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GOVERNMENT TECHNOLOGY 20 YEARS

VOL20 ISSUE05

MAY 2007

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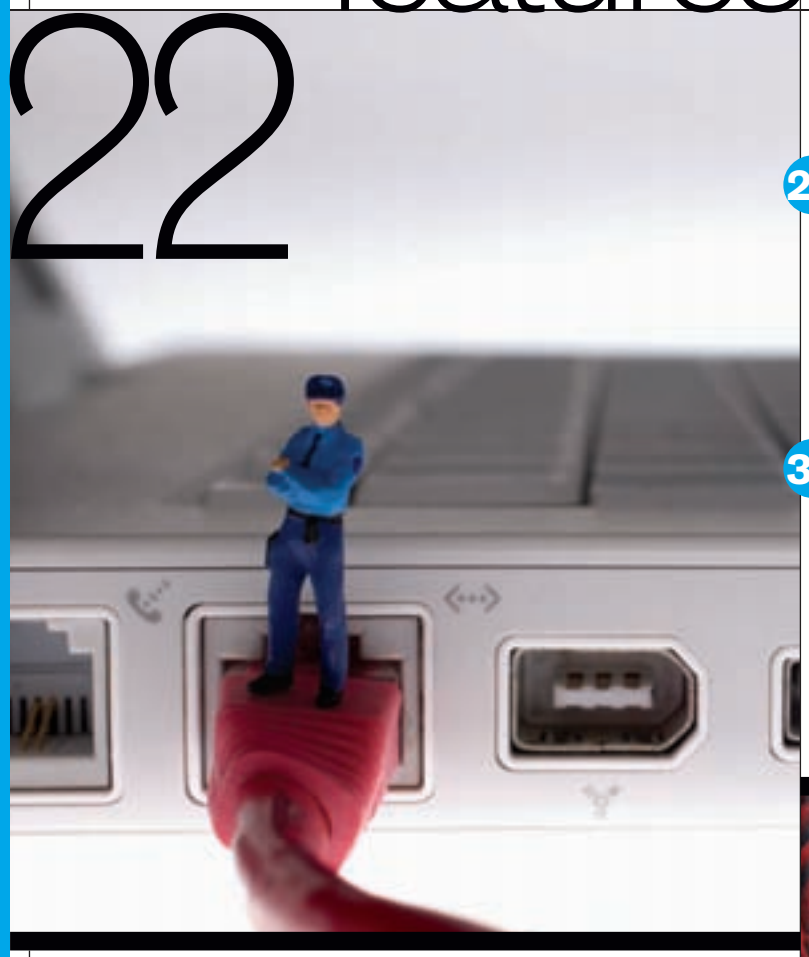

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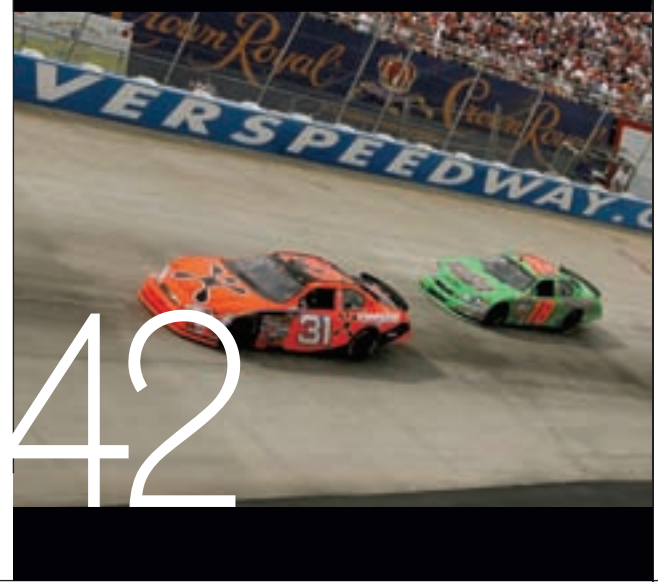

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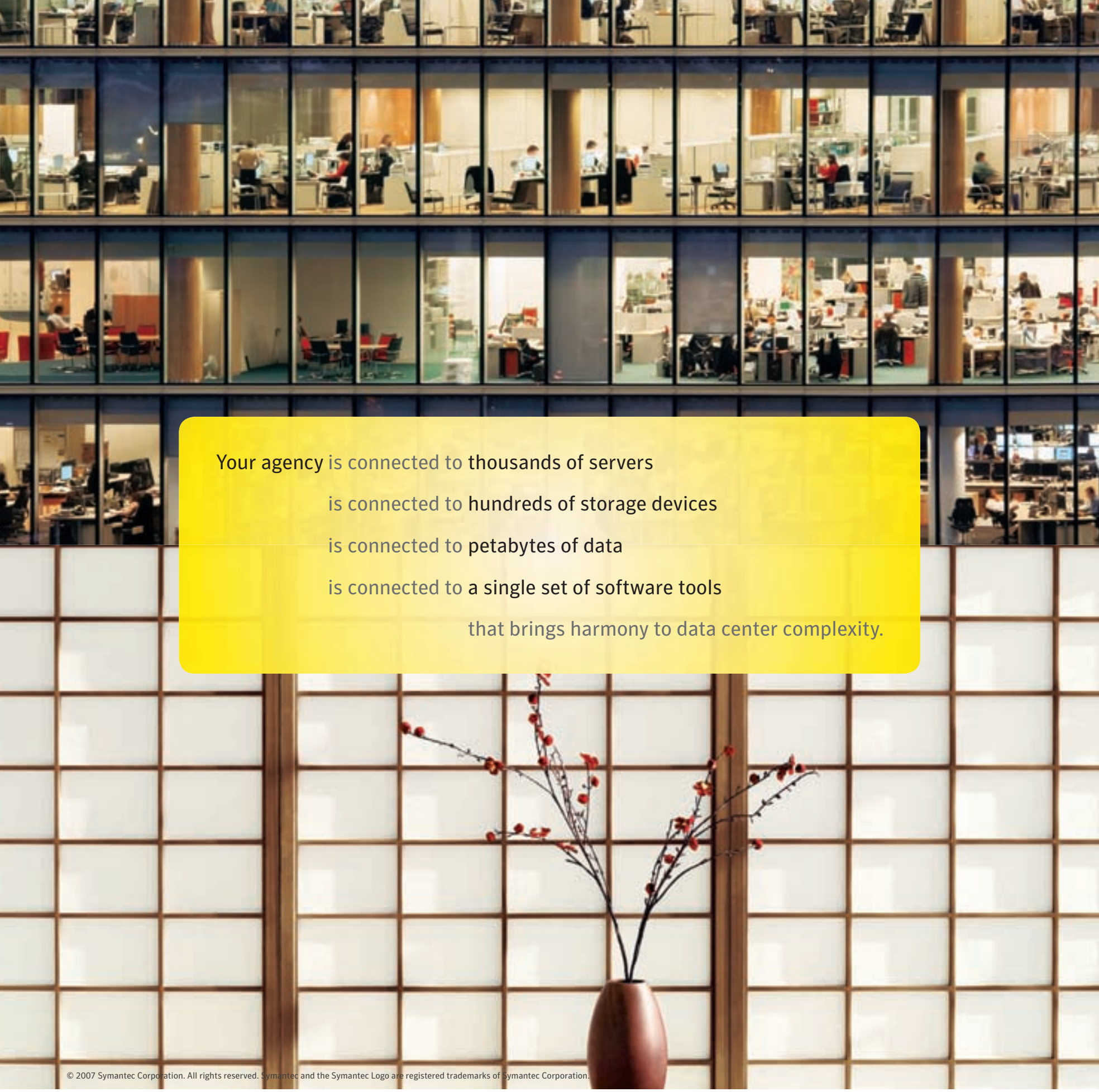

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We Got Web[2]

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After a radical overhaul, Govtech.com is loaded with features.

For the past six months, many of us at *Government Technology* have been working to fundamentally restructure our Web presence. The result is Govtech.com, which launches this month.

As we mentioned in April, the idea was to build a portal that delivers easy access to the full resources of *Government Technology* magazine and its corporate parent, e.Republic Inc. Now it's your turn to see how close we came to meeting that goal. Here's a look at a few significant new features:

GTtv

We are especially excited to announce GTtv, a state-of-the-art service that provides high-definition streaming video content. GTtv will feature news stories, special reports, exclusive interviews with newsmakers, video blogs, filmed conference highlights, video case studies, and much more — all in high def! With GTtv, it's not news at 11, it's news when you want it — 24/7!

My Briefcase

The My Briefcase section gives you the power to create your own mini Govtech.com — however you like it. No one relies on a single site for all of their information needs, so we created an easy way to combine content from us and material from your other favorite sources. Your GT briefcase lets you create custom folders in which you can clip and save articles, conference presentations, videos, podcasts, research documents, reports, bookmarks and more. You also can manage your *Government Technology* magazine and e-newsletter subscriptions, plus conference registrations. And you can customize the look and feel of how all content is presented. You'll find some other great surprises in this briefcase as well.

Inside *Government Technology*

Here you'll find expanded content that doesn't appear in the print version of *Government Technology* magazine. This section includes updates on feature stories and case studies, as well as exclusive previews of upcoming *Government Technology* articles. In addition, background papers and links to source documents will let you dig more deeply into topics covered in *Government Technology*, and you can clip and save what you like in your briefcase. Blogs from editors will provide analysis and opinions on topics that impact your operations.

Resource Highlights

This is where we present rich content generated throughout e.Republic. For instance, you'll find instructional material and slide decks from Government Technology Conferences and webinars that can be viewed at your convenience. We'll also provide easier access to white papers and analysis from our Center for Digital Government, and other valuable source documents from around the Web. And the entire site has been enhanced with powerful new search tools that help you find what you need fast.

That merely scratches the surface of what we hope will become a vital information resource for you. Visit the real thing — <www.govtech.com> — and let us know what you think. Like any major undertaking, the site remains a work in progress. So we'd like to hear your comments and suggestions.

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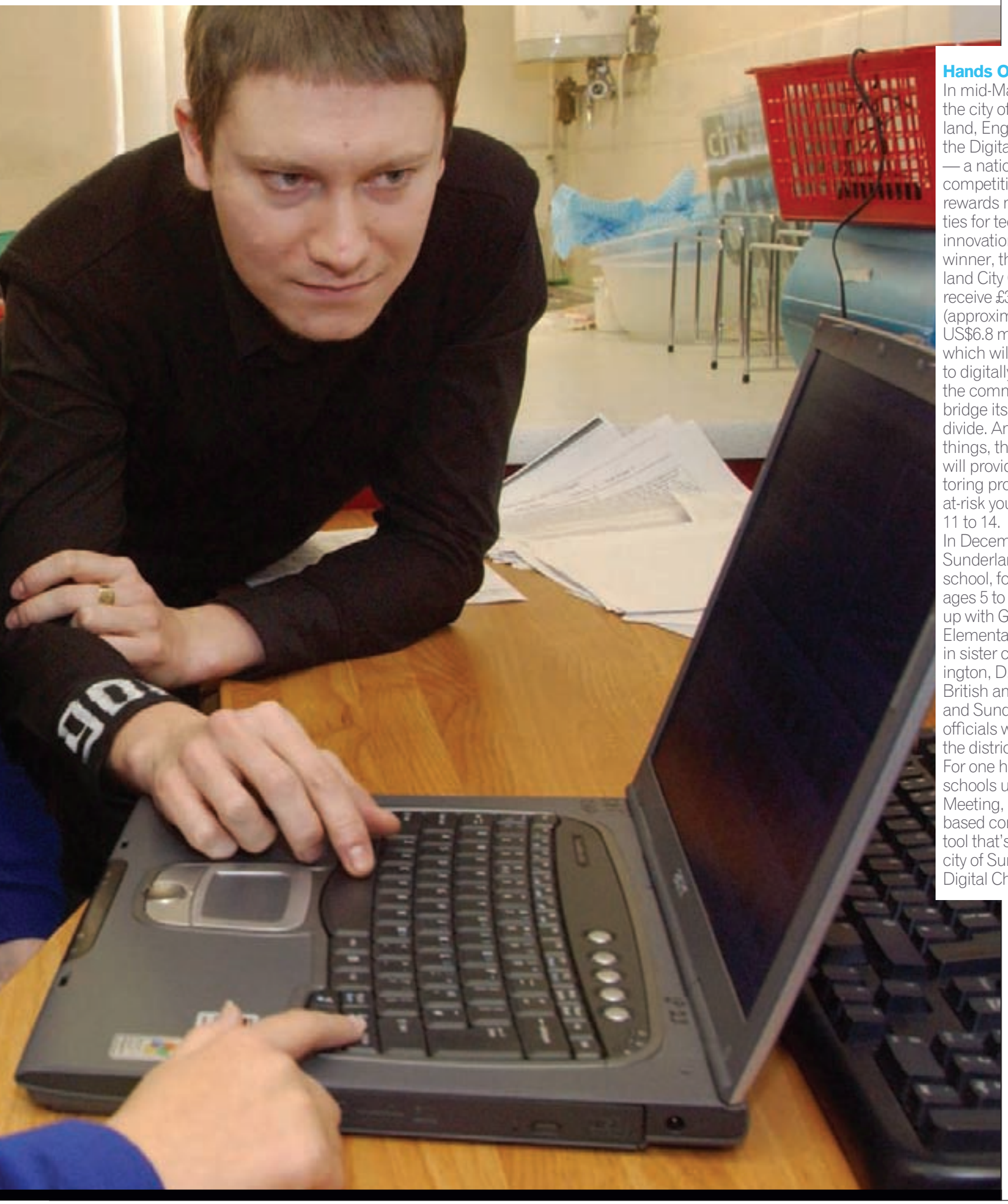

Hands On

In mid-March 2007, the city of Sunderland, England, won the Digital Challenge — a nationwide UK competition that rewards municipalities for technological innovation. As the winner, the Sunderland City Council will receive £3.5 million (approximately US$6.8 million), which will be used to digitally enable the community and bridge its digital divide. Among other things, the council will provide an e-mentoring program for at-risk youths, ages 11 to 14.

In December 2006, a Sunderland primary school, for children ages 5 to 11, linked up with Garfield Elementary School in sister city Washington, D.C., as the British ambassador and Sunderland officials were visiting the district.

For one hour, both schools used FlashMeeting, a Web-based conferencing tool that's part of the city of Sunderland's Digital Challenge bid.

BY CHAD VANDER VEEN
TECHNOLOGY AND POLITICS EDITOR

Fit to be Tied

Our overreliance on technology is one of my favorite subjects to harp on. From Roombas to GPS-enabled cars, countless examples of technology make our lives ridiculously easy.

There are also examples of daily life that technology has glaringly forgotten, and exist solely because of history and tradition. People do many things for no reason other than, "That's the way they've always been done." In the blossoming Information Age, could there be a stupider motivation?

Take the necktie. Even the most ardent metrosexual would be forced to admit this garish, ghastly piece of fabric serves no purpose.

The necktie originated with Croatian mercenaries hired by French King Louis XII. Fashion-conscious Parisians were intrigued by the foreigners' colorful scarves knotted about their necks. Adopting these "cravats" as their own, Parisians' love of the necktie soon spread throughout Western Europe. Through time the necktie evolved, eventually becoming standard business and formal wear for men.

So why do we continue to wear this functionless accessory? Because it looks good? Says who? Them? You know what might look good too? Wrist tassels. "But the idea of wrist tassels is crazy!" you're no doubt trained to reply.

And you'd be right; they would be useless, albeit colorful, strands of fabric hanging aimlessly off your arms, interfering with simple tasks and causing general discomfort — which is exactly what a tie does, except it hangs from your neck.

Is finding an oddly shaped piece of cloth that hopefully matches your pants really a good enough reason to strangle yourself?

And to where do we most often wear the accursed tie? To work, of course. And it is at work that the majority of us toil under a condition whose existence makes little sense today — the 40-hour onsite workweek.

Initially the 40-hour workweek was a response to the squalid conditions employers imposed on workers. Post-World War II, the booming economy thrived on factory work and manual labor — and the 40-hour workweek protected employees from exploitation.

But today, most of our work is information-based rather than labor-based. We can do almost everything remotely — yet most of us show up at the office every day. Some days, there's a lot of work to do; other days, there's less. Yet instead of adapting to a fluctuating workflow, we dutifully sit at our desks until the eighth hour — most times diligently working and sometimes diligently making nothing look like work. Productivity isn't maximized and, for salaried employees, overtime simply means their hourly pay rate declines.

> "What if instead of **eight hours a day,** five days a week, we worked until the **task was done?**"

What if instead of eight hours a day, five days a week, we worked until the task was done? Some days that would mean more than eight hours, some days it would mean less. And how about instead of driving to the office, we worked remotely more often? This simple change could greatly reduce traffic and pollution, as well as the tens of thousands of annual deaths on our highways — leaving the world a cleaner, happier place for more people.

But if the necktie is any indication, the 40-hour onsite workweek is here to stay. Like the necktie, it might look good, but it really doesn't make any sense. GT

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letters

GT Kudos

Wow! Fantastic!

Every month I read your publication; but this month [January 2007] you have outdone yourselves with an exceptional issue. As I read through the articles, I cut out or ripped out information to pass on to co-workers, and I ended up with more than half of it in my hand to share!

As a former election inspector here in Michigan, I especially liked *The Technology Devolution* by Chad Vander Veen. How right he was when stating, "Technology for technology's sake is a foolish philosophy."

I've always felt you have your finger on the pulse of what is happening around the country, and this issue really proves it.

Keep up the great work.

CINDY KRUEGER, WEB DEVELOPMENT MANAGER, HISTORY, ARTS AND LIBRARIES, LANSING, MICH.

point of view
Rock the Vote

Poor Implementation

Regarding your *Rock the Vote* POV in [the November 2006 issue of] *Government Technology* magazine, few in Sarasota, Fla., are timid about either saying that e-voting is fine or flawed.

The truth is that everyone who has it or is considering it, clearly is polarized on one side or the other. Unfortunately the policy makers, elected officials and appointed or hired managers in government who are making decisions do not have the skills to know if the systems or methodology being used are secure or — more importantly — ethical.

They blindly trust a salesperson.

We have no way of independently verifying that votes are being counted correctly or are counted at all. There is a big lack of citizen confidence in the technology, balloting procedures developed and used, and in the people selling and buying the systems.

It seems that it all focuses on a lack of transparency and verifiability. Any system can be poorly implemented, and here in Florida, elected officials were poorly implementing paper balloting methodology. Their ability to implement e-voting systems did not improve with the purchase of multimillion dollar touchscreens with secret programming. It was like having an employee drive poorly and get into an accident, then to fix the problem, we buy them a new, very expensive car with fly-by-wire controls and a blacked-out windshield.

On the bright side, some investors will benefit from new sales of retrofitted e-voting systems. I just hope that we learn how to specify what we need, open source it to be able to properly secure and verify what citizens are buying, and force elected officials to examine, identify and fix problems in practices.

If we do this, we can create and adopt a standard that may be used anywhere to have fair and verifiable balloting. Then we can turn our attention to having fair elections!

RICK BURGESS, GIS PLANNER/HAZUS CHAMPION, PUNTA GORDA, FLA.

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A Real Prediction

You know what will change by next year?

A few new cars designed to look like old ones, a few companies find ways to screw everyone more effectively and telemarketers calling your cell phone. Bottom line, we are all too worried about getting rich that we don't care to invent things that will help us unless they will make us rich too.

Want to know what 2020 will look like? Look around, 'cause it won't be any different. Cars will reach 150 mpg, and gas prices will go up so that it still costs $30 to fill your tank. McDonald's will drop the cost of double cheeseburgers to 75 cents, and all American-made cars will be made in Japan.

Telemarketers will be AI [artificial intelligence]-based computer systems, as will tech support, with the ability to research problems online. You'll be able to watch your TV from a satellite in NASA World Wind, and some new Republican president will take away what little freedoms Bush didn't and turn this country into a dictatorship while apathy grows so that nobody does anything about it.

That is the future. Money and power will take over more and more, because that is all anybody cares about now.

ANONYMOUS, FROM WWW.GOVTECH.COM, IN RESPONSE TO *THE LAST MILE*, FEB. 2007

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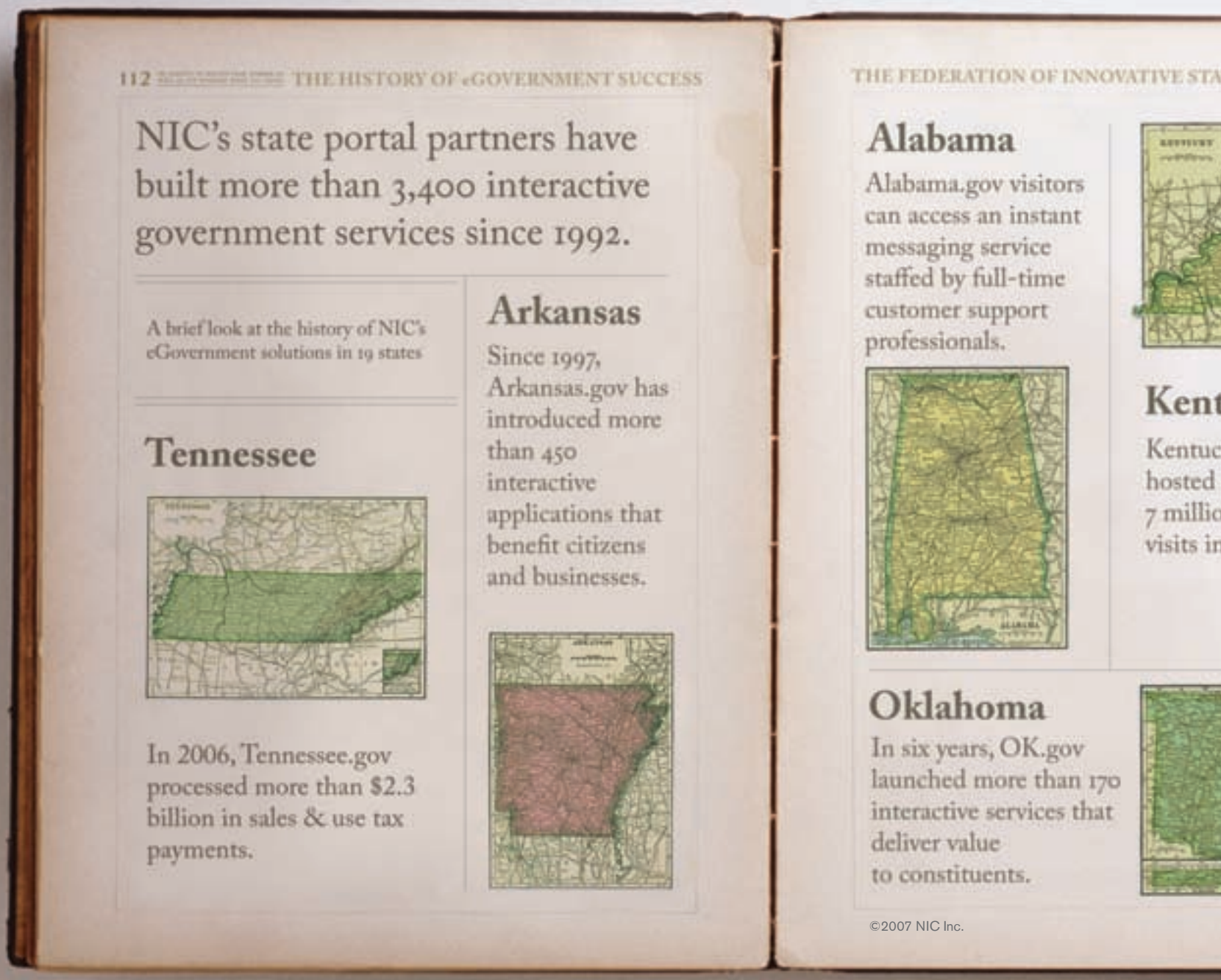

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Up Close

influenza

The 1918 flu is thought to have killed as many as 25 million in its first 25 weeks.

More people perished from the influenza pandemic of 1918 than were killed during World War I. In 18 months, the deadly flu seized 50 million to 100 million lives.

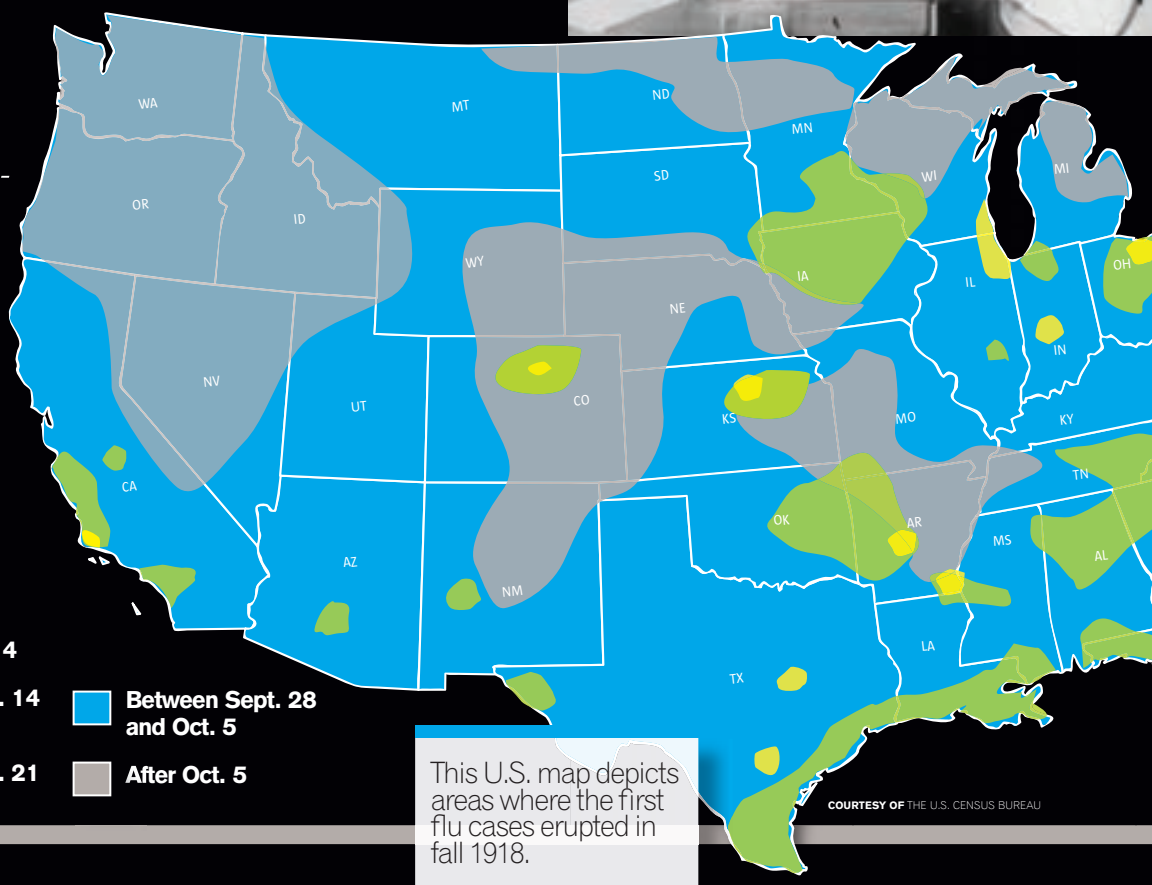
Nearly 90 years later, researchers may know why this strain of flu was so lethal. As reported in the Jan. 18, 2007, issue of *Nature*, an international team of researchers discovered the virus triggered an autoimmune response in an infected person — a response that attacked the lungs rather than the viral infection, eventually filling the lungs with fluid and drowning the victims.

Yoshihiro Kawaoka, professor of pathobiological sciences at the University of Wisconsin-Madison and an expert on the influenza virus, teamed with Canadian, American and Japanese researchers to introduce a genetically engineered version of the 1918 influenza virus into seven monkeys. They also infected three other monkeys with a "control" human influenza. To guarantee infection, each monkey received several million units of flu — either the 1918 version or the control version.

The monkeys infected with the conventional flu showed few clinical signs of respiratory infection, all of which were mild. However, the seven, 1918 virus-infected animals became ill within 24 hours, and their condition worsened dramatically as hours passed. Ethical guidelines forced the researchers to euthanize them within eight days of the initial infection to analyze how the two flu strains affected their tissues and organs. Their lungs were bloated, bloody and filled with fluid — similar to the pathology reports of 1918 flu victims.

Some of the damage is similar to the Southeast Asia avian influenza in that both flu strains ravage the upper and lower respiratory tracts, unlike the conventional flu, which affects the upper respiratory tract.

Based on these similarities, the researchers hope to develop medicines should another lethal influenza pandemic occur. GT



This U.S. map depicts areas where the first flu cases erupted in fall 1918.

COURTESY OF THE U.S. CENSUS BUREAU

In the United States, about **28 percent of the population** suffered from the influenza, and **500,000 to 675,000 died**.

This graph shows the massive mortality in Kansas due to the 1918 flu pandemic.

deaths from influenza

deaths from all causes

50
40
30
20
10

Death rate per 1,000 population

September 1918
October 1918
November 1918
December 1918

COURTESY OF THE U.S. CENSUS BUREAU

spectrum

reports from the IT horizon

Send spectrum ideas to associate editor **Shane Peterson** <speterson@govtech.net>

Mobile Nurses

After conducting pilot studies around the world, Motion Computing's C5 is the first product based on Intel's mobile clinical assistant (MCA) platform.

The lightweight, spill-resistant, drop-tolerant and easily disinfected MCA lets nurses access current patient records and document a patient's condition instantly, enhancing clinical workflow while reducing administrative workload.

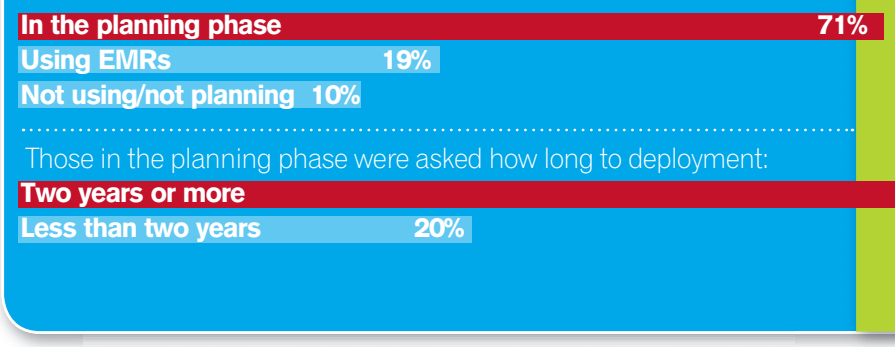
Wireless connectivity helps nurses access secure patient information and physicians' orders. Radio frequency identification technology provides rapid user logon. A digital camera enhances patient charting and progress notes, allowing nursing staff to track wounds as they heal. Bluetooth technology helps capture patient vital signs.

The University of California San Francisco Medical Center is conducting pilots to measure workflow improvements and nurses' satisfaction with the devices. — INTEL

PHOTO **COURTESY** OF INTEL

EMRs on the Rise

Electronic medical record (EMR) use is growing in public health-care facilities, according to a study by Citrix. When state health executives were asked if they currently use EMRs, the responses were as follows:



Those in the planning phase were asked how long to deployment:

ILLUSTRATION BY DAVID A. AGUILAR (CFA)

In the Atmosphere

A team of astronomers, led by Carl Grillmair from the Spitzer Science Center and David Charbonneau from the Harvard-Smithsonian Center for Astrophysics, measured the first spectrum from the atmosphere of HD 189733b, a planet orbiting a distant sun-like star.

"In a sense, we're getting our first sniffs of air from an alien world," said Charbonneau. "And what we found surprised us. Or more accurately, what we didn't find surprised us."

They expected to see water, methane or carbon dioxide, Grillmair said. "But we didn't see any of those. The spectrum was flat, with no molecular fingerprints that we could detect."

Astronomers speculate that these molecules are present but hidden behind a high layer of silicate clouds.

— Spitzer Science Center

Aqua Cops

Dozens of dolphins and sea lions trained to detect and apprehend waterborne attackers could be sent to patrol a military base in Washington state.

Dolphins' astonishing sonar abilities make them excellent at patrolling for swimmers and divers. When a Navy dolphin detects a person in the water, the dolphin drops a beacon, which tells a human interception team where to find the suspicious swimmer. Sea lions can carry special cuffs attached to long ropes in their mouths, which they can use to clamp around a person's leg. The individual can then be reeled in for questioning. — NAVYTIMES.COM

Hackable

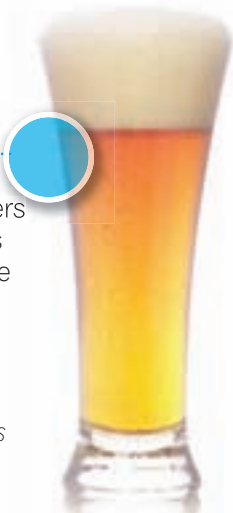
70% of businesses' or noncommercial entities' Web sites are at a serious and immediate risk of being hacked, according to Acunetix.

Potty Mouth

New Mexico is taking the fight against drunk driving into men's restrooms. The state ordered 500 talking urinal cakes that will deliver a recorded message warning against drunk driving to bar and restaurant patrons who make one last pit stop before getting behind the wheel.

The state spent $21 for each talking urinal cake for the pilot, but will ask bars and restaurants to pay for future orders if the idea catches on. The cakes have enough battery power to last approximately three months.

— THE ASSOCIATED PRESS



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Sprint Mobile Broadband covers 2x more cities than their BroadbandConnect.

Work faster on the nation's largest mobile broadband network. With Sprint you can make just about any place a workplace. And now get a mobile broadband card for free.

FREE CARD with new card activation on an unlimited data access plan. Requires 2-yr agreement and $49.99 mail-in rebate.

No voice plan required.

PX-500 by Pantech®

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Fastest mobile broadband network claim based on combined weighted average of upload and download speeds on the Sprint Mobile Broadband Network, including Revision A–enabled markets, compared with publicly available average speeds on other carriers' mobile broadband networks. Actual speeds may vary. Access to Rev. A speeds requires a Rev. A–capable device/connection card. See sprint.com/mobilebroadband for details. Sprint Mobile Broadband Network reaches over 200 million people. Rev. A enhancements reach over 109 million people. Coverage not available everywhere–see sprint.com/coverage for details. Not available in all markets/retail locations. Coverage comparison based on most recent available information regarding Cingular broadband market coverage as of 3/6/07. **Free Card Offer:** Subject to credit approval. Additional restrictions apply. **Mail-in Rebate:** Requires purchase by 6/17/07 and activation by 7/1/07 of new line on Unlimited Data Plan ($59.99) and two-year agreement. $36 activation fee and $200 early termination fee apply. Rebates cannot exceed purchase price. Taxes excluded. Line must be active 30 consecutive days. Allow 8–12 weeks for rebate. ©2007 Sprint Nextel. All rights reserved. Sprint, the "Going Forward" logo and other trademarks are trademarks of Sprint Nextel.

spectrum

reports from the IT horizon

Pump It Up

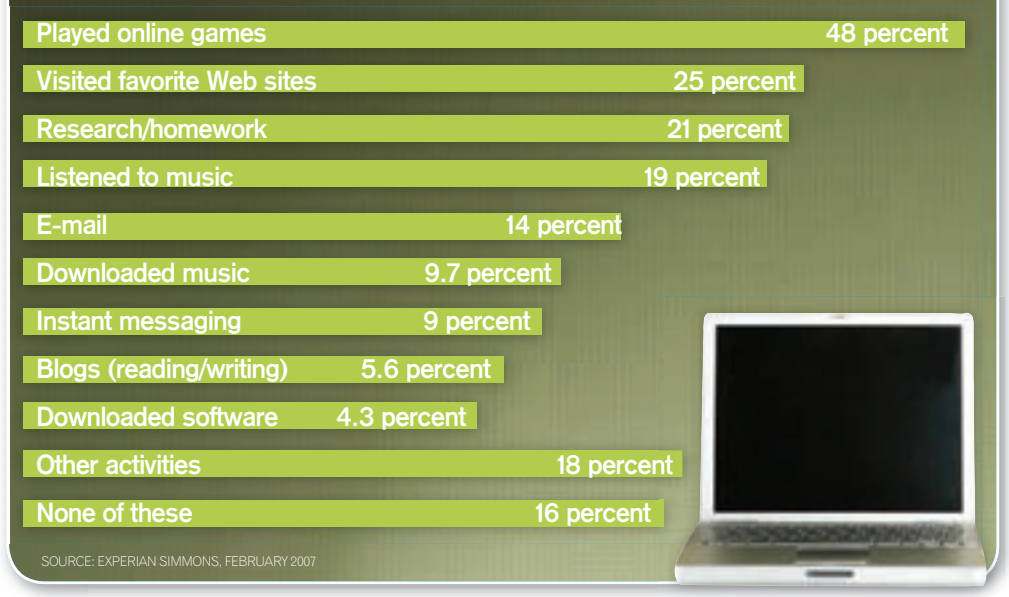
Exercise equipment that will integrate with iPods was announced by Apple and Life Fitness, a division of Brunswick Corp.

The iPod-integration will allow exercisers to sync their iPods with the equipment's LCD screen to conveniently view their playlists and watch video content while working out. Users can plug headphones directly into the equipment's console or their iPods for audio, while safely storing the music player in the iPod holding tray. The integrated technology will be available later this year.

— BRUNSWICK.COM

Tweens Online

Though children ages 6 to 11 — also known as "tweens" — tend to play video games during the majority of their time online, doing homework and research is still in the top three activities, according to a survey of U.S. children's online activities in fall 2006.



SOURCE: EXPERIAN SIMMONS, FEBRUARY 2007

Nature's Way

In an effort to deliver renewable energy to residential customers, Pacific Gas and Electric (PG&E) struck a deal with waste-to-energy company BioEnergy Solutions, under which the company will deliver up to 3 billion cubic feet of renewable methane gas — enough to supply electricity to approximately 50,000 PG&E customers in central and Northern California.

Manure from 3,000 dairy cows will be flushed into covered lagoons that will trap the methane gas produced as the manure decomposes. The gas will be "scrubbed" to remove carbon dioxide and corrosive materials to meet PG&E's industry environmental standards for power plants then delivered to PG&E through the utility's pipeline. — *Pge.com*

One-Stop Shop

People who visited Business.gov, the new one-stop federal compliance Web site for companies, confirmed the site saves them time and money. Of businesses surveyed, 72 percent said they saved up to 25 hours. Almost half of surveyed businesses reported saving money.

Clean Energy

Minnesota is requiring utilities to generate a quarter of their power from renewable sources by 2025. Considering where the state stands now — about half the power produced there is from coal, and only 8 percent from renewable sources — the legislation signed by the governor in February is the most aggressive in the country, analysts say.

The Minnesota law promotes the use of renewable sources — such as wind, water and solar energy — and cleaner burning fuels.

The law comes as states around the country stake out far-off goals for renewable energy. More than 20 states have some type of renewable requirement or good-faith objective. Colorado is moving toward a standard of 20 percent by 2020, while New Hampshire Gov. John Lynch challenged lawmakers to adopt a 25 percent requirement by 2025.

— BUSINESSPORTAL24.COM

Send spectrum ideas to associate editor **Shane Peterson** <speterson@govtech.net>

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With tools that give you remote management capabilities, the HP ProLiant DL360 G5 server, powered by the Quad-Core Intel® Xeon® Processor, lets you manage your systems from almost anywhere. Now you have the freedom to spend less time in the server room and more time on the tasks that benefit your agency.

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1. A HP SC11Xe Host Bus Adapter ($209) is a required option needed to connect the Ultrium 448 solution to the DL360 G5 server. Prices shown are HP Direct prices; reseller and retail prices may vary. Prices shown are subject to change and do not include applicable state and local taxes or shipping to recipient's address. Offers cannot be combined with any other offer or discount and are good while supplies last. All featured offers available in U.S. only. Savings based on HP published list price of configure-to-order equivalent ($5125 - $1426 instant savings= SmartBuy price $3699). 2. Financing available through Hewlett-Packard Financial Services Company (HPFS) to qualified commercial customers in the US and subject to credit approval and execution of standard HPFS documentation. Prices shown are based on a lease 48 months in term with a fair market value purchase option at the end of the term. Rates based on an original transaction size between $3,000 and $25,000. Other rates apply for other terms and transaction sizes. Financing available on transactions greater than $349 through June 30, 2007. HPFS reserves the right to change or cancel these programs at any time without notice. Intel, the Intel Logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. © 2007 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

www.busted

DARREN BATES THOUGHT HE'D HIT PAY DIRT WHEN HE wiggled his way out of the unfriendly confines of Hancock County Jail in Georgia last summer and fled to Philadelphia — away from imminent and unpleasant legal proceedings.

In Philadelphia, the escaped auto-theft convict enjoyed his new-found freedom by hanging out on MySpace, the social networking site, free from law enforcement — or so he thought.

Now Bates is back in Georgia facing multiple charges after police tracked him down via his MySpace page.

Law enforcement might not be everywhere, but police increasingly are following young adults and criminals on Internet sites like MySpace, where they seek out the Darren Bateses of the world who use their own names and inadvertently (and sometimes not so inadvertently) spill the beans about their criminal pursuits.

BY JIM McKAY | JUSTICE EDITOR

COPS CATCH UP WITH BAD GUYS VIA THE KEYBOARD.

It's well known that sexual predators do much of their hunting online, where unsuspecting youths gather. And law enforcement is making its presence felt on these sites, trying to stop predators before they connect with children. But it's not just sexual predators who look for trouble on the Web. Drug addicts talk about their fixes online, and evidence of myriad crimes is waiting for police officers willing to log on.

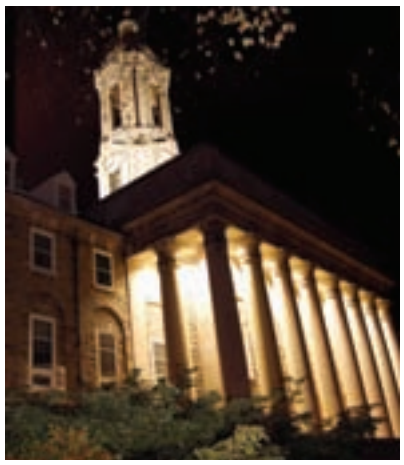
"It's a necessity," said Todd Shipley, director of training services for the National Consortium for Justice Information and Statistics, who instructs officers on fighting computer crime. "The fact is that there's so much crime being committed through the use of the Internet that it's something law enforcement can't avoid anymore," he said. "And it's going to become more a part of law enforcement in the near future — more than it has in the past — simply because they've got to keep up with what's going on in the world. Everybody is moving to the Internet, even the criminals."

Paradigm Shift

A growing number of officers now use the Internet to turn the tables on crooks.

In Nevada County, Calif., police recently logged onto MySpace and investigated a rapist by viewing his page and reading his habits.

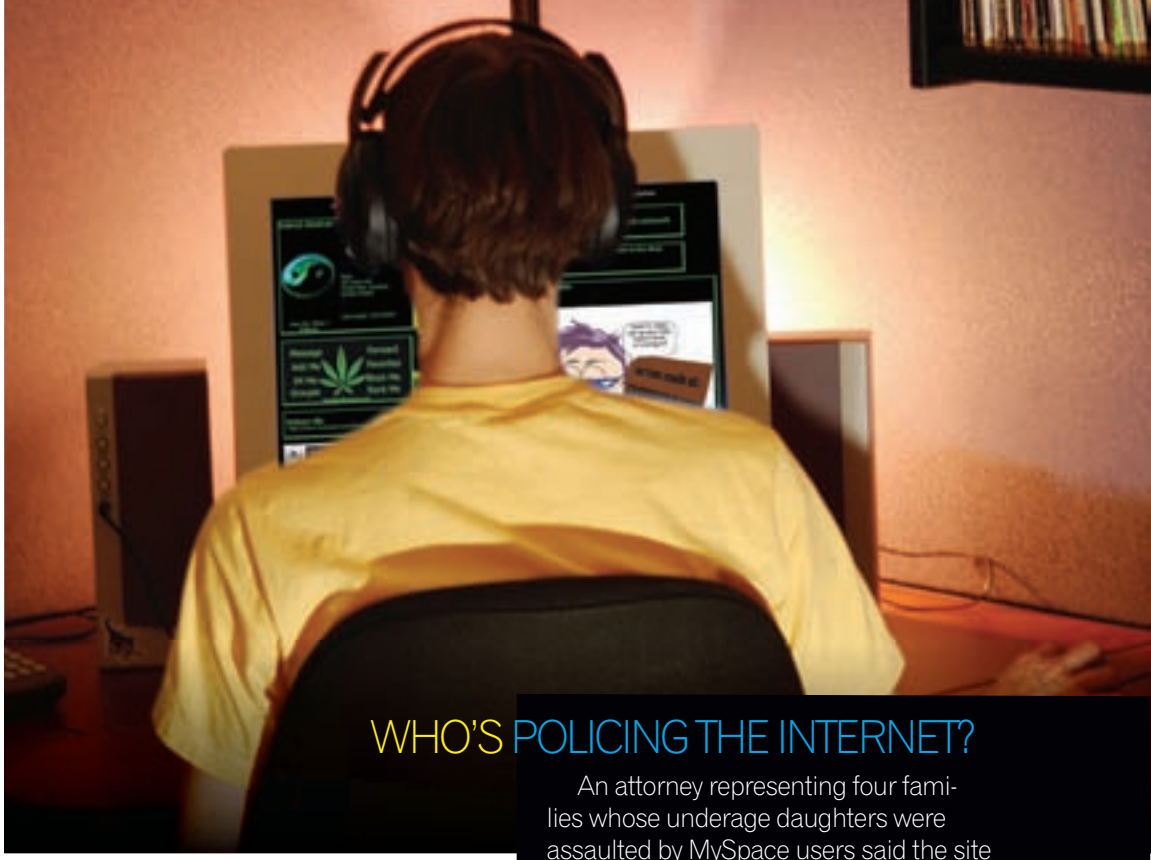
Massachusetts police posted a video on YouTube showing two men using a stolen credit card to buy merchandise at Home Depot.



After learning of a **Penn State University** party with underage drinkers on **Facebook.com**, campus police busted the crowd and cited the underage drinkers.

The idea was to get as many eyes on the video as possible in the hope that somebody would recognize the men and call police. It worked.

Police in south Florida had the same idea in February, streaming video on YouTube of a man in his 20s who was seen with a 78-year-old woman shortly before she was murdered. The rationale is that the same young people who might recognize the man are more likely to be viewing YouTube than watching the evening news.



At Penn State University, campus police busted a party and cited underage drinkers after learning about the party on Facebook, another popular social Web site. The surprise visit didn't go over well with the students, but their public information is fair game. There's no reasonable expectation of privacy when posting on the Internet.

Of course, police are also in tune with online auctions and phishing scams, and even peruse eBay and other sites for stolen property. If they find it, they set up a buyer and make an arrest.

"On the corporate side, investigators are using the Internet to investigate stolen property," Shipley said. "Big companies that deal with a large amount of product theft find the suspects and are buying back their property online and are conducting investigations that way."

Even homicide and domestic violence can be linked to the Internet. "We've had the occasional case where it's a domestic violence situation, and the person will write about what they want to do to this person in an e-mail, send them the threat and follow through," said Mike Phillips, special agent supervisor of the Florida Department of Law Enforcement Computer Crime Center.

"Back in the mid-'90s we used to ask students to try to name the kinds of crimes that electronic evidence would just intuitively be found in, and of course what you heard was fraud and maybe cyber-stalking," said Robert Hopper, computer crimes section manager of the National White Collar Crime Center (NW3C). "Today the question has changed. The question today is: What crimes can you name that you couldn't potentially find electronic evidence? That's a big paradigm shift for law enforcement."

WHO'S POLICING THE INTERNET?

An attorney representing four families whose underage daughters were assaulted by MySpace users said the site is no different than a day care or a restaurant, and that there is a responsibility to protect its customers.

Children under 14 are not allowed on the site but it's left to the user to confirm his or her age. The suit raises the question: What is the responsibility of a social networking site regarding the protection of its users?

News Corp., the parent company of MySpace, announced shortly after the suits were filed that it will unveil technology in summer 2007 that allows parents to keep tabs on their children's online profiles. The company also placed restrictions on how adults may contact younger users on the site.

Detective Tom Stella, of the North Port, Fla., Police Department, said MySpace responds quickly to law enforcement requests and is always ready to help with an investigation. "MySpace is very cooperative with law enforcement. They have a specific law enforcement division for subpoenas and requests, and in comparison to other Internet subpoena methodologies, they are probably one of the most cooperative with law enforcement that I've worked with."

Stella gives seminars for local parents and counsels them on how to keep their kids safe from online predators. He said the bulk of the responsibility falls on parents' shoulders.

He suggests parents use software programs like Watch Right, which allows them to keep an eye on what their kids are doing online. "There are two ways they can install it," Stella said. "They can install it secretly where the children don't know what they're doing, or they can install it overtly."

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Changing Tactics

And police aren't just surfing the Internet looking for evidence after the fact; they're logged on regularly looking for lawbreakers and using the medium to zoom in on certain crimes and individuals. "It is a pop culture phenomenon. If you choose to ignore it, you're running the gamut of all the possible bad outcomes," said Detective Tom Stella of the North Port, Fla., Police Department.

"It's across the board," said Detective Keith DePersia, of the Computer Crimes Unit in the Charlotte County, Fla., Sheriff's Office. DePersia spends two to three hours every day on the Web as part of a strategy implemented this year. Online he investigates everything from child pornography to stolen merchandise

One officer in the Charlotte County, Fla., Sheriff's Office spends **two to three hours daily** on the Web investigating child pornography, drugs and other criminal activity.

to drugs. "Believe it or not, people will advertise that they have drugs, even on MySpace," he said. On the Internet, drug users know they can find illegally sold prescription drugs, and college students know to look online to buy their choice of drug rather easily.

"We're finding that a lot of the college students — what you would define as recreational users of drugs — are finding their dealers on the Internet," Phillips said. "So we use undercover operations to try to identify these people."

Phillips said one-third of all routine cases — those conducted outside the computer crime center — are tied to computers in some fashion.

It's become routine for law enforcement to conduct background investigations on the Net instead of pulling information from criminal history files as they used to do, Phillips said. "It used to be that we would gather background information off public records and look through investigative files," he said. "Now we are doing searches on the computer for articles or Web sites that may contain information that gives us a little more insight into the suspect."

Criminals and crimes have remained much the same over the decades. What has changed is the way crimes are initiated and the way evidence is being collected.

"We still get the same old crime, but we're finding that in all investigative focus areas the computer has made a connection — whether it's a homicide where an e-mail threat was sent, or some communication, drugs users on MySpace, text messaging from cell phones or e-mail to hook up a drug deal to financial crimes," Phillips said. "There are tons of records on the Internet."

Not-So-Perfect Crimes

In one Florida case, the crime was painfully obvious, but it took computer know-how for the police to present the evidence in court. When a Florida man discovered his wife had been chatting online with another man, his anger was so explosive that he shot both the wife and the hard drive of the computer she was chatting on.

Luckily Phillips and his investigators were able to retrieve vital information from the hard drive to piece together the story and show in court how the Internet chats provoked a raging fight, then a murder.

Police say certain criminals tend to be more forthright with their criminal exploits on the Internet. For instance, prostitutes are rather brazen about advertising on the Internet and most stalkers aren't shy. But drug dealers tend to be a little sneakier.

"For drugs, it's usually not that straightforward, somebody usually tips us off — 'Hey this guy's got a MySpace account and he's offering to sell,'" Phillips said. "We'll contact him and sure enough, he'll offer. With stalking cases, we're finding they'll post what they're doing on blogs and various other sites, go into chat rooms and complain about the person. I don't know what it is about stalkers, but they're typically loud about it."

Though law enforcement is gravitating to the Internet, it's not as quick and as widespread a migration as Shipley would like to see. He said in an age where people — both lawbreakers and potential crime victims — are willing to post personal information at will, law enforcement should spend even more time on the Internet analyzing that data.

"It's one of those things that law enforcement needs to understand more about and how to get that information and collect it for the purposes of furthering their investigations," Shipley said. "There's a lot of information out there that could be gleaned if officers were actually able to do it, but they don't."

The reasons why law enforcement hasn't fully embraced the Internet vary.

"I would say that sometimes there is a viewpoint from leadership that they just don't place emphasis on the technology aspect of investigations," Stella said.

Another issue is the lack of resources for law enforcement to get the training they need. Many of the younger officers are as familiar with the Internet as they are with their squad car. But they still have to learn the intricacies of finding and processing electronic evidence.

"Even if you find [evidence] surfing the Internet, you still have to identify the suspect and you ultimately have to identify where that evidence is," Hopper said. "Is it on a server? Ultimately you have to show who was behind that computer."

While the NW3C offers free training courses, cops nowadays have trouble finding money to pay the airline ticket, hotel and per diem for two days, Hopper said. "The funding that was available to state and local law enforcement a few years ago isn't there," he said. "COPS [Community Oriented Policing Services] funding has been cut dramatically and the [Iraq] war, truthfully, has affected everybody so that funding isn't available anymore."

Another training challenge is that online policing requires continuing education, Hopper said. "Chiefs and sheriffs, a lot of them recognize this but I don't think the vast majority of them do. It's evidence that is there. It's not on the horizon and they are going to have to deal with it. Part of the problem is the technology changes weekly and because of that, the training has to be continual. You can't send a guy to one computer class and then be finished with the investment."

Community Partners

Because Stella couldn't get overtime hours from his department to devote to online policing, he turned to the community. He found a group of parents on MySpace who offered to help. The group posted pictures of themselves when they were youngsters to see if anyone out there would bite. Someone did.

"If there's a small agency that doesn't have the resources and they are willing to try something like that, it's one of the alternatives," Stella said. "The bottom line is it's sheer numbers. There are not as many cops as there are children and offenders on the Internet."

The Charlotte County Sheriff's Department has an officer sitting at the computer surfing the Internet for two or three hours every day. It's a program that started with officer training in 2006; officers began working from their keyboards in 2007. DePersia is one of those officers and has taken several courses from the NW3C. So far he's done most of the online surfing and left the forensics to other officers with more training.

"I've done a lot of the law enforcement stuff, and they help with the more technical stuff," DePersia said, adding that as he gets more training, he'll be able to participate more in the "knock and talk" procedure. That's when police use the Internet to form reasonable suspicion that someone is doing something they shouldn't be, and take the next step to investigate that person's computer.

Police use special software to scan a suspect's hard drive for photos or other evidence. The day *Government Technology* talked to DePersia, the Charlotte County Sheriff's Office arrested a man who had been posting child pornography on the Internet.

Not in Your Backyard

One of the difficulties with confronting Internet crime is the jurisdictional issue. It's common for residents to be victimized by someone far outside their locale. That creates hassles for law enforcement. But Charlotte County doesn't yield to crooks preying on locals outside the county.

"If we have to, we'll work with other agencies," DePersia said. "We've worked with the local counties." DePersia mentioned one case where a Sarasota, Fla., resident was preying on Charlotte County residents. The two counties collaborated and the man was detained.

But many agencies avoid chasing out-of-towners, Shipley said. "Some of the traditional things that have been done in the past, stings like law enforcement has traditionally done in burglary and white collar crimes, can be done on the Internet. They're just not being done as a matter of course because the Internet is so broad and agencies have this fear that, 'I'm going to get the criminal who's not in my town.'"

Police in Nevada County, Calif., **logged onto MySpace** to investigate a rapist by viewing his page and reading his habits.

Shipley said jurisdictional challenges can be overcome if agencies are willing to collect the evidence properly and work with the necessary federal agencies. Again, this is where training comes into play.

"People who are involved in cyber-investigations — and everybody should be — should have some kind of continuing training," Hopper said. "And guess what? Police departments do that; there isn't a police department out there in the United States that does not require some level of annual refresher training. Cyber-training just needs to be added to that list." GT

Social Scene Of these major social networking Web sites, MySpace had by far the largest number of unique visitors as of March 2006.

WEB SITE	UNIQUE VISITORS (IN MILLIONS)
MySpace.com	41,889
Facebook.com	12,917
Xanga.com	7,448
LiveJournal.com	4,047
Yahoo!360°	3,614
MyYearbook.com	3,613
Hi5.com	2,609
Tagworld.com	2,275
Tagged.com	1,668
Bebo.com	1,096
Friendster.com	1,066
TribeNetworks Inc.	871
43Things.com	661
Sconex.com	372
Total Internet Audience	**171,421**

SOURCE: COMSCORE MEDIA

GOVERNMENT TECHNOLOGY'S

WAYBACK MACHINE

Revisiting 20 years of *Government Technology* magazine.

GOVERNMENT TECHNOLOGY

MANAGING STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE

FALL 1987, NUMBER 1

State's JobNet Goes On Line

High Tech Crime Control

Trial By Fire

1987

Twenty years ago this fall, *Government Technology* published its first issue. Back then the magazine looked much different than it does today. In those days, *Government Technology* was published on now-yellowing newsprint with a layout reminiscent of old daily newspapers — lots of text and minimal art. Still, many attributes of that first magazine are evident in the current edition. The masthead, with its familiar blocky font, is virtually unchanged, as is the magazine's characteristically large size — though early issues were even larger than the one you're reading right now.

Over the next few months, we'll look back at some of the news, technologies and products of days gone by. We'll even follow up on some of those long ago predictions of things to come and see how they stack up against how things turned out.

So, to kick off our trip down memory lane, what better place to start than the premiere issue of *Government Technology* — from the fall of 1987.

BY CHAD VANDER VEEN | TECHNOLOGY AND POLITICS EDITOR

1 Our lead story in that first issue ran with the headline, *State's JobNet Goes On Line*. Yep, we spelled it "on line" — two words, though later it's spelled as a single word — a testament of sorts to the rapidly changing and confusing technology of the time. The story, about Washington state's new automated job matching and placement system, opened with a paragraph that, with only minor changes, could easily be in the issue you hold in your hands:

Today's technologies seem to become obsolete the day after they are introduced. So, one can imagine the concern of the Washington State Employment Securities Department when, in the early 1980s, they realized they were saddled with a manual delivery system that was designed during the '50s and '60s.

2 Other stories recall a time of revolutionary transition, such as: a news item about Texas' purchase of several hundred Packard Bell computers with XT and AT processors, and a report on government employees using laptop computers affording them easy, remote access to data while in the field. All an employee had to do was plug the laptop "into an RS32 port and upload data from strategically placed roadside boxes."

WAYBACK FACT

In October 1987, the saga of baby Jessica, the infant who became trapped in a Texas well, transfixed the nation. Days later, the 58-hour ordeal was forgotten as Black Monday decimated the investment portfolios of millions of Americans. Shortly afterward, the Dow rebounded, adding insult to the injury suffered by those who lost thousands.

WAY BACK FACT

In the late '80s Mikhail Gorbachev's economic program of perestroika (restructuring) began in the Soviet Union. But when combined with his glasnost (transparency) policy, perestroika initiated the eventual collapse of the Russian economy. The Chernobyl meltdown and the conflict in Afghanistan aided the nation's demise. Though Russian troops began withdrawing from Afghanistan in 1988, the nation's government and economy were in a tailspin.

3 One of the most striking aspects about that first issue is not what is covered but what is missing — specifically, one single word: Internet. There is a lot of talk about networks, electronic mail and other online (or "on line" or even "on-line") applications, but no mention of what has become so pivotal in all our lives. In fact, an entire feature on local area networks has nary a mention of the I-word.

Government Technology purchased its first IBM PC in the mid-1980s. The device boasted a whopping **5 MB hard drive and cost $10,000 used.**

WAY BACK FACT

There were many other notable events in late 1987 and early 1988. NASA awarded contracts for the never-built Space Station Freedom; **Sonny Bono** was elected mayor of Palm Springs, Calif.; and Americans were astonished by Aloha Airlines Flight 243 — when much of the top half of the aircraft's fuselage was torn off at 24,000 feet — remarkably only one person died.

1988

4 Flipping through the first few issues, one can't help but notice the ads. There's a full-page ad for something called the VideoShow — a cryptic device that was apparently part slide projector and part VCR; an ad for high-end dot matrix printers; and one displaying a hardware/software combination called MORPHO used for automated fingerprint identification.

5 In our second issue, more stories lent credence to the old axiom that the more things change, the more they stay the same. For instance, the February 1988 issue included warnings of PC security problems, disaster recovery projects and, already, a phrase everyone in government is all too familiar with — "doing more with less."

WAY BACK FACT

Remember when presidential candidates used to announce their candidacy when it was actually election season? In 1987, Jesse Jackson and Pat Robertson launched moderately successful campaigns. Jackson even beat eventual Democratic nominee Michael Dukakis in several primaries. Republican George H.W. Bush hammered future Pepsi and Viagra pitch-man Bob Dole on Super Tuesday.

Not surprisingly, the history of *Government Technology* magazine mirrors the history of the public sector at the dawn of the e-government era. It's a story of people trying to make their way in a strange, new world. There are tales of great success and of abject failure. We highlighted leaders who took technology by the reins and others who let technology drag them down. It's a story of courage and confidence, as well as uncertainty and doubt. But one thing's for sure; it's been a long, strange trip. And over the next few months, we'll relive it together. GT

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BY **SHANE PETERSON** | ASSOCIATE EDITOR

The story behind California's **battle to re-engineer tax filing.**

Ready. Set. Showdown.

It's the little things that cause big trouble.

A California agency created an unusual, new method of tax filing for state residents with extremely simple returns. Normally a state agency wins acclaim for taking a fresh approach to streamlining transactions with its constituents.

Not so in this situation.

Instead, the new filing method, called ReadyReturn, sparked an intense battle between the state's tax agency and the California Legislature. ReadyReturn ignited an equally heated lobbying campaign to kill the program — a campaign masterminded by manufacturers of tax preparation software, who argued that ReadyReturn unfairly competed with their products. And taxpayer groups questioned whether California's tax collector should also serve as a tax preparer.

The fight didn't end until December 2006, and state lawmakers nearly succeeded in killing ReadyReturn. But a last-minute, unanimous vote by the tax agency's governing board defied the Legislature and spared ReadyReturn from the executioner's ax — at least for one more year.

With the long-term outcome still uncertain, California's continuing ReadyReturn drama illustrates the upheaval created by innovations that challenge the status quo.

Trouble Brewing

The California Franchise Tax Board (FTB) administers two of the state's major tax programs: the personal income tax and the corporation tax. In February 2005, the FTB announced the launch of the ReadyReturn pilot for the 2004 tax year, stirring immediate controversy.

The ReadyReturn process itself is straightforward. For citizens with the simplest tax returns — those with wages earned from a single employer, no dependents and no deductions — the FTB uses income data from employer W2 forms to calculate income and the tax owed, then sends a completed tax form to taxpayers who elect to participate. The service is offered for free to qualified residents.

By offering ReadyReturn, the FTB put itself in a novel role — a tax-collection agency would prepare income-tax returns for certain taxpayers. This dual role sparked heated debate, via opinion pieces in newspapers throughout the state, over a tax agency taking this unprecedented step.

Critics contended that ReadyReturn had conflict of interest written all over it. Supporters countered that the program removed unnecessary mystery from the income-tax process.

The FTB's premise for offering the ReadyReturn service was simple, said Steve Westly, California's state controller from 2003 to 2007.

Because the FTB receives personal income information from employers via W2 forms, Westly said, the agency has all the necessary information to fill out an income-tax return for the taxpayer and perform income-tax calculations on that return.

The FTB mailed the completed returns to approximately 50,000 taxpayers selected to participate in the ReadyReturn pilot. The taxpayer could either ignore the invitation and prepare his or her own tax return; verify the information on the completed return, sign it, and return it to the FTB; verify the information on the completed return, then visit the FTB's Web site to electronically file the return; or make modifications to the form.

Westly supported ReadyReturn because it fit his vision of how state government ought to operate, and it removed a layer of complexity from the state's income-tax system.

"I said when I ran for office that I was going to bring technology to state government in California," Westly recalled, "and I was going to bring technology that would be not only cost-effective, but would help improve people's lives."

Before being elected to office, Westly held a series of executive-level positions at Internet-commerce pioneer eBay and was a founding executive of the company in 1997. Technology also played a central theme in his campaign for controller.

The strongest support for **ReadyReturn** comes from citizens under 30 and those who use storefront tax preparers such as H&R Block, according to a David Binder Research survey.

When the initial idea for ReadyReturn surfaced, Westly said he spoke with Joseph Bankman, a leading tax law scholar and the Ralph M. Parsons professor of law and business at Stanford Law School. He said Bankman compared the concept behind ReadyReturn to how property taxes are collected in California.

When property-tax time rolls around every year, assessors do not send homeowners a stack of tax tables and a complicated form and ask them to calculate their own property taxes.

"Assessors say, 'OK, you live at 'x' address. The house is assessed at 'x' value. We know that value. We know where you live. We know what the multiplier is, and here's how much you owe,'" Westly said. "You don't fool with anything. You get it, and you pay the tax."

Of the 50,000 people who were invited to use ReadyReturn, 23 percent, or 11,620 taxpayers, opted to take part in the pilot, according to an FTB report.

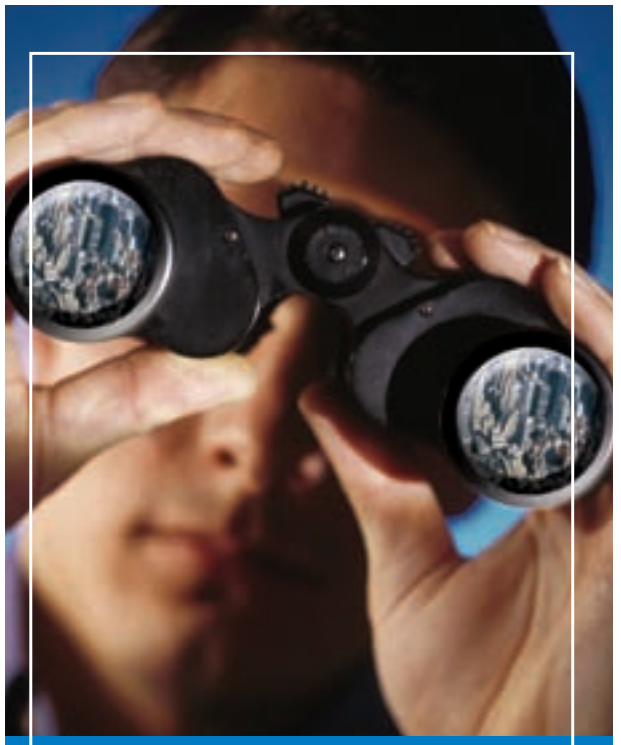
Participants were surveyed and gave the service glowing reviews — 98 percent of those who used ReadyReturn to file a 2004 tax return online and 97 percent of taxpayers who used the service to file paper returns said they would use the service again, according to the FTB's report.

Participants also expressed strong opinions on whether it's government's role to provide such a service — 95 percent of taxpayers who used ReadyReturn to file a 2004 tax return online and 83 percent of taxpayers who used it to file a paper return said ReadyReturn was a service government should provide, the FTB's report said.

In mid-2005, the FTB's governing board voted unanimously to expand the program

Steve Westly, former state controller of California, advocated bringing technology to state government.

PHOTO BY KRIS PFEIFER



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in 2006 for the 2005 tax year — announcing plans to place an invitation to participate in ReadyReturn in 540 2EZ tax booklets, which reach approximately 800,000 taxpayers. The FTB reckoned that ReadyReturn's second year would attract 30,000 participants — just under three times the number of users in the pilot.

But as ReadyReturn gained momentum, opponents of the plan shifted into high gear.

PHOTO COURTESY OF CHRISTOPHER SEWELL

Intruding Government

Republican men from Southern California registered the strongest opposition to ReadyReturn, with **61 percent** against the idea, according to the David Binder Research survey.

The concept of a government tax-collection agency calculating and preparing income-tax returns, even the most basic of returns, stoked plenty of fires, and the FTB's decision to expand ReadyReturn prompted intense opposition.

Groups such as the California Chamber of Commerce, the California Taxpayers' Association and the Computer and Communications Industry Association (CCIA), joined with private-sector tax-preparation firms such as Intuit and H&R Block to fight ReadyReturn.

Their argument: ReadyReturn represents an unwarranted and unnecessary intrusion into the private sector.

"It's taxpayer-funded competition into a sector where private industry is providing outstanding services and solutions for consumers," argued Rob Stutzman, a principal at Navigators, a firm that bills itself as specializing in issues management, with offices in Washington, D.C., Sacramento, Calif., and Tallahassee, Fla.

When contacted for comment on this story, Intuit, a high-profile critic of ReadyReturn, referred *Government Technology* to Stutzman.

ReadyReturn is unfair, said **Rob Stutzman**, a principal of Navigators, because it's taxpayer-funded competition against the private sector.

One private-sector service that's very similar to government programs such as ReadyReturn, he said, is the Free File program, which offers free federal tax return preparation and e-filing for those earning $52,000 or less. Approximately 21 states participate in the Free File Program.

The program, which debuted in 2003, is a partnership between the IRS and the Free File Alliance, a group of private-sector tax software companies.

Intuit plays a big role in Free File, along with other software providers, he said, and to ask these companies — which have created significant software innovations to simplify tax-preparation for consumers — to compete with ReadyReturn is an unnecessary step.

"It's the government coming in and competing, for really no good reason," he said. "It's not as if there's an absence of adequate level of service in this sector. There's certainly not a need for it. It's certainly unfair for these companies to have to confront that type of competition."

Given the lack of a practical need for ReadyReturn, he said, opponents question the motivation for governments to launch such programs.

"We think there are some reasons that are not officially spoken to in the motives of the proponents of programs like ReadyReturn, or even the Franchise Tax Board itself," Stutzman explained. "They may be doing it to optimize, or increase revenue.

Timeline

August 2004: Franchise Tax Board staff is directed to implement a pilot for "pro forma" tax-return filing.

February 2005: The California Franchise Tax Board announces the launch of the ReadyReturn pilot for the 2004 tax year.

April 2005: The FTB said more than 1,350 taxpayers used the ReadyReturn program since its mid-February launch.

April 2005: The final number of participants in the ReadyReturn pilot was 11,620, according to the FTB — 5,610 used ReadyReturn to electronically file tax returns, and 6,010 used ReadyReturn to file paper tax returns.

June 2005: A unanimous vote by the Franchise Tax Board approves ReadyReturn's expansion.

Feb. 2006: Former Assembly-member Dario Frommer introduces AB 2905 to make ReadyReturn a permanent service offering.

2004 2005 2006

"If that's the case," he continued, "that's certainly a very regressive tax-conformity program on behalf of the government in that it's targeting filers at the lower level at a time when, in the FTB's instance, they have a shortage of auditors to go after scofflaws at the higher end of the income level."

This argument proved extremely successful in the California Legislature, especially with Democratic lawmakers, Stutzman said, and is why the Legislature didn't act to make ReadyReturn a permanent program.

Westly freely acknowledged that perhaps the biggest reason for starting ReadyReturn was to draw people into the tax system. Of the nearly 12.5 million tax filers in California, approximately 800,000 people aren't filing returns.

However, Westly offered a different rationale for drawing taxpayers into the tax-collection system.

"A few of these are high-end scofflaws, but a lot of them are immigrants or non-English speakers or poor folks who just didn't know they owed," Westly said. "The point is to make it easier for those people to do their taxes, to let them know they owe, and to bring them into the system.

"Over time, that is a smart thing for any democracy to do — to make sure you get everybody started on their responsibility in a democracy, which is to pay their fair share."

Since government makes the public pay taxes, government should make the tax process simpler, said **Dario Frommer**, former California assemblymember.

Into the Lion's Den

The FTB needed to introduce a bill in the Legislature to change California statutes to make ReadyReturn a permanent FTB service, and to secure funding for the program.

Assuming the bill passed, it would then need Gov. Arnold Schwarzenegger's signature to become law. Though governors can be capricious, it's fair to say the bill at least had a fighting chance with Schwarzenegger.

The director of the California Department of Finance, who's appointed by the governor and sits on the FTB's governing board, voted with the other two members to expand ReadyReturn. If the governor was inclined to put the kibosh on ReadyReturn, a "no" vote from the director of finance would have signaled the governor's disapproval.

In February 2006, the first Legislative action regarding ReadyReturn came in the form of AB 2905, introduced by former Assemblyman Dario Frommer, a Democrat who represented parts of Los Angeles.

Frommer said ReadyReturn is important to state government because the program helps tax returns get filed more quickly and because it reflects the importance of government adapting how it interacts with its customers.

March 2006: The Federation of Tax Administrators announces that the California Franchise Tax Board won the 2006 Leon Rothenberg Award for Taxpayer Service and Education for the ReadyReturn program.

May 2006: AB 2905 is allowed to go inactive by Dario Frommer after the legislator realizes he can't get enough votes to move the bill through the Assembly.

July 2006: Another Frommer bill, AB 1046, goes through a "gut and amend" in a Senate committee to transform the bill into a second attempt to make ReadyReturn permanent.

Nov. 2006: AB 1046, the legislation authorizing ReadyReturn to become a permanent program, is allowed to die by the Frommer.

Dec. 2006: At a Franchise Tax Board meeting, the governing board unanimously votes to continue ReadyReturn, after first obtaining legal opinions that the FTB has the authority to administer ReadyReturn without needing legislative approval.

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> "It's taxpayer-funded competition into a sector where private industry is **providing outstanding services** and solutions for consumers."
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> **Rob Stutzman,** *principal, Navigators*

"Taxes are never fun, and we're not going to make it fun," he said. "But we can make it easy for people, encourage them to get their stuff in on time and, if they have a refund, get it to them much faster."

The bill, which was sponsored by Westly, would have made ReadyReturn a permanent FTB service offering. The bill made it out of committee hearings, but Frommer pulled the bill when it became apparent he wouldn't get enough votes from the Assembly for it to pass.

AB 2905 attracted plenty of opponents, including the American Electronics Association, the California Chamber of Commerce, the California Taxpayers' Association, the CCIA, the Small Business and Entrepreneurship Council and TechNet.

After AB 2905 was pulled in May 2006, another Frommer bill, AB 1046, underwent a "gut and amend" in a Senate committee in July. That action transformed the bill, previously called the "Earthquake Safety and Hospital Preservation Bond Act," into another attempt to make ReadyReturn permanent.

"I must say I was surprised at the opposition," Frommer recalled, "particularly when you consider that the people who were eligible for ReadyReturn are not the type of people who are going to use the prepackaged tax programs that are commonly sold."

Frommer said AB 1046 ran out of time, and he wasn't sure if he could get sufficient votes to pass the bill in both legislative houses before the 2006 session ended. He let the bill become inactive.

Intuit, maker of TurboTax software, spent significant money lobbying against AB 1046 and ReadyReturn — as much as $500,000 over two years, according to extensive newspaper coverage of the conflict.

The fight did get interesting.

In May 2006, while AB 2905 was still alive, the CCIA released results of a statewide poll showing widespread opposition to ReadyReturn. According to that poll, 81 percent of California taxpayers would trust an independent tax preparer over the state agency to prepare their taxes, and 86 percent of taxpayers would choose to do their taxes themselves instead of participating in ReadyReturn.

Intuit representatives also testified regularly against ReadyReturn at legislative committee hearings, questioning the ability of the FTB to calculate taxes for taxpayers, whether the program was an invasion of privacy and raising the issue of government competition in an area that's already served by the private sector.

"The opposition on this was," Frommer said, pausing, "you know, I'm out of office so I'm just going to say it now: They were unscrupulous. The type of claims that were made about the program and the misinformation that was put out about who it affected and who could qualify for it and what it would do, were just beyond the pale.

"I've got to tell you, and I've been in government for about 20 years, I've never seen anything like this — the kind of misinformation campaign that was directed by Intuit and by its lobbyist in Sacramento. It really made a mountain out of a molehill, but obviously it was successful. There were enough legislators who peeled off on the issue and got nervous about it that we couldn't move that legislation in either house."

Of course, the view from the other side is a bit different.

"There was no misinformation," Stutzman said. "Shifting the government to the dual role of tax collector and tax preparer is an issue that should concern all citizens, and the evident negative reaction to that concept is why the legislation died."

Boardroom Coup

The legislation was needed because ReadyReturn was facing a time bomb. Intuit had persuaded the Legislature to drop a poison pill into the 2005 budget bill in the form of an amendment to terminate ReadyReturn after the 2005-2006 fiscal year.

With the two bills withering on the legislative vine, ReadyReturn looked close to death. But then-Controller Westly engineered a stunner.

After securing opinions from the state Office of the Legislative Counsel (which includes the lawyers who draft bill language) and the FTB's general counsel, during his last meeting as the chairman of the FTB Westly and the two other board members — John Chiang and Mike Genest, director of the state Department of Finance — voted unanimously to circumvent the Legislature and revive ReadyReturn. The program would now be funded solely by the FTB. "We had this climactic meeting in December [2006], where the governor's representative, wanting, I think, to be noncontroversial, said, 'Well, let's just postpone this vote one more time,'" Westly recalled. "I said, 'No, this is my last meeting. We've already postponed it twice. Let's get this going.'"

64 percent of voters surveyed by David Binder Research called ReadyReturn **"risky and a waste of taxpayer dollars."** 81 percent said they trusted independent tax preparers more than a state agency to calculate their taxes.

Gauging Interest

The California Franchise Tax Board surveyed taxpayers who were invited to participate in the ReadyReturn pilot for the 2004 tax year.

Of the taxpayers invited to participate in the pilot, 23 percent decided to use ReadyReturn:

90 percent of online users and **75 percent** of paper users stated that ReadyReturn made them **feel less anxious** about filing their tax returns.

Non-participants listed a variety of reasons for not choosing to use ReadyReturn:

29 percent reported that they didn't choose ReadyReturn because they prefer to use a tax preparer

9 percent said they believed that using the Internet is not secure

11 percent acknowledged that they didn't feel comfortable receiving a pre-filled return

3 percent indicated that they prefer using a non-government e-file company.

SOURCE: FRANCHISE TAX BOARD, FINAL REPORT ON READYRETURN PILOT, 2004 TAX YEAR STUDY RESULTS

Chiang — who later was elected California state controller, replacing Westly — suggested returning to the Legislature to drum up more support, but Westly said he argued against the idea because of Intuit's success in lobbying the Legislature and blocking the bills to make ReadyReturn permanent.

"After a moment of real drama, we were able to get not one but both of these guys to go forward," Westly said, acknowledging that he felt confident in getting Chiang's support but wasn't certain he would get the support of Genest, who was the governor's representative on the FTB's governing board.

Westly said there was precedent for the support of the Department of Finance: Tom Campbell, who was director of the Department of Finance before Genest, strongly supported ReadyReturn. Campbell was a member of the FTB's governing board in 2005, and voted to approve the initial ReadyReturn pilot.

Regime Change

Chiang, who became state controller in 2007, is no stranger to the ReadyReturn battle.

Since 1997, Chiang has served as a member of the California State Board of Equalization, an entity that administers tax programs for California in four general areas: sales and use taxes, property taxes, special taxes and the tax appellate program.

Chiang also served as chairman of the Board of Equalization, and in that capacity, served on the governing board of the FTB. He, along with Westly and Campbell, voted to authorize the original ReadyReturn pilot.

Normally candidates vying for the state controller job aren't exactly front-page news during election season, but Chiang was targeted by Intuit and other tax-preparation-software companies because of his stance on ReadyReturn.

The companies contributed nearly $1 million to Chiang's opponent's campaign according to the *Los Angeles Times*, and the political contest made headlines up and down the state.

"I never thought I would get this much attention," Chiang said. "I didn't think [ReadyReturn] would cause electoral drama. I know it's been a significant public policy issue. Intuit and some others have been very, very concerned about any added benefit provided the Franchise Tax Board, in terms of taxpayer assistance."

Chiang recalled that the company put up a stiff fight when the FTB decided, several years ago, to add a calculator function to its Web site to assist taxpayers.

"I knew on that front that the [ReadyReturn] discussion would be challenging, but I didn't think it would cross over," he said, adding that ReadyReturn is on hiatus for the 2006 year because the FTB is upgrading the software to handle more users. "We do have the funding to operate ReadyReturn. We're taking [the money] out of the current budget of the Franchise Tax Board, and we hope to continue to do so in the future."

ReadyReturn isn't going away, and the Franchise Tax Board wants to expand the program, said **John Chiang,** California state controller.

The FTB is focusing on making sure the software can scale up to handle the approximately 1 million taxpayers who qualify for the ReadyReturn program.

Chiang said the FTB will operate ReadyReturn for "the foreseeable future" because it's a program that benefits the public, though he acknowledged that the Legislature could, during any session, try to block the FTB from doing so.

"We know there are some legislators who are strongly supportive of the program," he said, "but with the constant turnover in the Legislature, it's going to take frequent updating and education of the purpose of the program."

For the most part, Chiang said, ReadyReturn's most appealing feature to legislators is that it provides free tax assistance to individuals of modest and low income, and that the program helps foster "financial literacy" for the low-income demographic.

"When you think of the federal and state tax codes — there are 10 million words in the federal tax code, and there are 1.5 million words in the California tax code," Chiang said. "People are begging for assistance, and ReadyReturn is a great step forward for people to get assistance." GT

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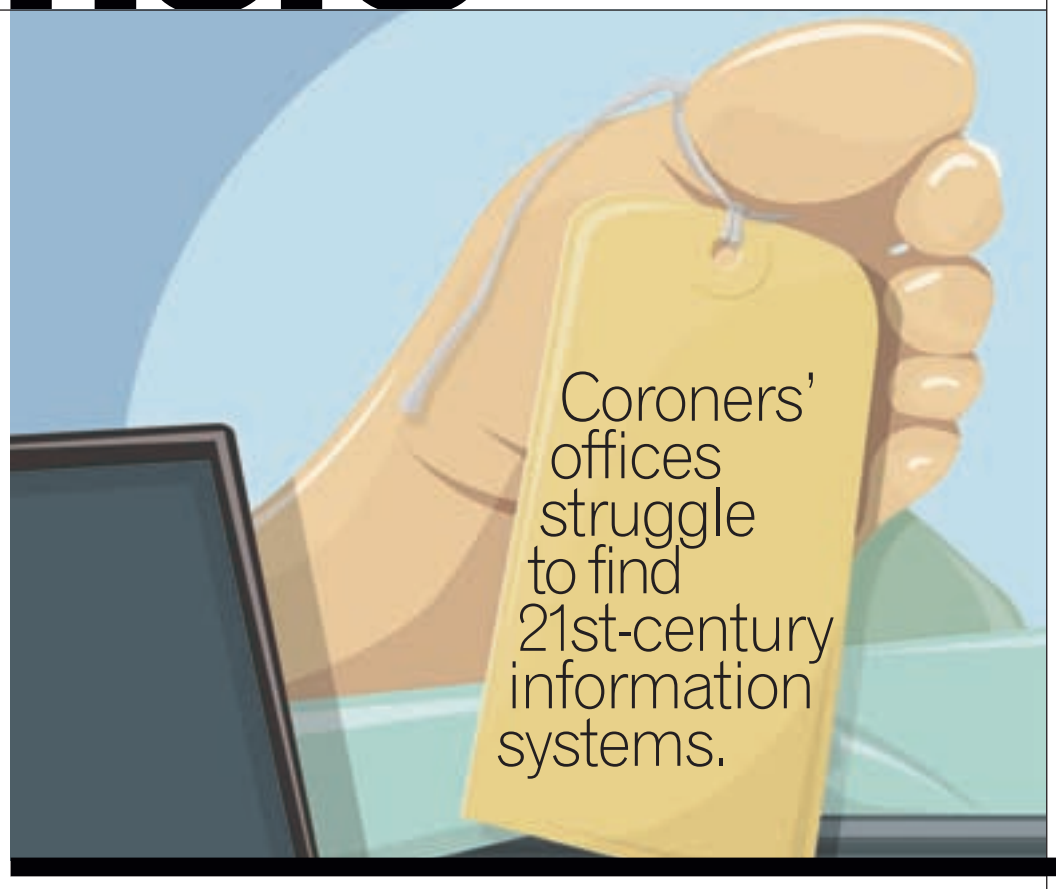


While the population in Kane County, Ill., grew, so did business at the coroner's office.

Though the county's population burgeoned by 27 percent during the 1990s, and by nearly 20 percent between 2000 and 2005, that growth wasn't matched by an increase to the 12-member coroner staff. Coroner Chuck West, a chief deputy, six deputies, three administrative assistants and an office manager processed more than 2,500 deaths and approximately 150,000 forms per year for the county.

Kane County's population is approaching 500,000 people, and it is one of the fastest growing counties in Illinois. When you add an antiquated database system — where data on each deceased person had to be entered separately on up to 15 forms — and the database's propensity to eat complete files, you have a recipe for long hours and lots of typing.

But that all changed when several vendors helped the office develop its own system — the Coroner's Office Automation System (COAS).

Out With the Old

The older system offered neither a way to generate reports nor draw statistics from the data because the database was decentralized.

Since there was no money to hire more personnel, West enlisted his IT staff two years ago to find a system to help eliminate some repetition in the processes of entering data into the many forms and issuing countless certificates.

Just about anything would've been better than the old FoxPro database that had outlived its welcome. "The older system was horrible, that's about the only thing you can say," West said. "It had been discontinued, and we weren't able to get any support for the last six years we used it. We'd lose records. If you'd enter something, the system had a tendency to erase whole case files."

That meant staff had to recover the paperwork associated with the erased files and re-enter data into the system. "We literally had to hand type 14 or 15 different documents for every single case," West said. "And we do about 2,600 investigations a year."

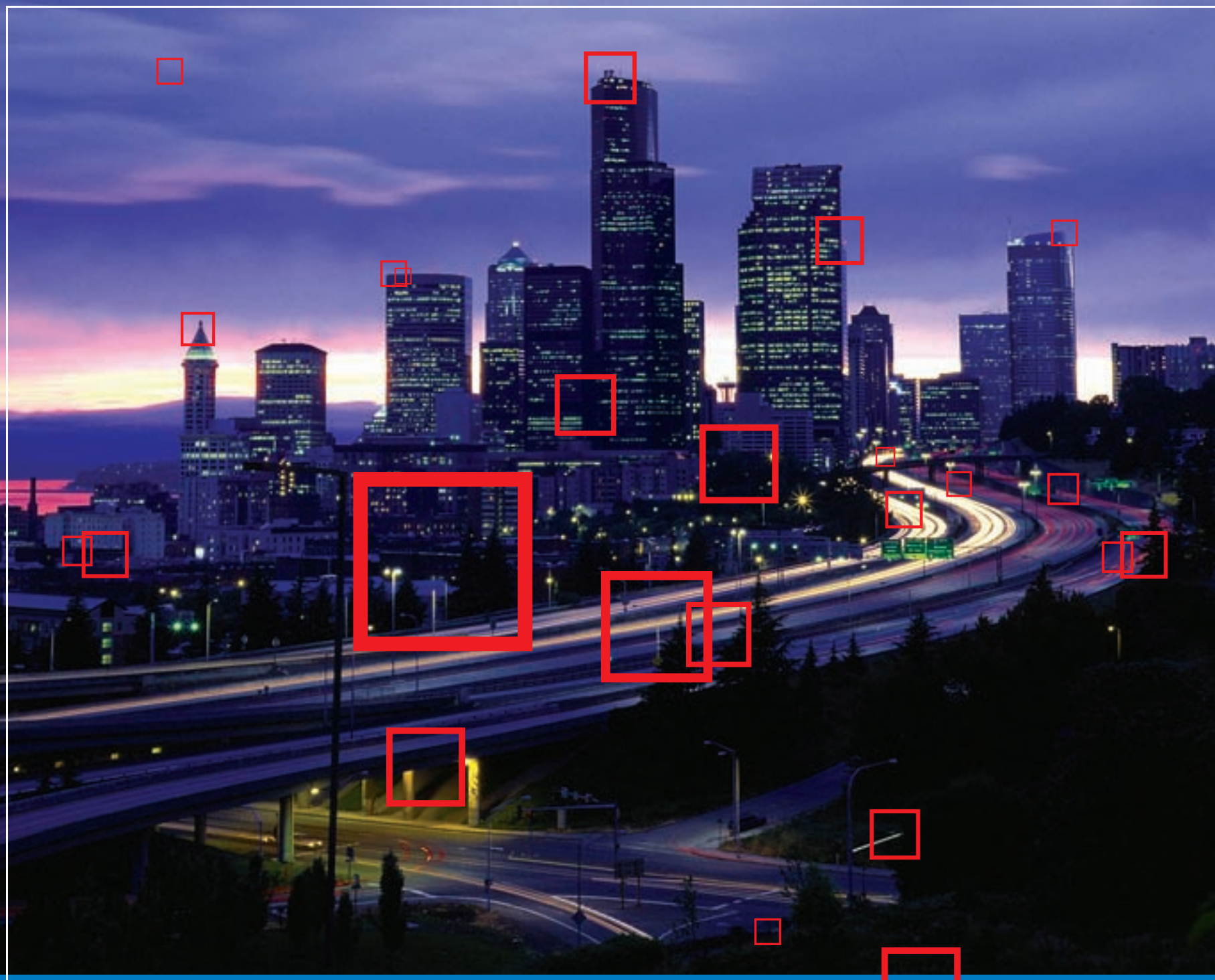
When a death occurred, the deceased was assigned a number, which a staff member would write down on a legal-sized piece of paper that contained other pertinent facts, such as name of the deceased or time of death, among other things. The information was typed into multiple forms and entered in the database, in which spelling and other errors were common because of the difficulty in reading someone else's handwriting.

Furthermore, West and the IT staff came up empty-handed in their search for a better system, which meant many coroners' offices were doing a lot of extra typing. It seems equipping county coroners' offices around the country isn't a top priority in government budgets, and consequently, there are few, if any, database programs addressing their needs. "That's why, when we talked to our IT department, they also did a search," West said, "and we talked to Business Systems and they went looking too, and couldn't find anything for us."

Staff decided to approach several vendors, including CDWG, to try to develop a system expressly for Kane County. "We could develop a system that would be useful to us, and from the perspective of the companies that got involved in it, it would be a potential product they could sell," West said.

The coroner's office ended up with a new system that revolutionized the way staff went about their daily business.

BY JIM McKAY | JUSTICE EDITOR



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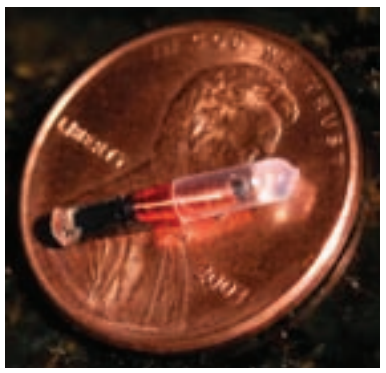
> "We **constantly** get calls from media on all of our cases, so by having **accurate access** to information, we can provide limited information to the media to get them off our backs."
>
> **Chuck West,** *coroner, Kane County, Ill.*

User-Centric Design

The Kane County Information Technologies Department and CDWG eventually joined with Ta-Kenset Research Laboratories, Toshiba, Dell and Verizon Wireless to develop the system that would change office operations.

"The IT department and CDWG are really the ones that pulled this together," said Diane Stredde, who, as office manager of the coroner's office, described the office's inner workings to CDWG and Ta-Kenset. "The people developing our program didn't know anything about how our office runs and what we need. It was my job to convey the needs of our office because there are no programs out there."

Another digital application — VeriChip's FDA-approved, human-implantable RFID microchip was used to help identify victims during Hurricane Katrina relief efforts. Although a difficult subject to discuss, the "always there" implantable identification helped local authorities and coroners' offices ensure families located deceased loved ones quickly and accurately.



From there, CDWG, the coroner's office and the IT department created a proposal. The result was the software development by Ta-Kenset and the donation of six Toshiba Portégé M200 Tablet PCs loaded with a digital form that lets deputies enter information immediately from the field and download it into the database.

Logitech contributed digital pens for staff to hand write information into the forms, and the database translates and uploads that information. Verizon donated wireless cards so the information could be uploaded from the field.

Though CDWG and Ta-Kenset developed the database, the other companies chipped in with equipment. Altogether, the coroner's office got about $140,000 worth of equipment and programming for free.

Before creating the database, West and his staff, along with the county's public safety committee, engaged in several roundtables with Ta-Kenset personnel to present a clear picture of what type of system was needed, according to Ta-Kenset CEO and Chief Technology Officer Michael Ford. "In addition, we took the opportunity to physically observe the staff, and walked through every step of their process to get a sense of how the input of data could be streamlined," he said. "The tablet PC interface had to function as closely to paper and pen as possible."

Ta-Kenset created a user-friendly interface, because coroner staff members were unsure if they could transition from the old methods of data entry to a digital format. "The project reinforced the importance of involving all stakeholders from the beginning," Ford said. "Our experience with government in today's environment has taught us that the fear of too much complexity — and horror stories from peers — is a true obstacle. We've found that technology intimidation is a fear factor that can be overcome with a user-centric design."

> "We literally had to **hand type 14 or 15** different documents for every single case. And we do about **2,600 investigations** a year."
>
> **Chuck West,** *coroner, Kane County, Ill.*

Testing the System

It took about a year to develop the database, and after three months of testing, COAS went live. During those three months, three deputies entered their cases into the new and old systems in the event something went wrong. The three-month pilot period was smart — the new system suffered from glitches that needed fixing, and data was sometimes lost.

Deputies inputting data into the system from the field or from home is a boon to the department and agencies relying on the office for information.

With the old system, information on deaths that occurred at night had to be handwritten on a special form, brought back to the office and entered into the database the next day. That meant family of the deceased, the media and funeral directors had to wait until that information was entered. Also, death certificates had to be hand typed, and if there was a mistake, they had to be completely redone.

The new system lets the office do what any coroner's office must — generate death certificates, cremation permits and burial permits. And now, instead of re-entering data for every form, staff enters the data once.

The time staff spends on each case has been cut in half, and service to funeral directors and others who rely on the coroner's office is greatly improved. "We do all forms of investigations, whether it's homicides or whatever, and a lot of them are high-profile cases," West said. "We constantly get calls from media on all of our cases, so by having accurate access to information, we can provide limited information to the media to get them off our backs."

In addition, deputies in the field can communicate with the office via the tablet PCs. "I can pick up all the information directly from my house if I want to so I can respond on the investigation," West continued. "It's a tremendous time saver and allows us to furnish more statistics for the county board, and for requests we get from attorneys, health organizations and the like."

The system hasn't been marketed yet, but that's fine with West, who's just happy to have it up and running in the coroner's office. "I'm just very thankful for all the effort and work on this. It sure has made things a lot easier for all of us all the way around." GT

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Synopsis: A look at how GIS helps Dover manage the NASCAR crowds.

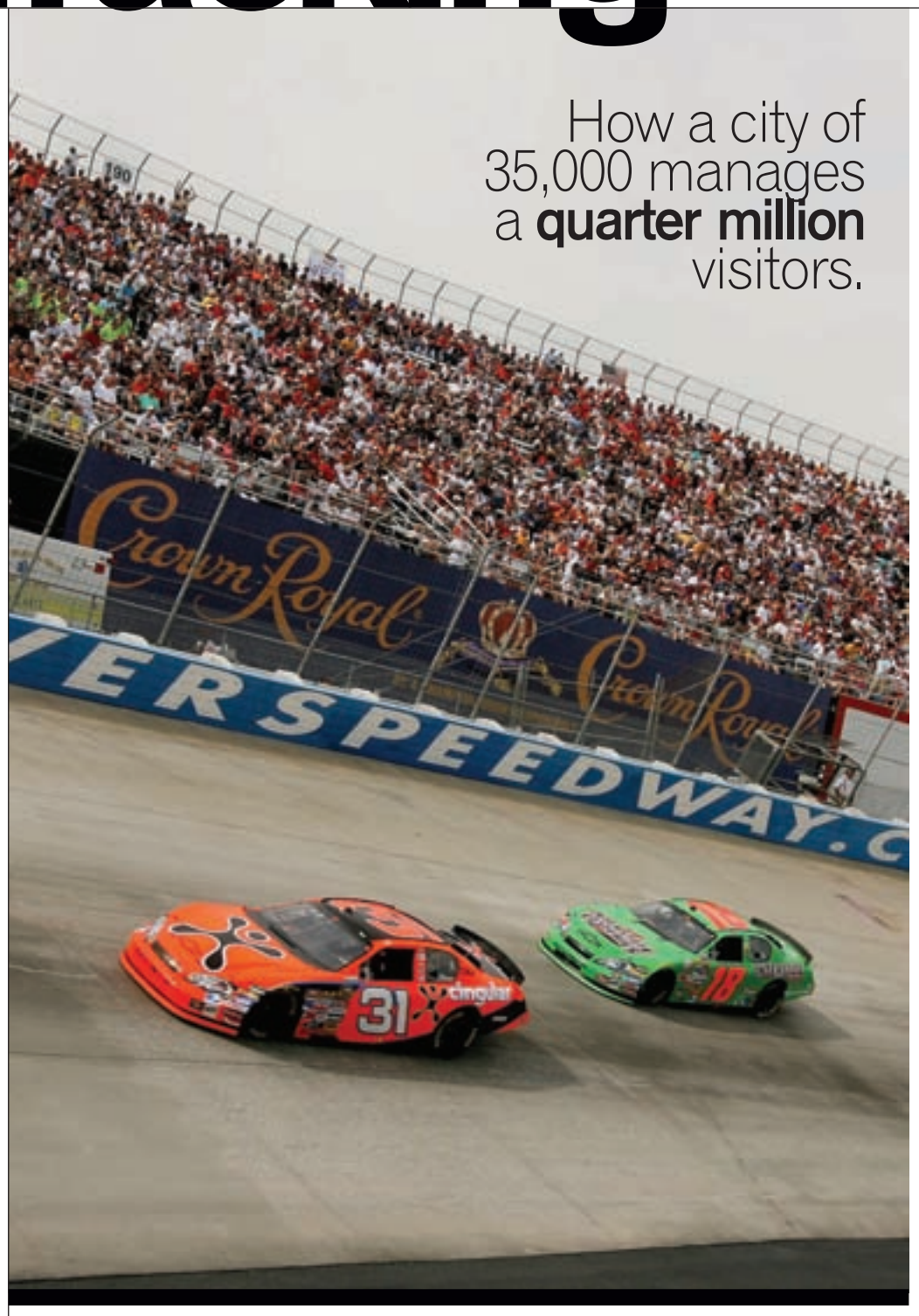
Jurisdiction: Dover, Del.

Technologies: ESRI GIS software, Trimble GPS receiver.

Race Tracking

state **local** federal

How a city of 35,000 manages a **quarter million** visitors.



BY CHAD VANDER VEEN | TECHNOLOGY AND POLITICS EDITOR

Twice a year, the small city of Dover, Del., is overrun by approximately 250,000 people. They come from all over the Eastern seaboard to spend five days in Delaware's capital, setting up temporary shelters everywhere. Parking lots become tent cities, and thousands of RVs rumble through the streets.

What sporting event transforms this small city into a weekend metropolis? Think high speed, high energy and a lot of left turns.

Every June and September, the Monster Mile at the Dover International Speedway is ground zero for the fastest growing sports spectacle in the nation — the National Association for Stock Car Auto Racing (NASCAR). NASCAR races draw a lot of fans: The track in Dover seats 140,000 spectators. That number doesn't include the additional thousands who fill the track's infield — the area the racetrack encircles.

For a city the size of Dover, public safety resources become severely overtaxed when NASCAR comes to town. Aside from the sheer number of people public safety personnel must handle, race attendees are more than festive. For years, first responders relied on antiquated methods for emergency management — everything from paper maps riddled with pushpins to driving an ambulance around makeshift campgrounds trying to find a reported injury. But in 2006, a few city employees took existing resources and transformed the way Dover manages race weekends.

GIS Test Drive

Dover Fire Marshal David Truax was looking for a change. He knew there was a better way to deploy his resources to protect and serve the throngs of NASCAR fans. So Truax contacted Mark Nowak, Dover's GIS coordinator, to see if they could devise a plan.

"He said he would like to see how GIS technology can help the race," Nowak recalled. "So I looked at what they had going when it came to their command post. Then I took tours of the

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different campgrounds. [We] drove through, and they showed me the problems and issues, and asked if GIS could help their planning. I told them it could."

Nowak explained that the core challenges faced by Dover public safety came from the campground areas. During NASCAR events, "campground" is a loose designation — it could be anything from a traditional facility with roads and spaces to a Lowe's parking lot stuffed haphazardly with racing revelers eager to display their enthusiasm. Patrolling and responding to makeshift camps is hard enough. Unfortunately there weren't many maps for most of the traditional campsites.

"There are multiple campgrounds that we have, traditional and nontraditional," Nowak said. "Traditional campgrounds are basically campgrounds out in the woods or a field, and they really had no mapping of them at all. If there was a phone call, or 911 got a call from someone saying they're in campground 10 … well, there could be 500 campers there."

> "If there was a phone call, or 911 got a call from someone saying they're in campground 10 … well, there could be **500 campers** there."
>
> **Mark Nowak,** *GIS coordinator, Dover, Del.*

> "This type of **technology** has really made things a lot **easier** for everybody."
>
> **Mark Nowak,** *GIS coordinator, Dover, Del.*

As the city's GIS coordinator, Nowak told the fire marshal he had some ESRI GIS software and some GPS-enabled hardware. Without having to purchase any additional equipment, Nowak began writing a mobile GIS application to help public safety officials improve their emergency response capability. Utilizing ArcPad software, a laptop computer and a Trimble ProXT GPS receiver, the fire marshal had detailed maps available to him that could be updated in real time with mission-critical information.

During the September 2006 race, the system was immediately put to the test when a camper vehicle exploded.

"At the last race," Nowak said, "a camper blew up because of a propane leak. When the fire marshal heard that over the radio, he was able to type in the name of the camp road the phone call came from, and it highlighted the camp road on his laptop so he knew where to go."

Additional incidents, such as an unfortunate fellow who stepped in hot grease, helped Dover public safety document and map troublesome areas. For future races, Dover police and fire will be able to better use their resources by assigning patrols to areas identified as historically more unruly or more prone to requiring emergency medical attention.

Shifting Gears

Given the adaptability of GIS, Nowak is finding he keeps coming up with new, useful ways to take advantage of the mapping technology. Using ArcReader, free ESRI software for viewing maps, Nowak built a tool for more effective deployment of ambulances.

"I published a GIS map to ArcReader, and [the fire department] was able to put it on their laptops," he explained. "One of the people in the fire department actually sat in his truck and was able to guide ambulances through the campgrounds to the problem areas. Before, they just had to drive around and listen for somebody yelling — which, late at night after they've been partying all day, is a pretty common occurrence. He was able to get faster ambulance response throughout the campgrounds."

The county E911 center is also asking Nowak for his GIS expertise. Nowak and his staff now share the county's mobile emergency command center. Using Nowak's GIS application, the 911 staff can pinpoint and map the location of GPS-equipped cell phones when the calls come in, enhancing response time.

Nowak has also been asked to start looking at nonemergency applications for his GIS system. A few of the more innovative uses he's come up with include mapping the established "scalper buffer" — a zone extending from the center of the racetrack one mile in all directions — where reselling tickets is prohibited. Now, if a report comes in that someone is selling tickets, the potential scalper's location need only be entered into the software to determine if it is a violation.

Similarly Nowak said they are working on applications to map licensed vendors and to keep campers from setting up too close to power lines.

"We want to keep expanding this and make it bigger, better and more useful for everybody," Nowak said. "With this new type of technology, people are excited to go out and use it. It's really made things a lot easier for everybody." GT

Before implementing GIS mapping, public safety agencies at the Dover, Del., International Speedway faced overcrowded campgrounds during NASCAR events and no detailed maps to help responders.

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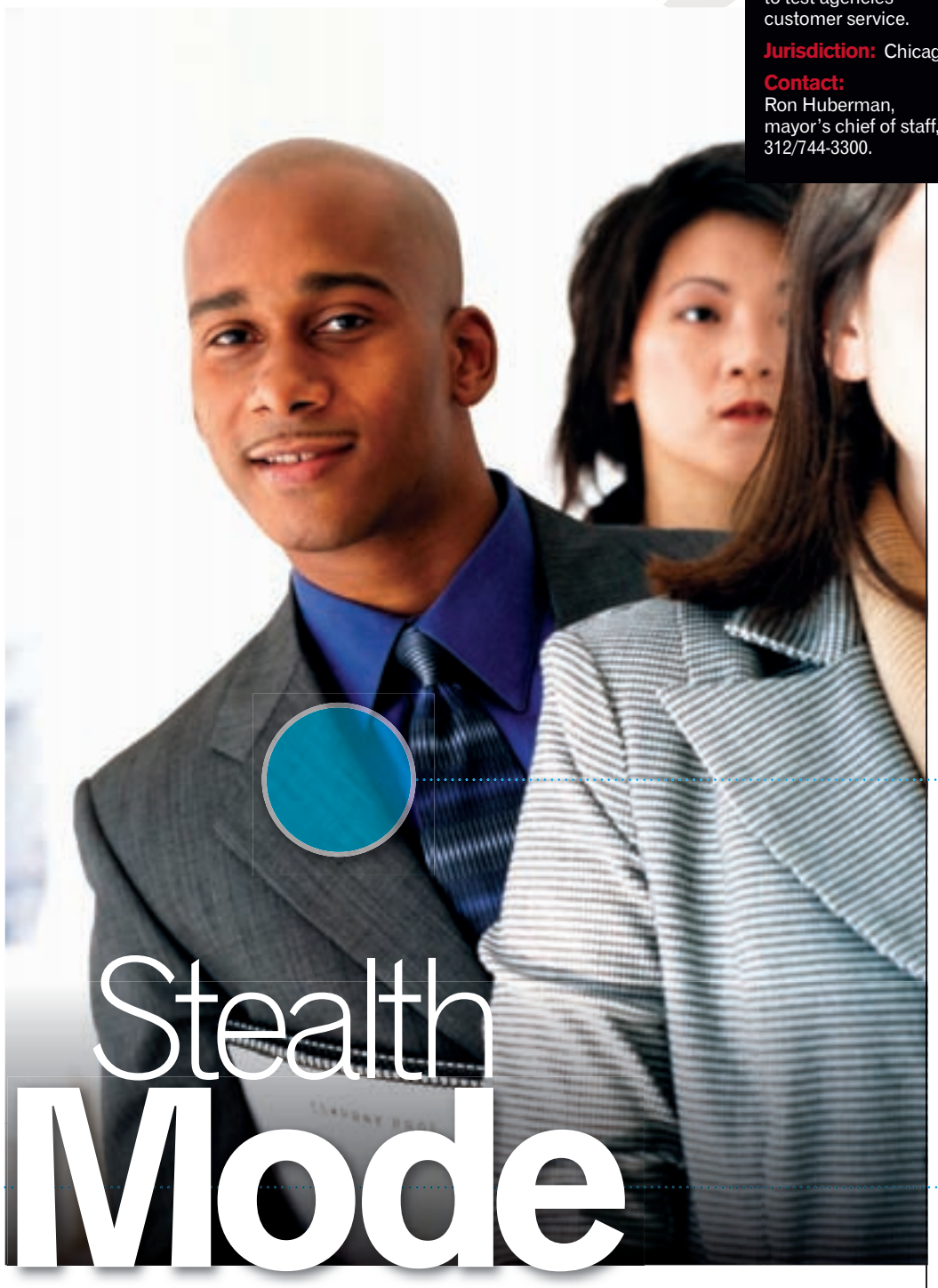
Synopsis: Chicago Mayor Richard Daley implements a secret shopper program to test agencies' customer service.

Jurisdiction: Chicago

Contact: Ron Huberman, mayor's chief of staff, 312/744-3300.

Chicago's secret shopping program keeps the city's customer service representatives on their toes.

city county



Stealth Mode

BY ANDY OPSAHL | STAFF WRITER

How often have you stood in a glacier-paced line at your local Department of Motor Vehicles office or traded curt remarks with one of its "customer service representatives" to resolve clear-cut, mundane business?

You may think, "My taxes pay this person's salary whether I get treated well or not. It's too bad governments don't use secret shoppers to keep workers in line."

Taking a cue from the private sector, Mayor Richard Daley launched a secret shopping program in late 2005, strictly for internal quality assurance purposes, that regularly subjects all city agencies to random secret shopping visits.

For example, a "customer" might mystery shop Chicago's 311 service to evaluate an operator's overall courteousness, helpfulness and response level.

Recruiting Shoppers

The initiative was an outgrowth of an 80-to 100-question review process the mayor already used for quantitatively measuring agency performance.

"We wanted a qualitative tool to ensure that in addition to doing things quickly [and] effectively, we did them in a user-friendly manner," said Ron Huberman, the mayor's chief of staff.

The mayor's office uses interns to do the secret shopping, lessening the costs of the program. Huberman said utilizing interns keeps the secret shopper staff fresh because of their regular turnover rate. The number of secret shoppers hovers at approximately 10 during fall and spring, but often jumps to 30 in the summer when the office has more interns.

"We put interns through training to understand what we want them to document and how we want them to evaluate their experience," said Huberman. "Then we send them out."

One secret shopper might approach an agency pretending to contest his or her water bill. A second shopper might attempt to seek social service benefits from another agency.

"We very carefully screen the interns for maturity to make sure we're getting ones with good judgment and observational skills," Huberman said.

"There is not a master tool that we use," he added, noting that shopping criteria are custom-designed for each agency. "Some things are standard to all secret shopper experiences. Was the staff being engaged, knowledgeable and courteous? If it's an online experience, was it clear and easy to interact with [agencies'] systems? Was the agency's facility clean? Was the signage appropriate? Was it well lit? Was it easily accessible?'"

One secret shopper spoke to *Government Technology* on condition of anonymity to preserve his effectiveness on the job.

He began secret shopping agencies in September 2005. Some assignments are quick three-hour tasks, he said, but others can consume three weeks of repeated calls to test for consistency. Occasionally he visits an agency and conducts exit polls of citizens' satisfaction with wait times and helpfulness.

The worst review he said he gave an agency went to the Department of Planning and Development (DPD). It was a long-term evaluation in which he made repeated calls with questions submitted by the department's commissioner.

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> "We were able to take the dogs out and run with them a little bit. We probably **would have adopted a dog**, **to be honest**, if it wouldn't have blown our cover."
>
> **Anonymous secret shopper,** *Chicago*

"There were certain things [the commissioner's office] wanted asked to see if the people serving as the residents' first line of communication were saying the right things," the shopper said. "We made phone calls from anonymous lines — usually cell phones or other noncity lines — into their offices and pretended to be developers or residents with questions about real estate issues or zoning issues."

He said the agency's main problem was excessive wait times for returned phone calls about various questions.

In its aim to better customer relationship management, **Westminster, UK,** uses mystery shoppers, as does the University of Westminster's library service.

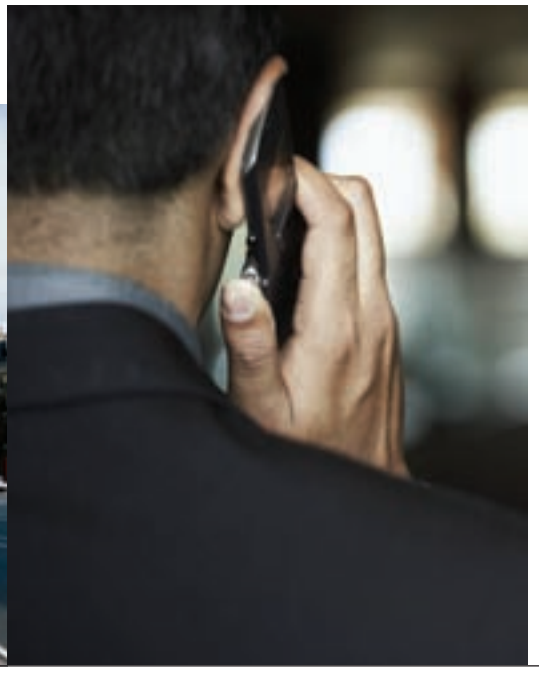
Facing the Music

Each intern completes a report and presents it personally to the agency's commissioner and deputy commissioner at that agency's routine performance review meeting. The room is usually filled with commissioners from other agencies, the shopper said.

If the intern reports unfavorable experiences, the agency submits a document detailing how it will ensure a higher rating on that point in the future. The secret shopper said presenting his report to the commissioner of the DPD was not the least bit intimidating.

"The upper management was so interested in what we had to say. We felt very important and comfortable," the shopper said. "They can't don a disguise and go in and see how things are going for themselves. They were very keen to hear what we had come up with."

The DPD commissioner streamlined the department's telephone customer service process as a result of his secret shopping review. "Now," the shopper said, "they have a handbook for how they're supposed to deal with citizens who call in."



Huberman said the secret shopping program initially received a cool reception from agencies. "The leadership teams in the departments were leery of it at first. They were afraid it was going to be a 'gotcha.'"

But the mayor's office warmed agencies to the concept by rewarding and recognizing employees who received rave reviews from the secret shoppers. And agencies can't access other agencies' secret shopping results, which keeps agency leaders from feeling targeted for embarrassment, Huberman said.

The secret shopper said he shops agencies roughly once a week. He expressed that the job is one of his favorites as an intern.

> "We made phone calls from anonymous lines — usually cell phones or other noncity lines — into their offices and **pretended to be developers or residents** with questions about real estate issues or zoning issues."
>
> **Anonymous secret shopper,** *Chicago*

"This was probably why we all wanted to intern here in the first place — to help the city become the best it could be."

The secret shopper said his best experience was at the Animal Care and Control Center in southwest Chicago. He and another intern posed as residents inquiring about adopting a dog.

"Everyone was very friendly to us and very helpful," the shopper said. "We were able to take the dogs out and run with them a little bit. We probably would have adopted a dog, to be honest, if it wouldn't have blown our cover."

Huberman said agency leaders now view the program as a valuable insight into how their departments appear to outsiders, and they request to be secret shopped regularly.

"It has grown into the culture of how we operate city government." GT

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Synopsis: The Central Phoenix/East Valley Light Rail Transit Project will use an intelligent traffic system to synchronize traffic lights and optimize light-rail speed.

Agency: Phoenix, Tempe, Glendale and Mesa, Ariz., METRO light rail.

Technologies: Traffic control systems that automatically adjust signals according to changing traffic patterns.

Contact: Pat Fuller, deputy project manager, Design and Construction, METRO light rail, <pfuller@valleymetro.org>.

state
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Trainspotting

New system gives light rail the green light at intersections without causing congestion.

BY JESSICA WEIDLING | STAFF WRITER

Just as a music conductor guides an orchestra, making interpretative decisions as to the tempo of a music passage, real-time intelligent traffic systems now help cities conduct light-rail and side-street traffic, resulting in a harmonious flow of transportation through bustling city streets.

Such technology can be used to regulate car commute times, increase the viability of light-rail systems and avoid the ever-growing problem of congested roadways.

A group of Arizona cities is working toward this end and plans to implement a "predictive priority" system for the Central Phoenix/East Valley Light Rail Transit Project — now under construction and set to open in December 2008. Valley Metro is the local agency responsible for public transportation in the area. Phoenix, Tempe, Mesa and Glendale created the nonprofit METRO light rail, under Arizona statute, to construct, design and maintain Valley Metro's light rail.

Predictive priority is meant to synchronize traffic lights to increase the smooth circulation of car and light-rail traffic. Phoenix's system balances the need to give priority to approaching light-rail trains — ensuring the fewest red lights for public transportation — without disrupting traffic flow, said Pat Fuller, deputy project manager of design and construction at METRO light rail.

"Without the system, the train wouldn't be competitive in regard to travel times with vehicles," Fuller said. "And we had to prove that we were able to compete with vehicles, otherwise people just wouldn't ride it."

The localized traffic intelligence system is based on complex communication networks — sensor networks to interpret characteristics of oncoming traffic, and mathematical and predictive algorithms that compute optimum settings for traffic light cycles.

Houston and Salt Lake City recently built light-rail predictive priority systems, but Phoenix's system will be more extensive because its 20-mile track snakes through major streets in Phoenix, Tempe and Mesa, requiring more intersections to be equipped with the technology.

System Design

Construction for the Central Phoenix/East Valley Light Rail Transit Project began in 2003 and is one of the largest infrastructure projects in Arizona's history. Fuller said engineers at the Traffic Signal Test Center in Phoenix have worked to perfect the predictive priority system since 2005. The system is 50 percent complete and was tested on live trains in March 2006.

The predictive technology gives light-rail traffic an edge, but not an automatic green light, because this would halt normal traffic flow, he said. Also, added side-street gridlock from more red lights would be counterproductive by encumbering the drive to the light-rail train station.

The system is built with a gigabyte Ethernet network running along the 20-mile corridor, and will allow quick, clear communications to the on-site traffic controllers.

Intersections will be equipped with check-in and check-out detectors that trip when the train speeds over them. The detectors will broadcast the rail's real-time position to upcoming intersections, giving them several minutes to prepare, Fuller said. Then, sophisticated algorithms analyze the time it will take the train to reach each station and decide where the traffic light will be in its cycle upon the train's arrival.

"The theory is we can get far enough ahead of the train in arrival time, that that's enough to facilitate assuring the train a green on arrival," Fuller said.

At its core, the predictive priority system allows for coordination between adjacent

traffic light signals — whereas most traffic lights operate independently, said Larry Head, interim department head of Systems and Industrial Engineering in the Engineering College at the University of Arizona.

System communication is organized in groups of five or six intersections that talk to four midlevel switches, located five miles apart, Fuller said. Then, a network backbone collects and disperses the information to three traffic management centers, which provide central control, observation and dissemination of data.

The traffic signal controller is a field-hardened computer that makes decisions about the timing of red, green and yellow lights and responds to needed programming changes at each intersection, such as a light-rail car approaching an intersection and needing a green light to get through. Traffic controllers, detectors and switches are all located in the cabinet, or large metal box, at each traffic light, Head said.

Houston, Salt Lake City and Phoenix use NextPhase, a traffic control software solution designed by Siemens Intelligent Transportation Systems (ITS).

To react to traffic variables — such as unforeseen congestion and passenger load and unload times — the system manipulates traffic lights in several ways, Fuller said. Traffic controllers can lengthen the time a light is red or green or shift the left-turn signal from the beginning to the end of the traffic light cycle. Already, future northwest extensions in Phoenix and Glendale have been planned for the light rail.

Cultivating the Idea

While predictive priority is still new, the idea of traffic signal communication originated more than two decades ago, Head said.

Baltimore's light-rail system, which opened in 1992, is an early example of a "wired interconnect system," where sensors on the tracks alert traffic light signals downstream of the train's timing, Head said.

Head, an expert on intelligent traffic systems, worked at Siemens ITS and helped design Salt Lake City's predictive priority system for the 2002 Olympics before returning to academia.

It was the light rail's placement amid Arizona's largest cities that first led authorities to believe an intelligent traffic system was needed, Fuller said.

"No one's really done a system quite this size," he said. "And that's why [METRO light rail] and the cities felt like we needed something innovative that gives us a high probability, but not derogate the side-street traffic."

In fact, drivers will hardly notice the light rail's impact since the carefully choreographed traffic lights should let drivers

reach their destinations at about the same times as they did before the light rail was built, Fuller said.

Fuller said METRO first looked at other options for the light-rail system — like coordinating its traffic signals or giving the light rail an automatic green light — but settled on predictive priority because of good results in Salt Lake City and Houston.

"We needed an operation that the cycle time would still function but be adaptive," he explained. "Detector inputs several minutes in advance of arrival of the light rail at the intersection allow for this minor manipulation with minimal impact on other traffic."

The Salt Lake City light-rail system of trip switches and backbones is much like Phoenix's setup, but differs in its size and use of a central controller, Fuller said.

"Salt Lake City [light rail] is much smaller," he explained. "Most of their system is a dedicated guideway — trains go 55 mph. The difference is their intelligence is done at a central controller versus a controller on the street."

Houston's light rail encounters 90 signals while Salt Lake City's light rail bypasses fewer than 20 signals, Head said.

Cost-wise, predictive priority makes sense because it has a big impact on light rail effectiveness, Head and Fuller agreed.

"Proportionally to the cost of the rest of the system," Head said, "it's a low-cost item, but can have a big impact on performance."

Predictive priority also reaps dividends by getting more people to ride light rail.

A predictive priority system synchronizes street lights with light-rail systems to increase the smooth circulation of car and light-rail traffic.

"To get the mode shift to people on the train, you have to have good, reliable and efficient transportation service with good travel time," Head said.

The Federal Highway Administration (FWHA) estimates the price of real-time traffic control systems at $10,000 to $40,000 per intersection, and about $1,000 per intersection for subsequent years. Normal retiming of traditional signals costs $5,000 biannually, according to the FWHA.

Intelligent Buses, Cars

The same predictive priority technology used for light-rail transit can be applied to other forms of public transportation, such as buses, Head said.

Buses, however, present a different challenge since they share the roadways with cars.

"Buses are a little bit harder," Head said, "because they're mixed in with the traffic and their arrival times are harder to predict."

Head said cars may soon become "smarter" as they too communicate with their environment — the symphony of lane signals, traffic lights and ramp meters that surround them.

The Collision Avoidance Systems initiative — a national partnership between automotive manufacturers and state and local departments of transportation — is working to develop applications for in-car safety mechanisms. One such application, Head said, involves a system that warns drivers when they're about to violate traffic signals.

"Someday," Head said, "if the car's going to violate, we may hold the traffic signal red a little longer."

While mainstream uses of the technology might be a while off, predictive priority — which can be integrated into existing traffic systems — has already arrived.

"The industry and the technology are moving in this direction anyway," Head said. "I certainly wouldn't *not* do it today — I think the cost of not doing it is higher than the cost of doing it." GT

Contracting E-Mail

state **local** federal

Stratford, Conn., adopts software approach to e-mail and groupware.

Synopsis: Municipalities are increasingly looking beyond traditional e-mail servers to SaaS products for affordable e-mail, groupware and intranet capabilities.

Technology: InfoStreet Web-based IT software service.

Contact: David Wright, IT manager, Stratford, Conn., <DWright@townofstratford.com>.

BY CHANDLER HARRIS | CONTRIBUTING WRITER

In 2005, Stratford, Conn., faced an overtaxed e-mail server. The first solution that came to mind was an upgrade from Microsoft Exchange Server 5.5 to Microsoft Exchange 2003. But the implementation, consulting and purchasing costs involved would've weighed heavily on the small town's budget.

David Wright, Stratford's IT manager, found a solution that he said was more feasible and economically sound — adopting a software-as-a-service (SaaS) approach for e-mail and groupware applications with intranet capabilities.

E-Mail as a Service

Wright evaluated several options before selecting InfoStreet's StreetSmart, a Web-based IT software service consisting of an integrated suite of business applications that users access through an intranet. For Wright, the ideal combination of an affordable e-mail solution and intranet capability was exactly what he was looking for.

"We really wanted to have an intranet, and our town manager at that time was looking for us to have an intranet to post information and make it accessible to employees who weren't based in fixed locations," Wright said. "He wanted to try to make information more widely available to town employees who didn't necessarily sit at the desk all day."

Before adopting the SaaS solution, there was no easy way for Stratford employees to access e-mail and other work files from home. But now local government workers, including off-site personnel, can access e-mail and collaborate with their colleagues through shared calendars, automated meeting invitations and electronic task lists — all through one Web browser.

The SaaS suite includes e-mail, calendar, address book, workflow management, file sharing, Outlook synchronization and Web publishing capabilities.

Using a software-oriented server with intranet was also appealing for Stratford because of the ability to maintain communications during disaster conditions.

"We knew that having an Exchange server in town, especially in our town hall, which was where it was located, could be a real problem for us in communication with our town employees in a time of crisis," Wright said. "If our e-mail capability was located in town and we are trying to get people where they could get e-mail, there was going to be a problem."

Quick Conversion

During implementation of the new software suite in July 2005, Stratford's aging Exchange server crashed.

So instead of gradually shifting each department to the SaaS platform, Wright decided to convert the entire e-mail infrastructure as quickly as possible. Wright and his IT department were able to perform a full conversion in 36 hours. Once Stratford's e-mail was up and running, the old Exchange server was rebuilt to retrieve historical e-mail messages, as well as employee contact and calendar information.

The savings were substantial — with a $12,000 annual price tag for Stratford's 500 e-mail users, compared to an estimated $150,000 one-time fee for a full Exchange upgrade and implementation. And the SaaS solution worked well for Stratford because of the town's small size — about 50,000 people — and could possibly work well for other towns of similar size, Wright said.

"I think it's a simple solution," Wright said, "and it certainly would be easy for a very small IT department or town with very limited IT resources because it doesn't take anything to administer."

The StreetSmart suite is in its seventh edition, but because of the success Stratford had with the software, the company said it will tailor its product to municipal governments and other organizations that operate from multiple locations.

"Municipalities in particular have people in various buildings, and they want to have everybody under the same workflow system using the same e-mail system, having the same portal system and sharing the same library and file sharing," said Siamak Farah, founder and CEO of InfoStreet.

Since many local governments must heed open record laws, including e-mail message retention, the company recently added an e-mail archiving service to its SaaS product, which will provide a centralized e-mail repository for users.

Farah said InfoStreet has approximately 100,000 SaaS suite users, and an increasing number of clients, like Stratford, have replaced Microsoft Exchange with SaaS.

Farah said he believes the reason for the switch is the suite's ability to work with existing programs, such as Outlook, combined with the software's affordability.

"They don't have to buy hardware," Farah said. "They don't have to buy a license for an upgrade, spam-protection software or virus-protection software." GT

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two cents
our take on the latest technology

Computer users concerned about security breaches might consider DigitalPersona's U.are.U optical scan fingerprint reader. Registered fingerprints replace or supplement Windows logon passwords, PINs or smart cards, as well as sign-ons for password-protected Web sites.

I set up a couple of fingers using the reader's registration wizard. It took four images of each digit, and the unit read them easily. I tried to register a pinky, however, and after "successfully" registering all four pinky images, the reader declared that none of the scans were usable. The unit timed out during the unsuccessful registration, so I had to log into the fingerprint manager again with a nonpinky fingerprint to start the process over. I doubt anyone would select a pinky to register, but just in case …

I had better luck with this reader than I've had with swipe readers, since I often don't get the swiping speed quite right, or my fingers are too dry, sweaty, oily or whatever. The reader had some trouble with a wet thumb, but otherwise it worked very well — even when the unit was upside down or sideways — without skipping a beat, and it only took a few tries to read my print diagonally.

The reader wasn't fooled by my other nonregistered fingers, or by an unauthorized person's finger. In those instances, an icon appeared with a red question mark instead of the usual green, go-ahead check mark.

It was simple to create a fingerprint logon for oft-visited Web sites. After pressing my thumb to the device, a wizard appeared offering to set it up. I simply entered my logon name and password for that Web site one last time, and voilà, I no longer needed to use my password.

Pressing a registered finger to the reader's window while already logged into my machine brought up the product's One Touch menu for creating a new fingerprint logon directly from the current Web page, or for reaching quick links (a list of my Web sites requiring log in information), help or properties.

Options allow administrators to configure settings for domains, sites and organizational units. Settings include fingerprint authentication and registration, data caching, fingerprint logons, password randomization and event logging. Administrators can audit who accessed or failed to access networked computers, password-protected programs and Web sites.

The DigitalPersona Pro Workstation and Server software also support various notebook computers with embedded fingerprint swipe readers, including Dell, Lenovo, HP, Toshiba, Fujitsu and Itronix. GT

BY MIRIAM JONES | CHIEF COPY EDITOR

specs

DigitalPersona Pro Workstation package:

- U.are.U 4000B fingerprint reader (512 dpi optical resolution)
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- 1 Pro administrator guide — stand-alone solution (Windows 98, ME, NT 4.0, 2000, XP Pro, XP Embedded)

rating: ●●●●○

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Send product review ideas to Chief Copy Editor **Miriam Jones** <mjones@govtech.net>

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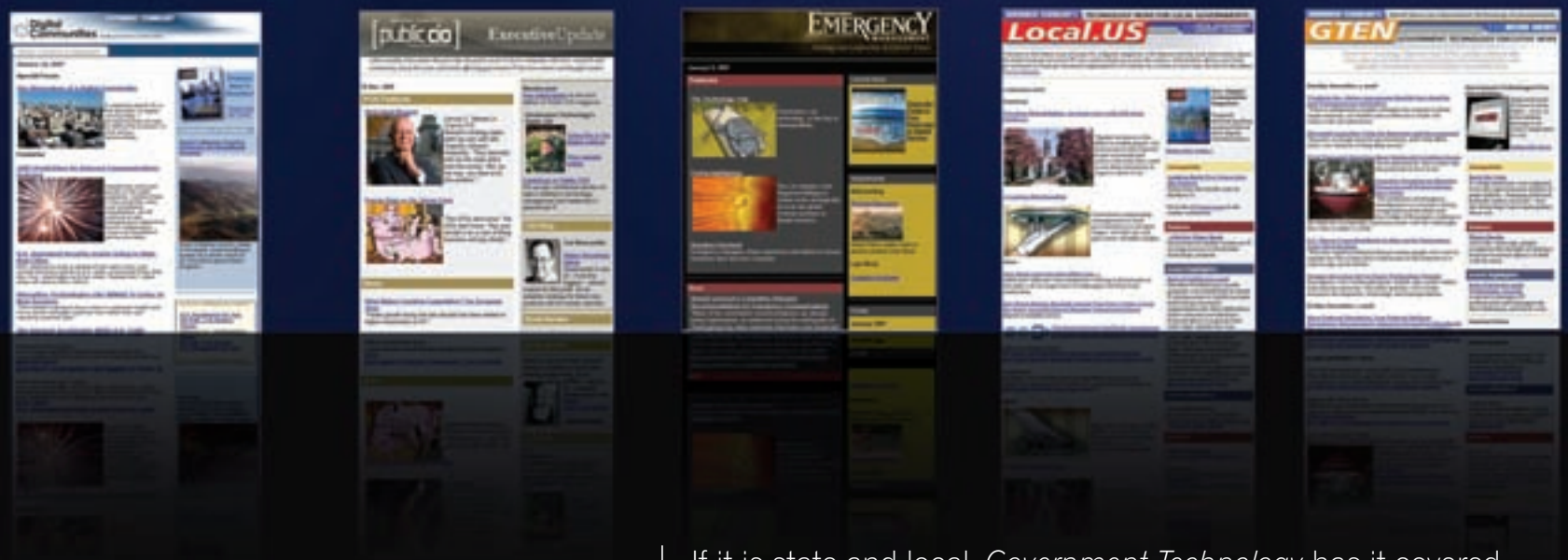

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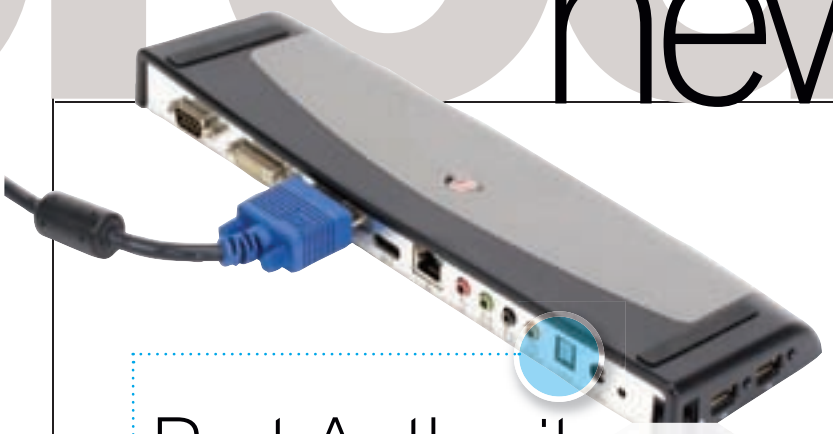

Port Authority

The **Targus Universal ExpressCard** notebook docking station can transfer data four times faster than USB (up to 2.5 Gbps). In addition to digital video output capabilities, and digital and analog audio out, the docking station has Gigabit Ethernet (10/100/1000), a serial port and four high-speed USB ports, two of which are "always on." This feature lets users power and charge peripheral devices such as mice, mobile phones and MP3 players while the laptop is in standby or shut-down mode.
<www.targus.com>

Steady Focus

The **Sharp XG-PH70X** is a 5200 ANSI Lumen DLP projector designed for facilities requiring a permanently installed display device. The projector offers a 1200:1 contrast ratio, six lens options and redundant reliability through a dual-lamp lighting system. Five of the lenses are powered so users can make adjustments remotely, and the sixth is a wide-angle fixed focus lens. The enclosed software self-diagnosis system instantly alerts the control PC or e-mails an error message to a predetermined list. <www.sharpusa.com>

Presto Printing

Konica Minolta's magicolor 5550 laser printer produces 27 color and 31 black-and-white pages per minute with 9600 x 600 dpi print quality. Its 256 MB of RAM can be upgraded to 1024 MB and options include an automatic duplexer, as many as two 500-sheet lower feeders and a staple finisher. The printer supports media sizes from postcard to banner and weights up to a 110-pound index. <http://konicaminolta.com>

Hang Tough

The **Panasonic Toughbook-T5** rugged notebook PC weighs 3.5 pounds and has a 12.1-inch touchscreen LCD. A magnesium alloy case holds its shock-mounted 60 GB hard drive and Intel Core Solo U1400 1.2 GHz processor. The notebook includes 512 MB SDRAM of standard memory, expandable to 1536 MB. The T5 contains an 802.11a/b/g wireless network connection and is wireless-ready.
<www.panasonic.com>

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BY PAUL W. TAYLOR
CHIEF STRATEGY OFFICER
CENTER FOR DIGITAL GOVERNMENT

A Remembrance

Chris Warner appeared on the cover of this magazine in December 2002. He appeared again among *Government Technology's* Top 25 because he was equal parts doer, dreamer and driver.

In a case study on leadership and collaboration, I referred to the creator of Earth 911, Pets 911 and the Amber Alert Portal as a modern day Tom Sawyer. Then, there was a thick file documenting his pursuits on behalf of the environment, our beloved pets and children in need. All this tells the story of one man's mission to take a new approach in pursuing important things.

Chris fundamentally believed there was a simple way to do everything. In bureaucratic environments, those are fighting words — which only intensified as projects brushed up against public safety, and jealously guarded federal funding streams.

Chris relished risk the way only entrepreneurs do, and was always up for a fight. Given the choice, he would say, "Damn the torpedoes" because he saw only limited advantage in keeping powder dry. Risk came

> "**How long** do you have to do this, and how many times do you have to show it works before somebody says, **'Good idea, Chris, let's do it?'**"

But there was one place where his name was shockingly out of place that February weekend — an obituary.

Christopher J. Warner died at age 49. He was way too young to be sure, yet his age was a reminder that this social entrepreneur (who approached the next new thing with the energy and enthusiasm of a man half his age) had been paying his dues for a long time.

The son of a public servant, Chris saw more clearly than most that there were untapped synergies among the dot-com, dot-gov and dot-org domains. Moreover, he believed he could change the world — with our help. And Chris, along with a few hundred strangers who became his collaborators, did just that.

If the original Tom Sawyer could frustrate Aunt Polly with his approach to whitewashing a fence, Chris' kinetic energy could be crazy-making in its own right. Even as a new group of friends were figuring out the business end of a paintbrush, Chris was off scouting out the next fence — and the one after that. He always looked ahead.

home to roost last year when Chris lost the company he founded to bankruptcy because of protracted legal wrangling with a former business partner.

But his optimism and passion ran deep. Chris started over by getting married and launching a new campaign where he applied everything he had learned about creating online communities to keeping Alzheimer's patients and victims of domestic violence safe.

During one of my last conversations with him, he asked, "How long do you have to do this, and how many times do you have to show it works before somebody says, 'Good idea, Chris, let's do it?'"

In retrospect, the question has the haunting feeling of being asked by a man who seemed to sense he didn't have enough time. Time ran out while he slept that winter morning, denying him a second act.

More's the pity — for him and for us. GT

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