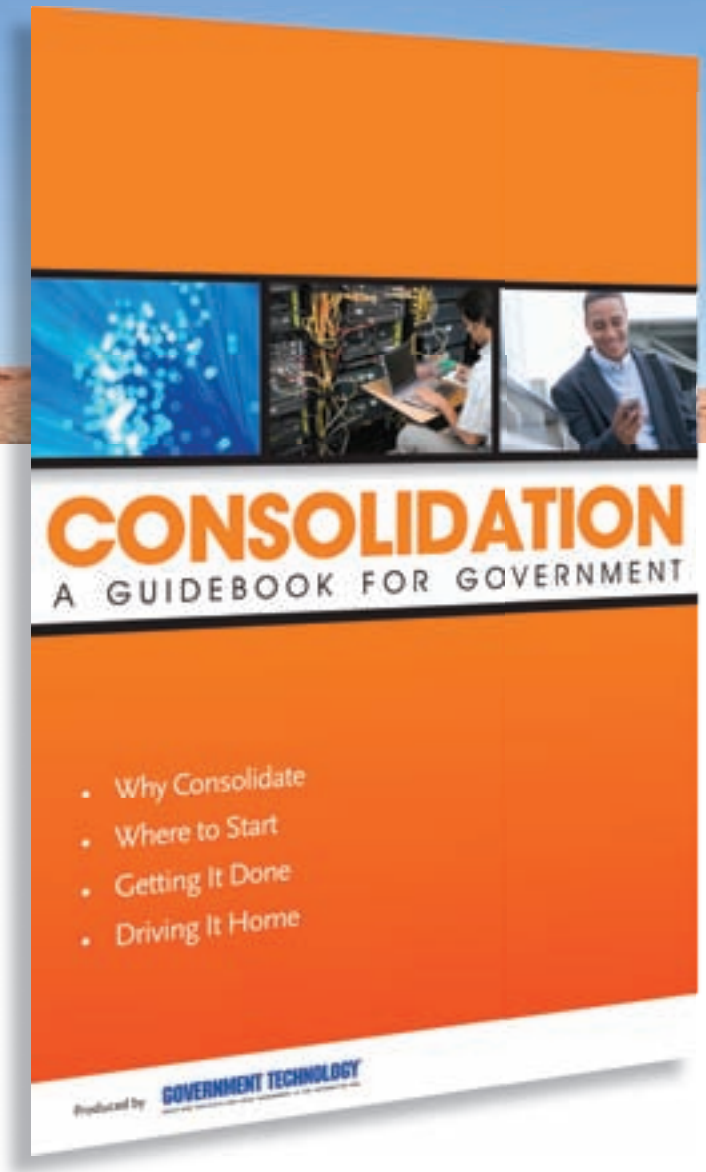

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Gangs: Keeping Tabs

Synopsis: As gangs become the No. 2 law enforcement concern behind drugs, Massachusetts develops a database to keep track of gang activity.

Jurisdiction: Massachusetts.

Technologies: Law enforcement database.

Contact: Sgt. David Peaslee, Lowell Police Department, lpd@lowellma.gov.

Massachusetts law enforcement gets database to track gang memebers.

BY JIM McKAY | JUSTICE AND PUBLIC SAFETY EDITOR

Drugs are problem No. 1 for Massachusetts law enforcement agencies, but gangs are second and gaining ground.

Officials there are countering with a statewide database called MassGangs that collects information about gangs and allows access to neighboring jurisdictions. The database breaks the barriers to information sharing that previously inhibited gang investigations.

"The gangs in Massachusetts are very transient," said Lowell Police Department Sgt. David Peaslee. "They travel from city to city here very fluently." He said if he suspects someone is a gang member, he has to call around and have different departments check their individual databases for information. The MassGangs database will eliminate that legwork by allowing officers to access and search data themselves.

Once the system is populated with data, it will link information gathered by various agencies, including the Massachusetts Department of Correction. Rollout of the system began in January, and the process was well under way in late March as determinations were being made about the participation of federal partners.

The system was funded by a $2 million federal Bureau of Justice Assistance grant from fiscal 2006. Investigators from the Massachusetts State Police, FBI and several local police departments contributed to the database's development.

Currently each department has individual databases, according to Lt. John Goodwin, a gang unit supervisor for the Revere Police Department, which helped build the database. He said traditionally an officer does a field interview and observation (FIO), takes a picture and records that information in his or her database. No other agencies or departments get that information unless they call and ask for it specifically.

"We shared it on a personal basis. Like if I had a relationship with a guy at the Lynn [Police Department] we'd talk on a regular basis," Goodwin said. "This gives us one central location to drop this information so we can share the intelligence."

Goodwin used an example of a 2007 case to illustrate how the database can benefit gang investigations. "Chelsea has a shooting that's gang involved and ends up being a homicide. They have a description of the car and the parties involved. Two or three hours prior, Revere was doing an FIO on the beach, and we took pictures of the car and everything.

"That information would never have been shared if we hadn't had a personal relationship with the officers at Chelsea," he said.

No 'Crooked Hat' Labels

Data enters the system two ways, according to Tracy Varano, project manager of the Criminal History Systems Board, which helped develop MassGangs. One is through the electronic exchange of information between agencies via existing lines of communication, such as the Department of Correction and the Criminal History Systems Board. In this case, corrections officials send their data electronically. The second way for data population is to go into the MassGangs database directly and enter it into a queue to be reviewed. In either case, the data is checked before it's entered into the statewide system.

"There's a supervisory review," Varano said. "All records have to be reviewed and signed off by a supervisor within each agency. We're not blindly inserting them into the system."

Goodwin is adamant that not everyone "who has his hat on crooked" is labeled a gang member. To that end, a point system is used to determine if a person is eligible to be listed as a gang member. "There are criteria that give it some credibility," Goodwin said.

Police assign a point value for 17 different gang-related criteria, including self-admission, known group tattoos, group-related photos and group-related clothing. Officers

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can enter the information from a mobile data terminal or a desktop computer. A point total of 10 or more lands the subject in the gang database, but only temporarily. Records are purged every 60 months if they aren't updated with activities that reflect gang membership.

"Some kids straighten out their lives, have babies, move on," Goodwin said.

Massachusetts looked at states like California that have deployed similar systems. Massachusetts decided to partner with xFact, a local software company, to develop an in-house system. "We decided it would be best to acquire a contractor to develop the system to align closely with other current applications so they have a similar look and feel to reduce overhead for training," Varano said.

It's Just a Tool

Goodwin acknowledged that the database will be challenged by defense attorneys and others. He said it's imperative that the information is handled carefully.

"You can't give 10 people in the department access to entering the information because you want the information scrutinized before it goes in to make sure it's credible," Goodwin said. "You don't want every cop out there stopping every kid with an attitude and saying he's a gang member. In my department, there will be one guy with access."

Goodwin said adding people to the database should be done for the right reasons, not just because it's there. "It won't be for a guy smoking a joint on the beach; it will be for shootings and other, major offenses."

Other states have received criticism for building huge databases of gang members, many of whom were not actively in gangs. Former California attorney general and current treasurer Bill Lockyer criticized the state's CAL/GANG database because it had more than 100,000 names in it. Lockyer said the database shouldn't be used to decide whether a person is dangerous or should be arrested.

Boston College law professor Robert Bloom said information in the database is data police have anyway. "Police operate based on uncertainties. Probable cause or reasonable suspicion is not something precise," Bloom said, "so to the extent they're providing information that may be useful, in terms of law enforcement, I think it's useful information."

Goodwin hopes other police departments take the system seriously and feed it good, credible information. "In theory, it's fantastic. It opens a lot of doors. Say I'm working a homicide and go in [to the database] and say, 'Where's this guy been?' If they're dumping information into it in Springfield, I'll have access to it."

He says it could take longer to develop than expected because of the lack of manpower plaguing most police departments and the massive amount of data being entered by the Department of Correction.

"We'll see if departments make the commitment to putting the information in. In my department, I know I'm going to be wearing three hats," Goodwin said. "I'm hoping it does take off because the last five or six years, everything is about information sharing. And it works — when it's done right." GT

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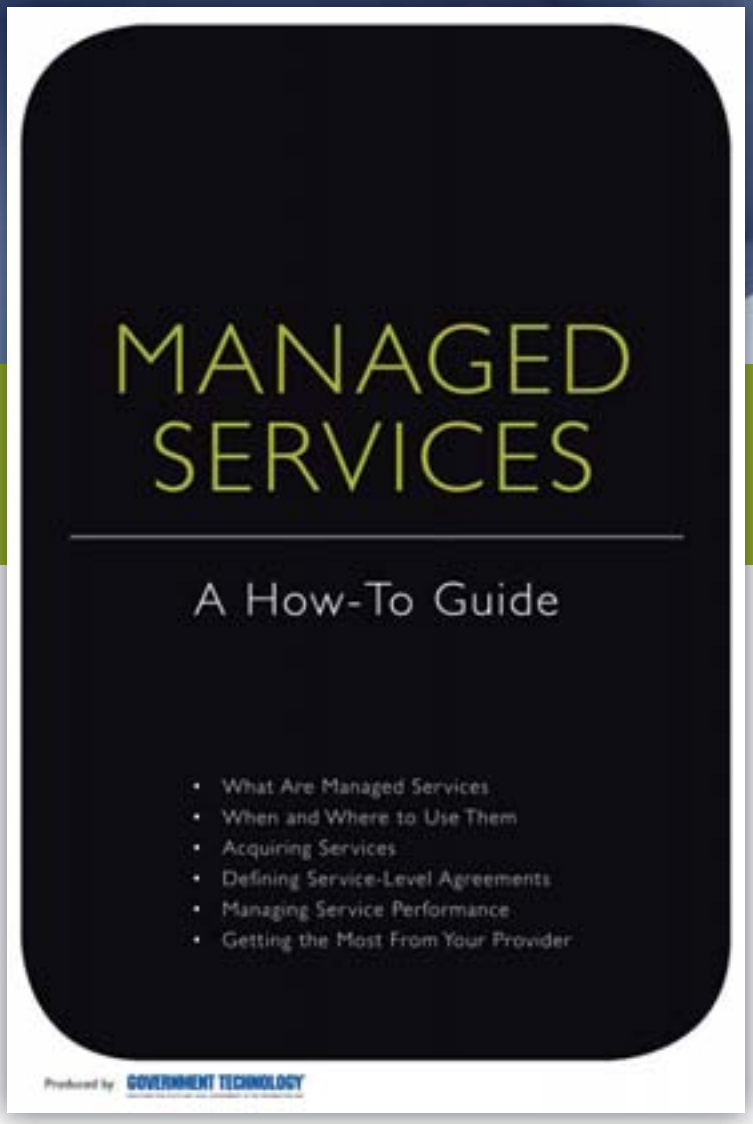

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Synopsis: Arizona uses GIS to determine animal crossings and prevent collisions.

Agencies: Arizona Department of Transportation (ADOT), Arizona Game and Fish Department, Federal Highway Administration, U.S. Department of the Interior, Arizona State Land Department.

Technologies: GIS, Animal Movement.

Contact: Bruce Eilerts, manager, ADOT, 602/712-7398, beilerts@azdot.gov.

GIS prevents vehicle collisions with elk and deer by providing data to locate crossings and underpasses.

Animal Crossings

BY ANDY OPSAHL | FEATURES EDITOR

Slamming a vehicle into an elk or deer is more harmful for humans than many realize. These creatures cause roughly 1.5 million collisions each year, resulting in approximately 150 deaths, according to the Insurance Institute for Highway Safety. Another 10,000 people suffer injuries from collisions with the animals.

Animal-car collisions can also cost governments money. For instance, the Arizona Department of Transportation (ADOT) has a financial stake in this problem because the state "owns" all wildlife, meaning the government is financially liable when an elk or deer obstructs a car or truck. The state paid more than $3 million for one such lawsuit in 2003.

For the past seven years, Arizona has been moving to solve the problem using a GIS tool that determines where deer and elk cross highways so underpasses can be built for the animals. Arizona's Game and Fish Department (AGFD) implemented the project in 2002 in partnership with ADOT, which funded most of the project.

Statistics suggest the program is effective. Deer and elk collisions dropped from 56 to eight on one major Arizona highway in one year after strategically placed underpasses were built, according to Jeff Gagnon, research technician for the AGFD. Another highway averaged 12 deer or elk accidents a year before it was targeted by the project; that highway has only seen one animal collision in the past two years, Gagnon said. The state hasn't yet measured what the project has done to the percentage of vehicle collisions statewide.

Gagnon said GIS helps his agency persuade ADOT to invest in the underpasses, which cost more than $1 million each. "They really buy into it when you pull out a map and say, 'This is where these animals are crossing,'" Gagnon said.

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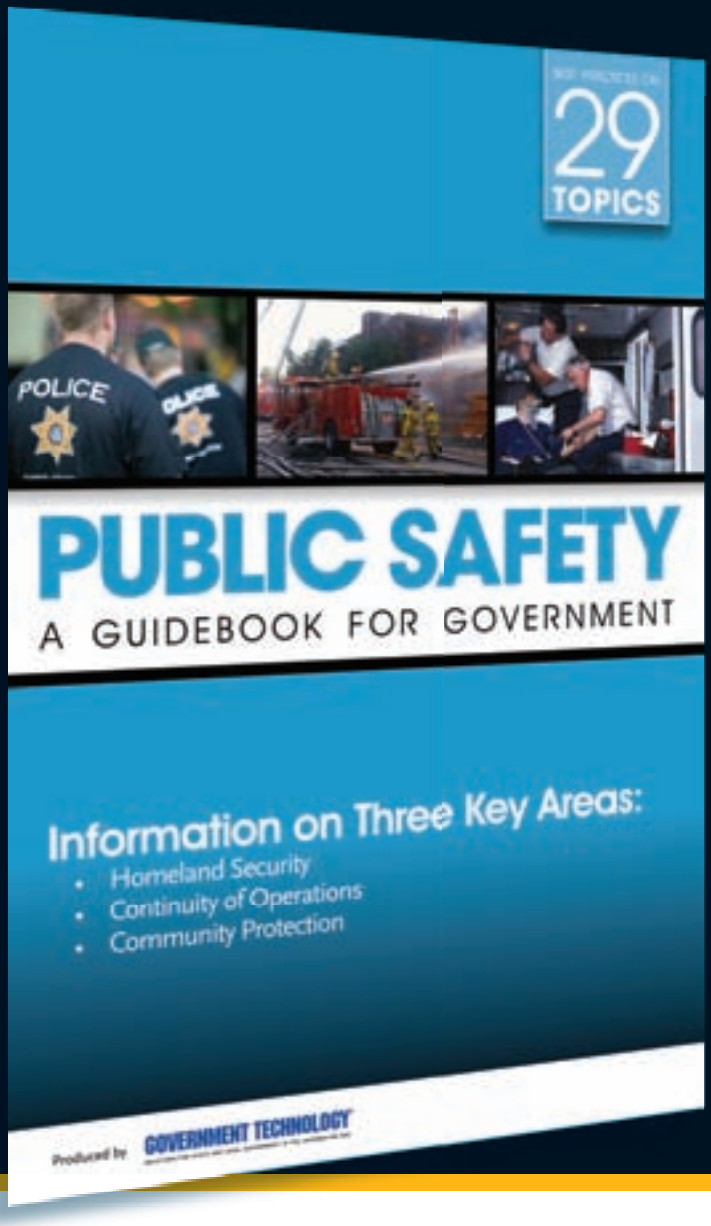

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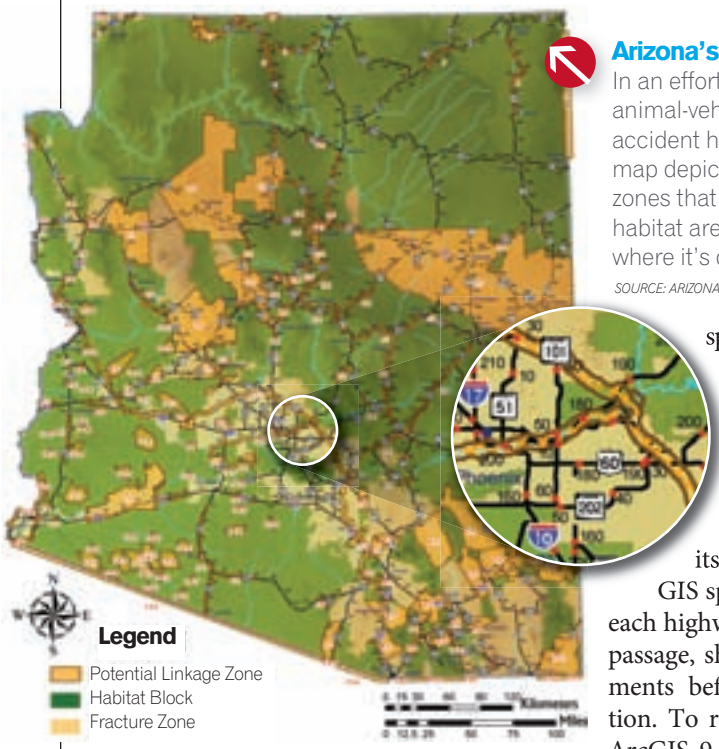


Arizona's Wildlife Linkages
In an effort to protect wildlife and decrease animal-vehicle collisions, ADOT identified accident hot spots using GIS. The following map depicts more than 150 potential linkage zones that would direct animals to protected habitat areas and away from fracture zones where it's dangerous.

SOURCE: ARIZONA WILDLIFE LINKAGES WORK GROUP

In 2004, ADOT and the AGFD organized the Arizona Wildlife Linkages Workgroup. This group expanded the project to include nine organizations with relevant input, such as the U.S. Department of Interior's Bureau of Land Management, the Federal Highway Administration, the U.S. Fish and Wildlife Service, Northern Arizona University, the Sky Island Alliance and other private environmental organizations. After pooling its resources, this team created a more developed GIS tool that's becoming a model for other states interested in solving animal-car collisions.

Animals Do the Legwork

Before Arizona could do a GIS analysis of where to install underpasses, officials needed data from the animals. Gagnon and others collared elk and deer with GPS devices. The resulting data showed animals crossing highways at areas where pastures or water waited on the other side. ADOT began installing underpasses. Conveniently some of them already existed for other purposes, like transporting water. GIS maps gave guidance to the state on how far to extend the fencing necessary for funneling the animals into the underpasses.

"We've had video cameras on some of those underpasses for about six years now. We've documented [more than] 6,000 animals using them. Most of those are elk, some deer — 11 different species," Gagnon said. He added that even longhorn sheep and desert tortoises use the underpasses.

GIS technicians and fieldworkers attempting this in other states should expect to stay connected to the project throughout its life cycle, according to Susan Boe, GIS spatial analyst for the AGFD. With each highway the state converted for animal passage, she ran GIS tests of animal movements before, during and after construction. To run the analysis, Boe used ESRI's ArcGIS 9.2 software. To complete the job, she downloaded free software called Animal Movement, which is an extension of ESRI's ArcView application.

"Using Animal Movement, I was able to connect the dots to follow the path of movement," Boe explained. "It was what I used to find out where the animals were crossing the highway."

Arizona will use the project's findings to make informed decisions about where it builds future highways, Gagnon explained.

"If we're building a new highway, we could say, 'Hey, this meadow's going to cause problems. If we have options, let's take the highway over here,'" Gagnon said. ADOT would know from the beginning where it should build underpasses.

Race Against Time

A critical layer in Arizona's GIS tool was one identifying the different types of property owners connected to land alongside highways — ADOT contributed that information. By viewing a GIS map, the Arizona Wildlife Linkages Workgroup saw what land was federally, privately and state owned, as well as what was part of an Indian reservation. This helped the team organize its time and resources more efficiently, because building underpasses on state-owned land comes with additional challenges. For example, Arizona's Constitution lets the state auction its land to commercial developers to raise money for public schools. In many cases, by the time the workgroup identified a parcel of state land that needed an underpass, the sale to the private sector was already in progress. This meant the Arizona State Land Department had to ensure the wildlife underpasses wouldn't conflict with the winning buyer's development plans.

"We're in a race against time. The land is getting developed fast. A lot of these plans started before we began our planning," said Bruce Eilerts, manager of the Natural Resources Management Group within ADOT.

Geographic data from nonprofit organizations also inform Arizona's GIS tool. Environmental groups on the team alert the workgroup to prospective sites for highway underpasses. For example, environmental groups alerted the workgroup to an expansion project on Highway 77 near Tucson, Ariz. ADOT was making changes to that highway, the environmental group said, that would increase vehicle collisions with animals.

"It wasn't something on our radar screen at first, but the community development is happening so fast up there," Eilerts explained. "The community was screaming about all of the wildlife hits and how it impacted the land and animals in the area, which had some state parks."

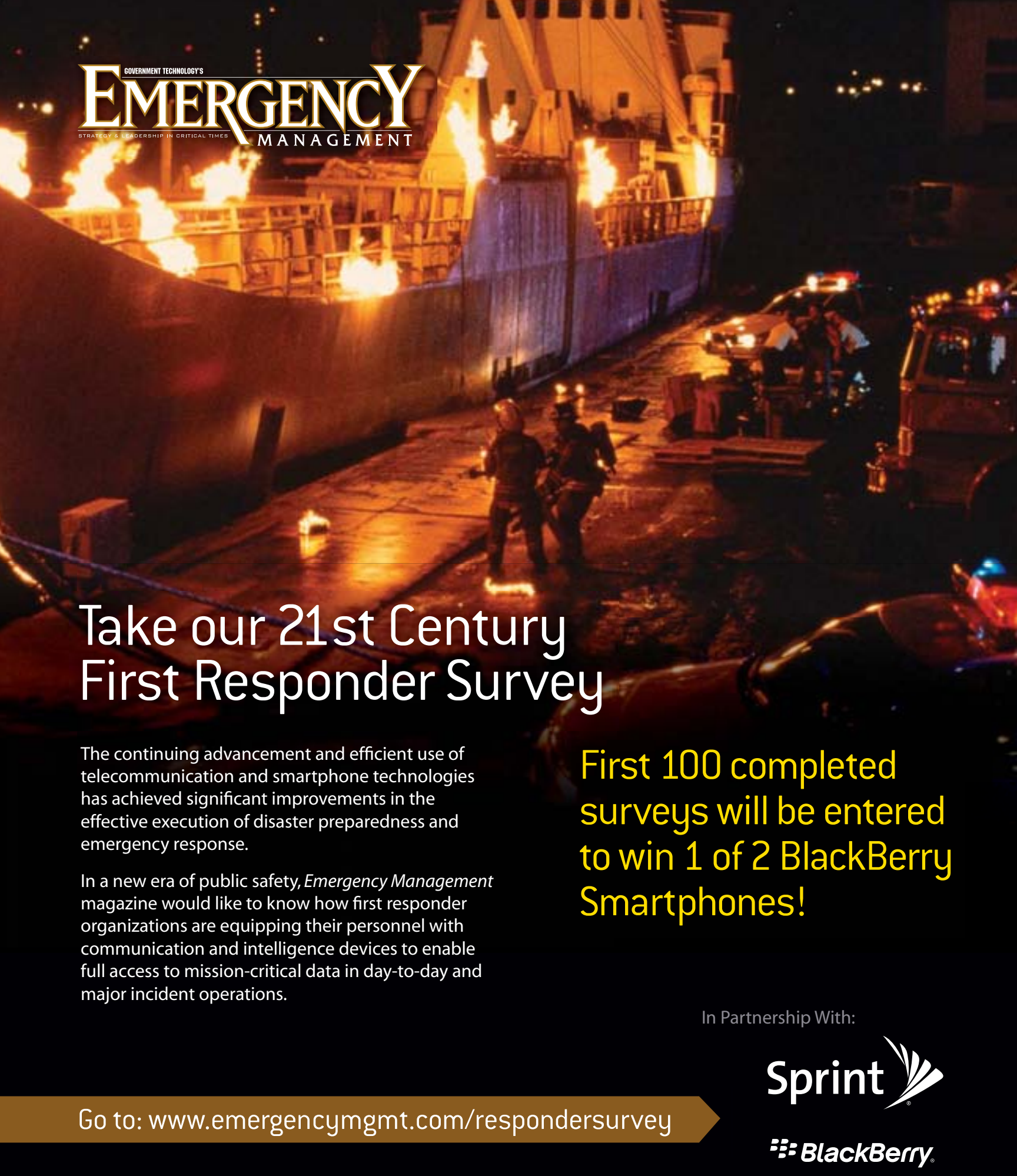
The environmental bodies in his workgroup coordinated meetings with community organizations from the area to develop a strategy for expanding Highway 77 without harming wildlife.

Save the Animals

Many view a state's wildlife as part of its identity. Gagnon cautioned that Arizona's growing population and busy roads will affect wildlife. "Once you put a highway in an area causing an animal to not cross the road very often, you isolate it," Gagnon said. "It can't get across to resources. It becomes genetically isolated, and if you genetically isolate the animals, they start to inbreed more. Instead of having two fawns they have one or none. They're more susceptible to diseases."

Eilerts said many European countries have killed off much of their wildlife due to property development.

"They actually have toad crossings in England and butterfly crossings in Germany," Eilerts said. "Good for them, but do we [the United States] want to wait until we're down to our field mice?" GT



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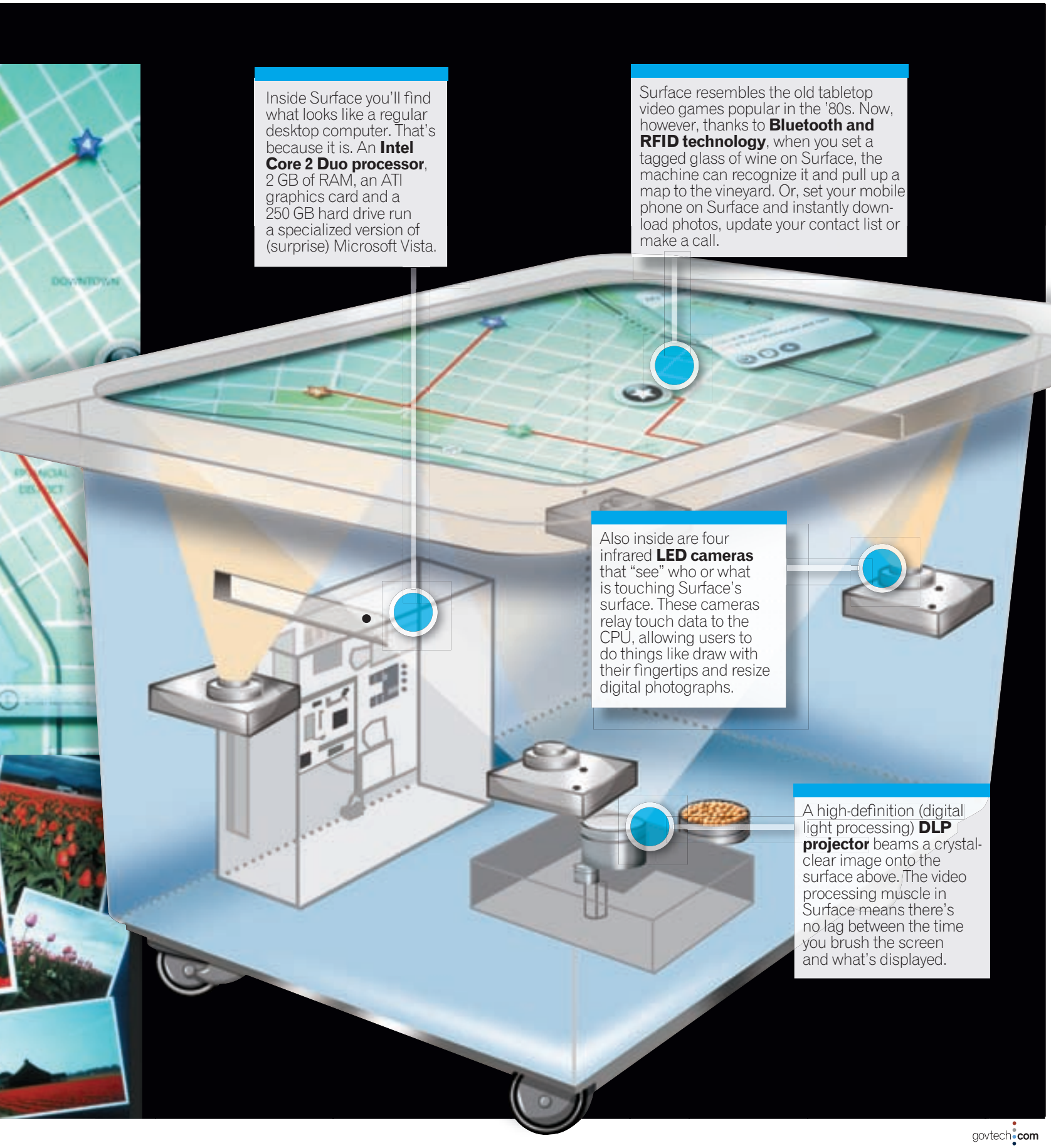
how it works

Turning technology inside out

Scratching the Surface

Though their innards change almost monthly, computers' exteriors have undergone hardly any change at all. Furthermore, the way we interface with computers is virtually the same as it has always been — with keyboard and mouse. But Microsoft Surface is different. Surface is a new computing platform that lets users interface by the most intuitive method possible — touch. Whether with fingers, hands or everyday objects, multiple users can simultaneously interact and manipulate digital content. By cleverly repurposing existing technology, Microsoft may have created the first of a new generation of computers that can be used the way we've always wanted. Here's how it works.

BY CHAD VANDER VEEN | ASSOCIATE EDITOR | **ILLUSTRATION BY** TOM McKEITH



spectrum

reports from the IT horizon

Germane Technologies

The German government is seeking ways to tighten weapons control to curb violence that recently struck the nation. Proposed measures include having better gun safety locks and implementing biometric technology, like fingerprint scanners, on deadly weapons. Fingerprint scanners store owners' fingerprints and authenticate them before giving a user access to a weapon; scanners are already on the German market.

Linked In?

Member communities, such as social networks and blogs, have increased in popularity within the last year, according to *Global Faces and Networked Places*, a report published in March by the Nielsen Company. The report found that **45 billion minutes** were spent on member communities in 2008.

Growth of the five most popular Internet sectors.

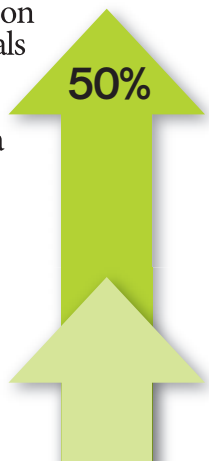
Rank	Sector	Global Active Reach Dec '08	Global Active Reach Dec '07
1.	Search	86%	84%
2.	General interest portals and communities	85%	83%
3.	Software manufacturers	73%	72%
4.	**Member communities**	67%	61%
5.	E-mail	65%	62%

Socially Acceptable

- ✓Results from **Facebook** confirmed that nearly **75 percent** of users voted for the new governance policies after debate about the original terms of use, which suggested that the social utility owned users' materials.
- ✓**Twitter** breeds quitters? According to a Nielsen survey, **60 percent** of tweeters quit within the first month.
- ✓In case of emergency, you can hear it through the grapevine. Microsoft is beta-testing **Vine**, which is similar to Twitter. Users can receive real-time emergency updates from media outlets nationwide.

Paving the Way

Sweden unveiled a new energy policy to ensure a more fuel-efficient nation. The government aims to rely less on fossil fuels and reduce its carbon emissions. The government's goals include renewable energy comprising **50 percent of all energy produced by 2020**, a fossil fuel-free taxi fleet by 2030 and a carbon-neutral nation by 2050. Citizens with clean-fuel vehicles will pay reduced taxes, while those without will see their taxes increase.



Digital Doc

As economic stimulus funds are disbursed for electronic health records, many more physicians will probably start tapping their smartphones for patient care. **Sixty-four percent of physicians already use a smartphone** to access online and medical resources, according to a survey conducted by Manhattan Research.

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Send spectrum ideas to managing editor **Karen Stewartson** kstewartson@govtech.com

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NASCIO identifies **virtualization** and **consolidation** on state CIO's 2009 top 10 list of priority strategies and technologies.

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Little Laptop

LG's X110 mini notebook has a 10-inch display with Intel GMA 950 graphics and an Intel Atom N270 processor, 1.6 GHz, 533 MHz FSB, 512 KB L2 cache. The device comes with a 3G+ embedded modem, WLAN 802.11 b/g and an 80 GB, 120 GB or 160 GB hard drive. The notebook has a 512 MB/1 GB (DDR2 667MHz, embedded single channel) system memory and 1.3 megapixel webcam. **www.lge.com**

Idea Hub

The **Lenovo IdeaCentre A600** all-in-one desktop has a 21.5-inch frameless screen and support for 1920x1080 full high-definition resolution. It comes with an Intel Core 2 Duo processor, up to 4 GB of DDR3 memory and up to 1 TB hard drive. There's a wireless keyboard and mouse, as well as a 4-in-1 remote controller that can be used as a VoIP handset, "air mouse," media center remote and motion drive gamepad. VeriFace facial-recognition technology allows facial images to be used as logon passwords. **www.lenovo.com**

Remote PC

The **Nokia N86 8MP** is a two-way slide dual-mode smartphone that supports WCDMA/HSDPA, EGSM and WLAN. The device has a 2.6-inch active matrix OLED display. Its 8-megapixel camera includes a wide-angle Carl Zeiss lens and dual LED flash. Eight GB of internal memory stores up to 4,000 images. The device features a built-in compass, along with a trial navigation license for driving. Mapping software lets users geotag their photos. **www.nokiausa.com**

Crash Cart

Bretford Manufacturing's NETBOOK32 cart for mini laptops can store, secure, charge and transport up to 32 microcomputers and peripherals. The cart's main power source is an automatic timer/charger with two 16-outlet electrical units that are mounted inside the rear of the cart. The second power source is an auxiliary four-outlet power strip that's mounted inside the cart to accommodate accessory equipment, like projectors and document cameras. **www.bretford.com**

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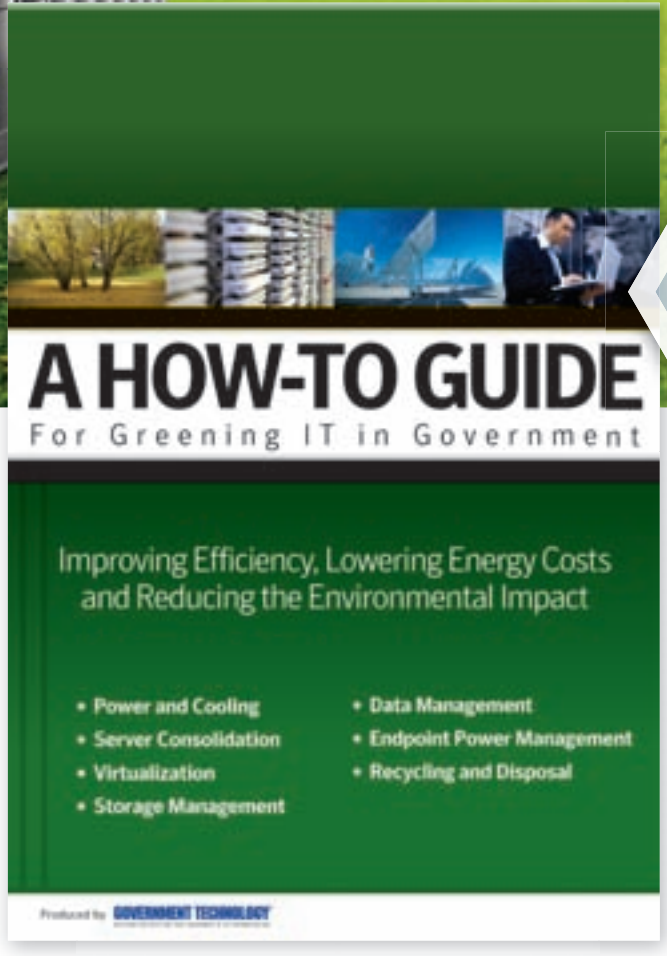

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A new era of administration and governance directs attention on green technologies to improve energy efficiencies, and for good reason. Green IT is a pivotal asset in reducing power consumption, eliminating waste and achieving a positive effect on economic viability.

Written specifically for public sector, this guidebook offers you insightful guidance into the issues to consider and the key steps to take to drive green savings, energy reduction and information security into your data center operations and endpoints.

Produced by:

GOVERNMENT TECHNOLOGY
SOLUTIONS FOR STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE

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Competition and Collaboration

"If you screw up today, you are going to have a lot more people paying attention to the screwup than you would 10 years ago. And conversely, if you can lead a success, there is a lot more potential interest and power behind the ability to organize a success story, to organize a project and bring it to fruition."

This aptly describes the promise and pitfalls of being digital. It's the observation of Jeffrey Eisenach, generally credited as the father of the *Digital State Survey*. But he isn't talking about today's mobile culture of text messaging and tweeting, which overdiscloses life's mundane. Eisenach's comments are from a 1997 *Government Technology* interview in which he insisted "the digital revolution is very real to the average citizen today" and "states, localities and nations need to move much more rapidly than they are right now to get digital." That was 12 years ago, but the complaint still resonates.

In many ways, technology's finally catching up with Eisenach's vision of what government could do. But even in the mid-'90s, he and others saw possibilities that came with a more fully connected world. "There is a lot more ability to build coalitions and bring a lot more people into the process than you could before, and a much bigger payoff if you are successful," he said.

Gentle competition among states has been a catalyst for ad hoc coalitions that have formed and operated informally for more than a decade. Under the tutelage of the survey's adoptive parents — the Center for Digital Government (CDG) — the singular Digital State is now a community of Digital States. There are three distinct tiers: a dozen top-ranked states with a common view of the future, a second tier intent on challenging for the top 10 and a third group that shares a strategy to leapfrog onto the charts.

The *Digital States Survey* is the nation's original and only sustained benchmark of state IT programs as a whole — from citizen-facing applications to the policy framework and technological infrastructure that makes it all possible.

If competition organically morphed into informal collaboration, a group of states and the CDG recognized an opportunity to do something more formal and structured. Something that tallies a Digital State's defining characteristics — now and in the future as efficiency, transparency and performance become the watchwords of governing in the economic recovery age. Something that builds on the biennial survey's reputation with a year-round program of ongoing original research, analysis and practical aids in the strategic planning process through regional events, webinars, podcasts, online communities and panels and — of course — a Twitter feed, **www.twitter.com/digitalstates**.

All this coalesces this summer with the launch of the CDG's Digital States Performance Institute (DSPI), a community to modernize and improve government. It's intended to extend the value of the survey's benchmarks through documenting and sharing best and emerging practices by states that are committed to meeting today's needs and tomorrow's expectations.

The DSPI is where states can collaborate and co-create in unique Web 2.0 fashion. Eisenach understood the importance of getting on with it and getting it right, back when the Web didn't have a version number. "It is a national issue that is in the hearts and minds of the majority of the American people today and will continue to grow in importance." GT

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