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VOL22 ISSUE08 SOLUTIONS FOR STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE AUGUST 2009

inside:

O'Malley's MAPS

PAGE 14

MARYLAND GOV. MARTIN O'MALLEY USES GIS TECHNOLOGY TO TRANSFORM HIS STATE


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contents

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august 2009

features

COVER STORY

14 StateStat

How Maryland Gov. Martin O'Malley uses GIS technology to transform his state for the better.

BY CHAD VANDER VEEN

20 Social Security?

Agencies struggle to balance employees' desire to use social networks with the need to protect confidential data.

BY ANDY OPSAHL

28 Down to the Wire

An October deadline for reporting financial data of projects funded by the American Recovery and Reinvestment Act spurs new products aimed specifically at government.

BY MATT WILLIAMS

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

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

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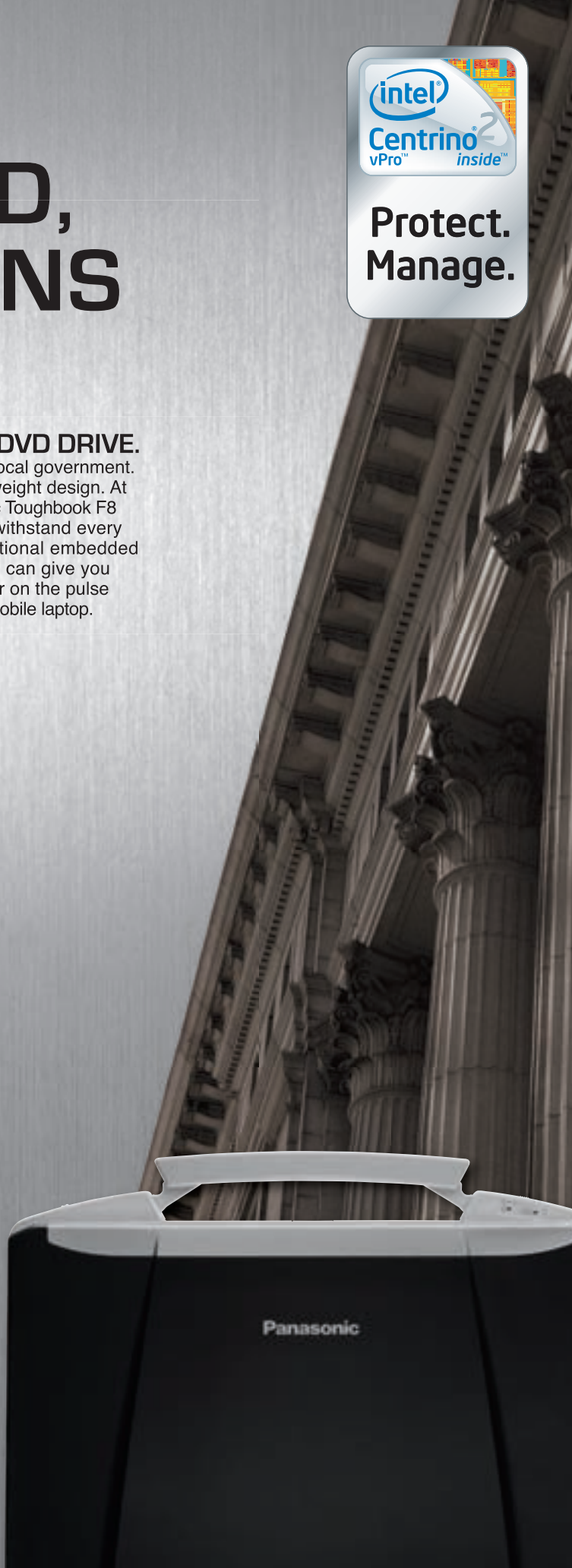

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contents

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Going the Distance

When Washington, D.C., government employees need a vehicle from the city's fleet, they can now reserve one online and use a special card that unlocks and tracks the car. Besides making life easier for city workers, the DC Fleet Share program streamlined the district's fleet management, cut costs and increased utilization of the vehicles.

Participating agencies create an account, so employees who choose to register receive a vehicle access card, which tracks who is using a particular car and which account should be charged. City vehicles are used in the program and are outfitted with a modem and card reader that are linked to the ignition and door locks.

Washington, D.C.'s program eliminates car sharing.

The district piloted DC Fleet October 2008 with 29 vehicles locat sites, and has since expanded it to 9 at eight sites. The city uses soft Zipcar — a large car-sharing compa in Cambridge, Mass. — to run the Fl program, said Ralph Burns, vehicl officer for the district's Fleet Man Administration.

Starting with the company's basic platform — a car-sharing program th a Web-based reservation system — t and Zipcar developed governme

Agencies forgo the cost of owning their own cars and instead only pay for the time in hourly increments their employees use vehicles from the city's central fleet. The hourly fees incorporate the vehicle's purchase or lease cost, maintenance fees and fuel.

AOC V22

news

columns

next month:

Collaboration and the Cloud
Federal CIO Vivek Kundra says his push toward cloud computing could be a "huge opportunity" for improving intergovernmental collaboration. Kundra covers cloud computing, transparency and other issues in an exclusive interview.

point of view

CHAD VANDER VEEN
ASSOCIATE EDITOR

Great Un-expectations

As you enjoy another issue of *Government Technology*, I'd like to share the interesting tale of how our cover story came about and how it mirrors technology's influence in our lives.

In 2007, I wrote several stories examining GIS's role in public-sector IT. At the time, my GIS knowledge was cursory at best. But with each story I became more aware of how the seemingly simple act of mapping data could yield fascinating results that could truly be of service to government agencies. I thought it might be worthwhile for our audience to hear about the state of GIS from the horse's mouth, so to speak, and I contacted the Redlands, Calif.-based GIS firm ESRI to try to get an interview with company President Jack Dangermond, a legend in GIS circles. I sort of succeeded. However, Dangermond's schedule in late 2007 permitted only a brief telephone- and e-mail-based Q and A, which we ran in January 2008.

That was that, I thought. I'd helped shed light on why GIS is an important weapon in the public-sector IT arsenal. But then, in late 2008, as we ramped up coverage of President Barack Obama's plan to rejuvenate the economy through an economic stimulus, I received a call from Bob Ruschman, head of ESRI's media relations. Ruschman said Dangermond recalled the Q and A from the year before and wanted to talk more about GIS and how it could help generate the spending transparency Obama was advocating.

So in February of this year, I ventured to Redlands with our video editor and producer extraordinaire Terence Brown to shoot a video interview with Jack Dangermond, which can be seen on **www.govtech.com**. During the 90-minute conversation, Dangermond received a phone call he said he had to take. It turned out the caller was Maryland Gov. Martin O'Malley, who wanted to discuss his StateStat application with Dangermond. StateStat is a tool O'Malley developed that uses GIS to map crime, traffic, infrastructure, spending and others areas of concern in Maryland. The Obama administration was eyeing StateStat as a model for tracking stimulus dollars. It also happened to be the very subject Dangermond and I were discussing when the governor called.

As Dangermond fielded the governor's questions, he casually told O'Malley something like, "Hey, *Government Technology* is here and we're talking about StateStat. How would you like them to come out to Maryland so you could tell them about it yourself?" Suddenly I had the governor of Maryland expecting my visit. So in May, Terence and I went out to Maryland to meet with O'Malley, the result of which is this month's cover story and video segments on our Web site.

The unusual way this story unfolded reminds me of how technology like GIS can give us a clearer picture of how we're all connected and how our everyday actions sometimes produce the unexpected. It's a lesson worth remembering as you engage in, and we report on, the ways technology can be used to improve the business of government and the citizen-government experience. GT

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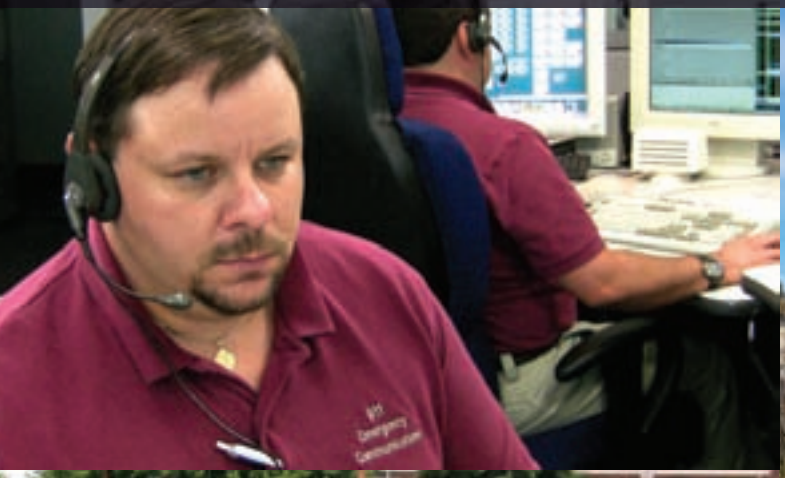

Critical Communication for Today's Responders

Public safety personnel need real-time data — and they can get it now, simply and inexpensively.

Crucial Data at the Right Time

Sprint networks and BlackBerry® smartphones greatly enhance public safety communications.

For today's public safety personnel — whether police, fire or EMS — information is everything. Having the right data at the right time can mean the difference between life and death. The importance of real-time information cannot be overstated. Things move quickly, and if responders are operating with old data — even a few minutes old — the results can be disastrous.

The ability to share information with other agencies is also critical. Many incidents require a response from several jurisdictions, including local, state and federal. However, disparate radio systems often prevent neighboring agencies from communicating with each other seamlessly.

BlackBerry® smartphones, with data applications running on Sprint's networks, help first responders and law enforcement connect to each other and access critical decision-making data. This includes criminal background checks, warrant data, weather information, driver's license and address records, maps, health records and much more. In fact, the number of applications delivering key information to public safety officers on their BlackBerry smartphones is growing rapidly.

Nextel Direct Connect® is a powerful push-to-talk capability that allows the BlackBerry to interoperate with existing radio systems. Direct Connect on the Nextel National Network also enables integration into public safety console systems, and talk groups for better collaboration. These Sprint network capabilities are one reason the BlackBerry device has become a logical addition to the communications system for agencies all over the country.

Better, Faster Tools

Wireless networks are getting faster, which also speeds the flow of information. Video, for example, is easier to transmit with networks that are more robust and powerful. Video being recorded by a squad car can now be seen by a dispatcher. Users can see surveillance videos on their BlackBerry devices, and photos and videos can be shared more easily.

Sprint's NextMail capability allows users to send voice messages as e-mails from a BlackBerry smartphone to one or many dispatchers, commanders, responders and others. More and more of these applications are giving public safety agencies access to comprehensive information in real time.

On-scene photos can be sent to a command post. Hazardous materials data can be overlaid on maps. Locations of people and resources can be tracked, enabling more efficient deployments. Mission-critical conversations can occur without needing to go through a dispatcher. Push-to-talk communications can occur on a secure Sprint Nextel dispatch network rather than through traditional radio systems.

These and other capabilities are enabled by BlackBerry smartphones and Sprint's networks. Often, users can get data themselves via their BlackBerry device instead of having to request information from busy dispatchers. It all means better safety — for both the public and responders themselves.

Sprint and BlackBerry products provide comprehensive situational awareness and help all responders be on the same page at the same time. This is done with commercial, off-the-shelf tools that are less expensive and easier to deploy than custom-built solutions. And people already know how to use them.

Numerous public safety incidents in recent years have underscored the need for better interoperability and access to more data for responders. Fortunately BlackBerry smartphones and the Sprint networks can deliver an ever-growing number of applications straight to those who need them — the people responsible for protecting the public.

Year-Round Dependability

Prosecutors outfox criminals and keep officers safe with new tools.

The Ocean County, N.J., Prosecutor's Office has a big job to do — and the job gets bigger every tourist season. The county's beaches and barrier islands attract a huge influx of summer visitors, so the Prosecutor's Office has a bigger workload at times — without the benefit of a larger staff.

Whether in tourist season or off-season, the Prosecutor's Office has become more productive thanks to the numerous mobile capabilities of BlackBerry® smartphones and applications running on Sprint networks.

Nextel Direct Connect® push-to-talk, Group Connect®, mobile e-mail and remote access to databases enable more efficient communications and faster workflows. The BlackBerry smartphones and Sprint networks give the Prosecutor's Office an advantage in law enforcement and criminal justice. "I think the suspects or criminals who we deal with are becoming more technically savvy," said Jim Hill, investigator with the Prosecutor's Office. "So they're able to find out where we are and know when we're coming."

That's changed with the tools from BlackBerry and Sprint. "People think we're texting," Hill said. "So it's very unassuming when people try to figure out what we're doing. We've had detectives make arrests clearly because a person thought we were texting and didn't realize we were really running their name through our warrant database."

"We've had detectives make arrests clearly because a person thought we were texting and didn't realize we were really running their name through our warrant database."

Jim Hill, Investigator, Prosecutor's Office, Ocean County, N.J.

Safety First

Investigators can access the same data from their BlackBerry smartphones that police officers can view in their squad cars. While having more data in the field helps get the work done, the BlackBerry capabilities also improve safety for the officers.

"The biggest thing on everyone's mind is officer safety," said Hill. "When you hit the officer-needs-assistance button, it sends out the coordinates to anyone who is logged into the system. So if someone needs help, they can hit that, and it sends out their exact location from the GPS."

Prior to getting the BlackBerry phones nearly three years ago, the Prosecutor's Office relied more heavily on text messages and radios. "We were getting reports of people listening to radio communications and posting them on Web sites," said Hill. By using Sprint and their BlackBerry smartphones, Hill and his colleagues have been able to get around that problem. "It allows us to communicate with each other in a way that can't be intercepted," Hill said.

As the lead law enforcement agency in the county, the Prosecutor's Office is also reaching out to other agencies and sharing data with them. It's allowing some of the county's 32 municipalities to have access to law enforcement data on BlackBerry smartphones. The Prosecutor's Office is providing that access to nine agencies currently, with plans for others to join in the future. Many of these jurisdictions are tourist destinations that receive numerous visitors in summer.

Whether dealing with the extra workload that comes with tourist season or managing day-to-day operations, the Prosecutor's Office relies on BlackBerry and the Sprint networks for improved, dependable communications 365 days a year.

Data Does the Trick

Leading-edge communications are the norm in Charlottesville, Va.

BlackBerry® smartphones running on Sprint's networks have aided the fire department in Charlottesville, Va., for many years now. The department uses push-to-talk capabilities on the Nextel National Network to complement its traditional radio system. It has also integrated the Nextel Direct Connect® BlackBerry smartphones into that system.

"It makes us more effective from the standpoint that we have information quicker, are able to respond more effectively, and can do our jobs better because of the technology," said Charles Werner, chief of the Charlottesville Fire Department.

The Nextel National Network and the BlackBerry smartphones with push-to-talk have allowed the department to break through traditional communication barriers by using e-mail and text messaging. While various police and fire organizations have separate radio systems and built-in voice-communication silos, these new tools transcend those with their ability to enable interoperability and move beyond voice communication. "When we send messages out, we're able to communicate through different data applications," Werner said. "It goes across to many people at once, without those barriers."

Multimedia Messaging

The chief sees a lot of potential in Sprint's NextMail capability, which lets responders at an incident scene send a photo, a voice message and a map to one recipient or many people simultaneously. "I can send that voice dictation with a photograph and a geospatial location," he said. "It can go out to a lot of people simultaneously with the push of a button."

> "If a picture is worth a thousand words, then a picture painted with voice, photos and GIS mapping is worth a million."
>
> *Charles Werner, Fire Chief, Charlottesville, Va.*

In the case of a damaged building, for example, responders could send the comprehensive message to police, fire, EMS, public works, building inspectors, public information and other departments. NextMail gets the information out to all those agencies instantly. "We're more effective because we're able to let others see the extent of the damage in one message," said Werner. "If a picture is worth a thousand words, then a picture painted with voice, photos and GIS mapping is worth a million."

The department uses a number of free applications to access data via its BlackBerry smartphones. Users get data on hurricanes, hazardous materials, earthquakes and more, from virtually anywhere. "We use the BlackBerry and the Sprint network as a combined device," said Werner.

The chief also receives notices of all the dispatch calls within his jurisdiction on his BlackBerry smartphone. "I look at the calls in general, and I can see if there are specific trends that are occurring," he said. "For example, if the number of EMS calls is increasing, people are sick, and that might be a situation like H1N1 flu I need to ramp up for."

Werner likes the current capabilities, but he's also looking forward to future possibilities for improved public safety. "I think this is just the tip of the iceberg," he said. "The networks become more prolific and the coverage is better. You're going to see things like more video access, and more real-time capabilities tying things together, especially with 3G/4G networks."

By using leading-edge technologies from Sprint and BlackBerry in creative ways, the Charlottesville Fire Department will continue to provide better public safety during disasters and in day-to-day operations.

Harvard Summit Examines Shared Services

Public-sector IT pros from around the world converge to talk about roadblocks and rewards of shared services.

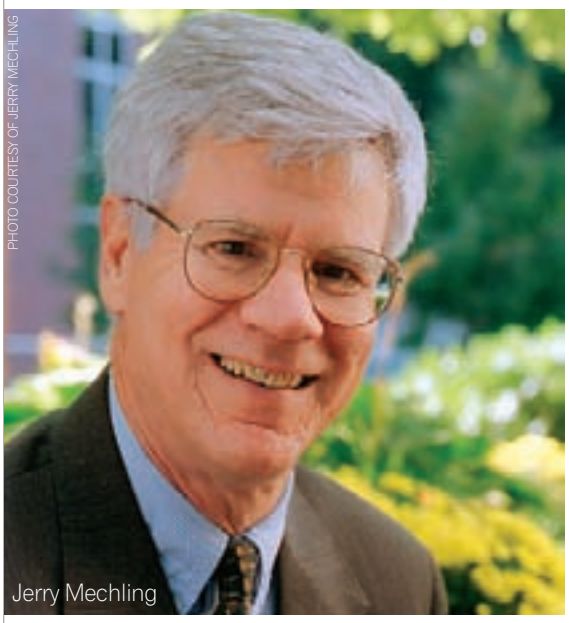

PHOTO COURTESY OF JERRY MECHLING

Jerry Mechling

CAMBRIDGE, MASS. — In mid-June, government IT professionals from around the world, some coming from as far away as Nigeria and New Zealand, convened at the John F. Kennedy School of Government at Harvard University to discuss how the public sector can better use shared services.

The summit, part of the Kennedy School's Leadership for a Networked World program, was an in-depth, two-day immersion into shared services — what they are, how government can benefit and the obstacles to implementation. **Jerry Mechling**, faculty chair of the Leadership for a Networked World program, hosted the summit and offered insights as to why the time is right for government IT to adopt shared services.

The current economic crisis, Mechling said, is a window of opportunity for government agencies to move to a shared services environment. Mechling explained that shared services not only provide greater efficiency, but also can serve to reduce the number of laid-off workers. Shared services also can help answer President Barack Obama's call for greater transparency in government.

David Wilson, managing director for summit sponsor Accenture's State and Local Government Public Sector Finance and Administration Industry, said government's back-office functions — which politicians and the public typically ignore — need executive support for a successful move to shared services. The trick is to show both the executives and public why these functions are important, Wilson said.

"If you can align [shared services] to their political or business objectives, like keeping tuition at the same rate or not having to cut certain programs, I think that's how you get the executive and political interest in what is typically a very unsexy area," Wilson said.

Mechling added that shared applications, operating in a shared services center, could serve as a winning issue with constituents because they can improve service delivery and boost local economies.

"The other benefits that are important to both the public and general managers: You can deliver quality service consistently and you can move your service from downtown Manhattan to someplace where it becomes an economic development tool," he said. — CHAD VANDER VEEN, ASSOCIATE EDITOR

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big picture

PHOTO COURTESY OF SANDIA.GOV

Wind and Water

For decades, wind farms have inspired and frustrated engineers devising reliable sources of renewable energy. Traditional, land-based farms can't generate the horse-power to do anything other than serve as supplemental energy sources. This image shows an offshore wind farm in Denmark. The generally constant surface of the ocean means wind blows much stronger than it does over terrain. In several Eastern Sea-board states, offshore wind farms like this are in various stages of development.

Four Questions for Steve Jennings

CIO, HARRIS COUNTY, TEXAS

PHOTO BY KELLY LaDUKE

STEVE JENNINGS IS CIO OF HARRIS COUNTY, HOME TO THE CITY OF HOUSTON. HIS ORGANIZATION SUPPORTS MORE THAN 16,000 COUNTY EMPLOYEES IN 278 LOCATIONS. EARLIER THIS YEAR, JENNINGS WAS NAMED TO *GOVERNMENT TECHNOLOGY'S* ANNUAL LIST OF DOERS, DREAMERS AND DRIVERS, WHICH SALUTES GOVERNMENT'S MOST INNOVATIVE AND EFFECTIVE IT OFFICIALS.

1

Describe some of the projects under way in Harris County.

We've been working with Microsoft on putting their Stimulus 360 product into production for stimulus tracking. We are very heavily into CRM [customer relationship management]. We also have a records/document management effort that is probably going to change all of our rules and procedures down the road and make everything more efficient.

2

So the economic climate hasn't stopped county technology initiatives?

No, because everybody is looking at how we can take what we have and be more creative — to either reprioritize goals and funding or look at convergence. When the economy isn't good, it allows us to take a look with fresh eyes. It allows us to build new relationships where they potentially couldn't have happened before. These are good times for government. You need to look at financial adversity as different ways to be more creative.

3

What impact will federal stimulus money have on Harris County?

Where I see it having long-term benefit has to do with infrastructure, either electronic or physical. Think about if we could make roads smarter. And our mobility a whole lot better, and look at how to integrate local transit. That impacts both cities and counties. Then start taking a look at helping the hospital district with telemedicine and telehealth programs that reduce transportation requirements or eliminate clerical functions. It's the same with education. There are a lot of different areas on stimulus in the local level that we can put into play and have operational within two years.

4

What's involved in using that money?

A lot of the mechanism is still coming out. Most of the stimulus grants have multiple buckets of money. Realistically if you're not in the first wave, you need to learn and get in the second wave. The other impact is you must have projects substantially completed in a two-year time frame after the grant award. You can't just sit on the money, so your planning has to be a lot more comprehensive up front. Your financials also have to be a lot more comprehensive to meet the reporting requirements. So there's going to be a lot more effort aside from just figuring out what you're going to apply for. GT

BY STEVE TOWNS, EDITOR


MARYLAND
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STATESTAT
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Introduction
Process
Implementation
Office of the GOVERNOR
StateStat in the News

state

Chad Vander Veen | Associate Editor

How Maryland Gov. Martin O'Malley uses GIS technology to transform his state for the better.

When Rudy Giuliani became mayor of New York City in 1994, he looked to then-New York Police Department (NYPD) Commissioner Bill Bratton to help devise a cutting-edge tool to stamp out crime in all its forms. Bratton consulted Deputy Commissioner Jack Maple, who achieved significant success reducing crime by analyzing crime statistics during his tenure in the NYPD's transit division. To aid Giuliani in his anti-crime quest, Maple and Bratton developed CompStat — a performance management tool that also used GIS to map crime and predict where it would occur. CompStat helped Giuliani deliver on his anti-crime platform, and the CompStat model has since been adopted by police agencies around the world.

CStat

Moving to Baltimore

By 1999, New York City was hailed as the premier example of how to wipe out crime in a metropolis. About 200 miles southwest, however, Baltimore had earned the unwanted reputation as one of the nation's most crime-ridden cities. In addition, urban decay and a population exodus had transformed the once-vibrant city into a shell of its former self.

That same year, a Baltimore councilman named Martin O'Malley ran for mayor. He delivered an anti-crime message reminiscent of Giuliani's. O'Malley went further, pledging to not only cleanse the city of crime, but also to restore the city's health and environment. After a landslide victory, O'Malley worked quickly to adopt CompStat for Baltimore. This time, the performance management and mapping technology would not only deter crime, but would improve government service delivery in general.

CitiStat Adoption
CitiStat is an example for other governments both domestically and internationally. Buffalo, N.Y., Somerville, Mass., and Scotland have adopted CitiStat to measure and improve performance.

The program, known as CitiStat, was a sensation. Working under four simple tenets — accurate and timely intelligence shared by all; rapid deployment of resources; effective tactics and strategies; and relentless follow-up and assessment — CitiStat achieved startling results. From repairing potholes to eliminating blight, by 2003 the mayor's office reported CitiStat had saved the city $100 million, thanks to much improved and more intelligent service delivery. Meanwhile, crime was also declining, though it was still high by national standards.

Now serving as Maryland's governor, O'Malley has applied the CitiStat philosophy across the state, resulting in a new program called StateStat. O'Malley said his experience in Baltimore compelled him to try CitiStat on a statewide level. And none of it would have been possible, he said, without having been dealt a couple of Jacks.

"I've won a lot of hands in governance with two Jacks — [ESRI President] Jack Dangermond and Jack Maple," O'Malley said. "Jack Dangermond, who advanced, forwarded, fathered modern GIS; and Jack Maple, who [was] really a genius of a guy when it [came] to policing and implementing Commissioner Bratton's vision for CompStat in New York.

"Jack Maple was our first police consultant when I was elected mayor of Baltimore. In fact, it was a unique and unprecedented thing for us to bring in a consultant for policing. But our city had become the most addicted and violent in America by almost any measure. And we had lost more population than any city in America over a 30-year period as we became more addicted and more violent. As a councilmember, I saw that New York was turning things around in their city by reducing violent crime, and in doing so made their

When the Obama administration set forth transparency guidelines for states to account for stimulus funds, Maryland was ahead of the curve with its already-implemented **StateStat**. Using a GIS foundation, StateStat provides a comprehensive breakdown of how Maryland counties and agencies are spending stimulus funds.

city a more attractive place for businesses to stay, grow and locate.

"So we recruited Jack [Maple] to Baltimore. When Jack was in Baltimore, he had this thought that we should be applying the CompStat approach — the performance measurement, maps and using GIS — to improve every aspect of city government."

Since being elected governor in 2006, O'Malley has worked on applying the four tenets of CitiStat to an entirely new animal — state government. Now, with StateStat operational, Maryland's executive leadership and the general public can see where the state is succeeding and where work remains to be done.

O'Malley said StateStat at its core is the rational application of human effort to human knowledge. By using GIS as StateStat's foundation, O'Malley said Maryland is afforded an unbiased look at the progress being made and how to confront the state's failings.

"A map doesn't know if a neighborhood is black or white, blue or green, rich or poor, Democrat or Republican," he said. "The map knows where the challenges are, where the problems are. It tells us where we need to deploy our limited resources in order to attack those challenges."

From City to State

CitiStat uses GIS to plot problem areas on a map and requires comprehensive performance management data from city staff. But adapting that model to fit state government was a challenge. State government must deliver more diverse kinds of services than cities do, and it's often further complicated by thicker layers of bureaucracy than those found in even the largest cities.

As O'Malley rolled out StateStat, he said he discovered that policy and the chain of delivery posed the biggest hurdles.

"The policy implementation is a much more important component of governing at the state level than at the municipal level," O'Malley explained. "At the municipal level in city government, it's all about delivering services; it's all about implementation; it's all about follow-up; it's all about sweat equity. At the state level, all of those things are important as well. But you also have to be very cognizant of the policy implementation, which often has a much more attenuated chain of delivery than, say, fixing a pothole. If you fix a pothole you call the 311 center, they dispatch a crew and the crew fills the pothole.

"When you're talking about improving reading scores with 10-year-old boys and girls throughout the state, there are the students themselves, the parent, the teacher, the principal at the school — there's maybe the instructional leader at the school. They report to an area superintendent, who reports to the superintendent, who reports to the county board, who reports to the state board, who reports to the state superintendent, who reports to the Legislature, who works with the governor."

To develop StateStat into an effective resource for both state government and state residents, O'Malley is diligent about performance management. Every two to three weeks, O'Malley and his staff meet with participating agencies and crunch the numbers. Are things better than they were two weeks ago? What does the data reveal?

It's important to use StateStat for performance measurement not only because it's good government, O'Malley said, but also because it shows Maryland citizens — in graphic detail — what their government is doing to improve their neighborhoods, streets, the environment and their lives.

One element of StateStat, a subprogram named BayStat, has already caught the White House's attention. BayStat uses the same tenets and GIS technology to track and improve the condition of Chesapeake Bay.

"When it comes to the health of the Chesapeake Bay and the environment, I've been

O'Malley's March

In addition to being Maryland's governor, O'Malley is the front man for a Celtic rock band named O'Malley's March. On lead vocals and guitar, the governor and his band pack the house — when he has time to play. Since becoming governor, O'Malley readily admits "it's hard to play in the band anymore, for scheduling reasons." He added that it wouldn't play well politically if he were to ditch an appearance or function to go play guitar in his friend's basement. However, after two years of sporadic work, O'Malley's March released a fifth album, *Galway Races*. More information and photos of the governor in action can be found at **www.omalleysmarch.com**.

very pleased with how quickly we've been able to use the map to guide our decisions about environmental remediation and increase the effectiveness of things we do — whether it's cover crops, upgrades to wastewater treatment plants or expanding forested buffers on either side of streams," O'Malley said. "The map and this performance measurement approach have worked very well there — in fact, so well that President Obama's [Environmental Protection Agency] recently announced that they're going to apply Maryland's BayStat method to the entire bay watershed, which extends to about five states. To see StateStat jump, at least from where the bay application is concerned, to a multistate and then a national model has been very encouraging for all of us."


The U.S. Environmental Protection Agency recently announced it would use Maryland's BayStat method for the entire bay watershed, which reaches into **several states.**

Chesapeake Bay, Md.

Mapping the Stimulus

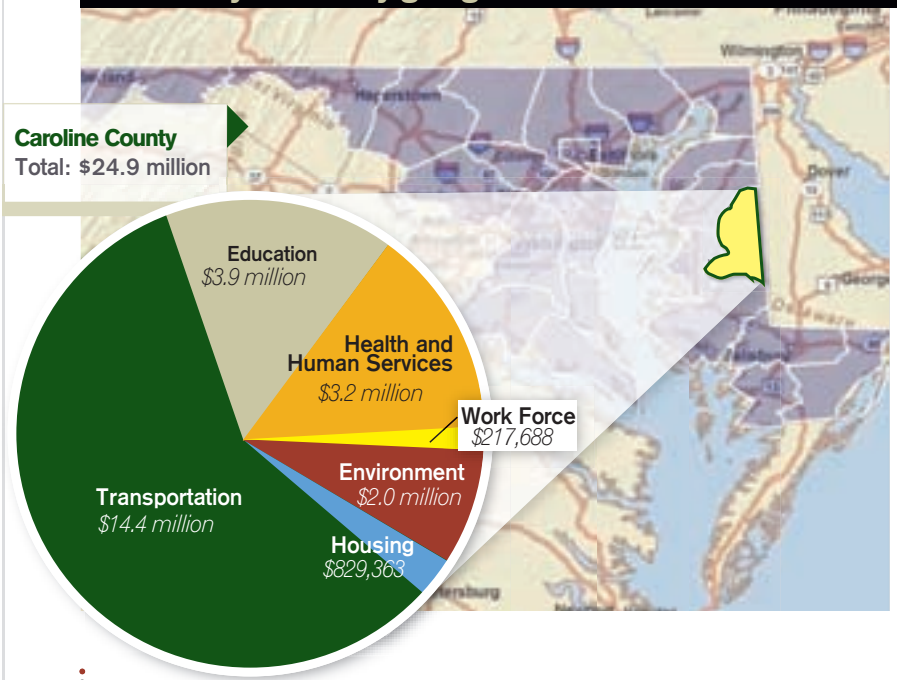
With stimulus money flowing and new projects under way, states are scrambling to adhere to the transparency guidelines the Obama administration set forth to show Americans where their tax dollars are going. In Maryland, StateStat is already in place and is ideally suited for such a job.

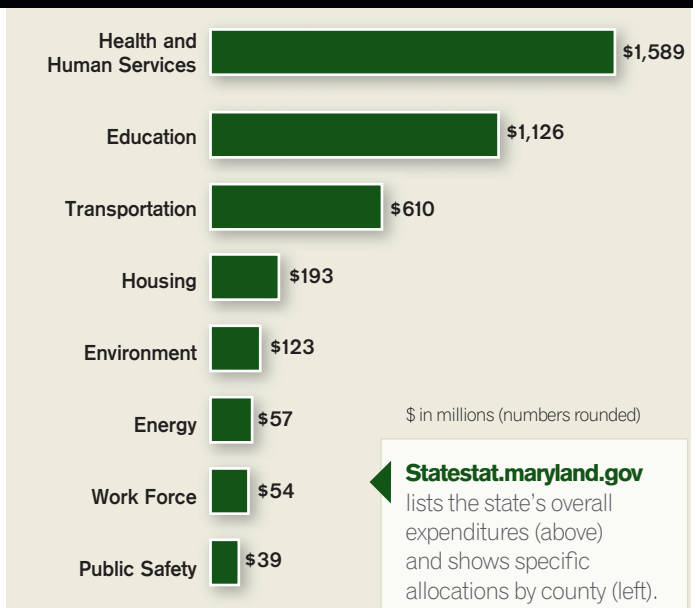
"Fortunately because we already had this discipline of tracking against a map — measuring against a map — we were very well situated to embrace President Obama's challenge of tracking the stimulus dollars with openness and transparency, and in ways the public could easily see and monitor," O'Malley said. "So with ESRI's help, that's what we've been doing.

"We can put [stimulus money] on a map, and we can highlight the parts of the roads that are being resurfaced. We can store the information in a way that relates to the map so people can click on those things they see in their county. You can compare county to county, so citizens can see we are distributing these dollars in an egalitarian and fair way. And when it comes to some of the environmental things — the water and wastewater dollars that were in the stimulus program, not unlike the transportation dollars — those can be directly plugged in a map into specific projects, whether it's wetland restoration or improvements to wastewater treatment plants. All of that lends itself well."

O'Malley also pledged that all of the $3.9 billion in stimulus funds that have come through Maryland so far will be tracked on StateStat so the public knows where every dollar went. GT

Where is your money going?





$ in millions (numbers rounded)

Statestat.maryland.gov lists the state's overall expenditures (above) and shows specific allocations by county (left).

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ANDY OPSAHL | FEATURES EDITOR

SOCIAL RITY?

AGENCIES STRUGGLE TO BALANCE EMPLOYEES' DESIRE TO USE SOCIAL NETWORKS WITH THE NEED TO PROTECT CONFIDENTIAL DATA.

THE PREDICTABLE TENSION between information security officers and early adopters in state and local IT is brewing again. This time it pits proponents of social networking sites against security officials who see fast-growing tools, like Facebook and Twitter, as conduits for malware and data breaches.

Supporters say public agencies must learn how to use social networks effectively to reach younger citizens and support an incoming government work force that considers e-mail obsolete. But security officials — accustomed to being an afterthought in the rush to deploy the latest must-have applications — worry that cool new Web 2.0 tools will expose government networks and sensitive information to dangerous cyber-threats.

Social networks are merely the latest technical evolution to give security officials heartburn, said John Pescatore, a vice president of Gartner.

"It wasn't that long ago when government agencies weren't allowing wireless [local area networks] LANs in either. Now they support wireless LANs. It wasn't that long before that when they were doing war dialing to find Internet connections and turn them off too," Pescatore said.

The security community's knee-jerk reaction against many new technologies is understandable, he said. Early adopters tend to deploy first and worry about security and privacy later — creating serious challenges for those charged with protecting government information and computing assets. Still, Pescatore contends that security officials would be more effective if they said "yes" from the beginning, but with a caveat.

> **"Security people need to say, 'If we're going to do this, here's what we need to put into place to manage the risk,' instead of building a case for saying no."**
>
> **John Pescatore,**
> vice president, Gartner

"Security people need to say, 'If we're going to do this, here's what we need to put into place to manage the risk,' instead of building a case for saying no," he said.

That's the approach being taken in several states, including California, where state Chief Information Security Officer (CISO) Mark Weatherford is developing an employee policy for using social networking sites.

"I am going to do everything I can do to help this thing be successful and not be the roadblock that stops progress," he said. "We've had concerns every time some new technology pops up over the years. We addressed them, we worked through them and came out better in the long run."

Social Networking Sieves

The gravest concern regarding usage of social networking sites by government employees appears to be that it increases opportunities for data leakage. One common complaint is that security offices already have difficulty policing e-mail without adding social networking sites that aren't even part of the government's network. Observers see added potential for both malicious and accidental data breaches.

For example, Pescatore offered the hypothetical scenario of a state park ranger using Facebook for updating the availability of open campsites. Such a project could be useful to citizens who want to avoid a long drive only to find the park full.

Imagine that to save time the ranger simply posted the spreadsheet showing which campsites were taken and which remained open. What if he didn't notice that a second tab of the spreadsheet had the credit card numbers campers used to hold their spots? That's just one of countless potential scenarios.

Lawsuits could result from one innocent mistake. At the same time, Pescatore points out that solutions do exist. Products designed to catch various types of information before they leave a network are on the market. Governments could program data-loss prevention programs to filter for credit card numbers, Social Security numbers and any other data they needed to protect.

California's strategy for using social networking sites may include data-loss prevention software, according to Weatherford. However, he cautioned that it's more difficult to detect specific types of outgoing data amid general Web traffic, as opposed to detecting that data in outgoing e-mails.

"When you start talking about Port 80 traffic, which is Internet traffic, it's hard to see inside some of those packets and view the information that's going out," Weatherford explained.

Most governments interested in social networking sites consider policy to be the primary mechanism for keeping improper information off the Web. That appears to be true of California.

"Most people don't want to do the wrong thing. They simply don't know what the right thing is in many cases. Laying those things out in policy is really the best way you can reach all of your employees," Weatherford said. He plans to borrow heavily from the federal government's recently completed social network site policy.

Delaware recently completed its own social networking policy in response to an attack

> **"We've had concerns every time some new technology pops up over the years. We addressed them, we worked through them and came out better in the long run."**
>
> **Mark Weatherford,**
> chief information security officer, California

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We're doing some analysis right now on getting a handle on how big that problem is using simple data-loss prevention tools that are readily available in the marketplace.

Elayne Starkey,
chief technology officer, Delaware

from the Koobface virus on Facebook. A play on the spelling of Facebook, the Koobface virus tricked Facebook users into downloading software designed to attack their operating systems and debilitate their computers. The state initially tried to block social networking sites altogether and then reversed the ban a few days later after an employee backlash. The state turned to more vigilant usage of anti-virus software to avoid a similar problem in the future.

"We update our anti-virus several times a day," said Elayne Starkey, chief technology officer of Delaware.

The Delaware Government Information Center will be in charge of training agencies in what they may and may not post on social networking sites. Only specifically assigned "content providers" will be authorized to post on most social sites, while all employees can access Twitter. Each employee's manager will train him or her about proper use of Twitter, said Michele Ackles, deputy principal assistant of the Delaware Department of Technology and Information.

"The microblog sites, like Twitter, are not really designed to facilitate the release of a lot of information. They're 140-character, short-term types of communications," Ackles said, adding that Delaware nevertheless wasn't ignoring Twitter's potential data leakage threat.

Welcome to My Nightmare

But once policies are in place, a new set of headaches begin, said Kevin Dickey, CISO of Contra Costa County, Calif. Dickey said administrating Web 2.0 security policy would be a nightmare for him. Once an agency allows usage of social networking sites and stipulates what employees may and may not do on them, security people must then monitor employee compliance, he said. Personal life and work life tend to converge on sites like Twitter, Facebook and others. Dickey worries about the difficulty he would face distinguishing the two when monitoring employees.

"It really gets complicated from a government perspective only because who's really paying for this?" Dickey said. "It creates a fuzzy area. There is a lot of benefit to using collaboration tools. Instant messaging is a perfect example, but then I have to set up a boundary that says you can use IM as long as it is only on a specified subset of users. That's a maintenance nightmare."

I don't have the ability right now to go out and invest in third-party tools to prevent misuse. If I don't let you use Twitter, I don't have to buy the tool.

Kevin Dickey,
chief information security officer, Contra Costa County, Calif.

In Delaware, managers police the blurred line between work and personal life. However, the state is still concerned about the difficulties of enforcing the rules, according to Starkey.

"It's like putting a number on a speed limit sign. You're going on record as to what the rules of engagement are, but we all know there are gray areas and you have to come behind it with enforcement," Starkey said.

In the meantime, her staff is exploring the technological options for monitoring outgoing data of citizens.

"We're doing some analysis right now on getting a handle on how big that problem is using simple data-loss prevention tools that are readily available in the marketplace. The product space is still very immature at this point, and they're jockeying for the position of who's going to come out as the leader in terms of the vendor in this state," Starkey said.

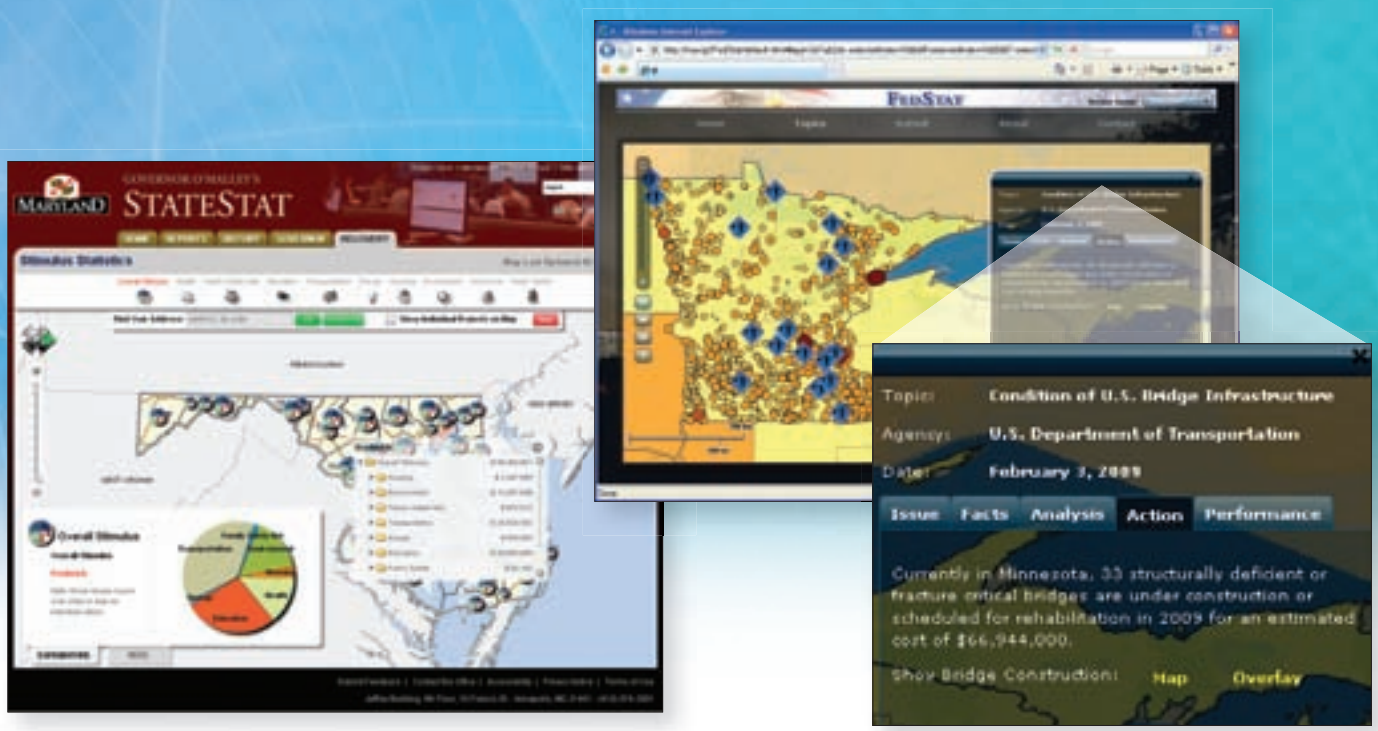
Malware Threat

Information security officers also worry about malware that employees can download, sometimes inadvertently, from social networking sites. The term "malware" typically refers to software that pops up disguised as something useful, like a Microsoft Windows update, but is actually malicious software designed to attack the network.

Pescatore recommends agencies deploy a new generation of Web security gateway products that filter dangerous content traveling into agency networks from inbound Internet traffic. He said agencies usually use older, less sophisticated Web security gateways that merely block employee access to URLs known to be dangerous or unrelated to work. Most governments also use desktop anti-malware tools, which aren't very effective because they typically react to dangerous programs after they have accessed the system, Pescatore explained.

California and Delaware are considering buying updated Web security gateways. But Dickey, in Contra Costa County, is not. For now, he's unconvinced that government employees using social networking sites would be worth the extra expense to taxpayers.

"I don't have the ability right now to go out and invest in third-party tools to prevent misuse," Dickey said. "If I don't let you use Twitter, I don't have to buy the tool."



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AN OCTOBER DEADLINE FOR REPORTING FINANCIAL DATA FOR PROJECTS FUNDED BY THE AMERICAN RECOVERY AND REINVESTMENT ACT SPURS NEW PRODUCTS AIMED SPECIFICALLY AT GOVERNMENT.

BY **MATT WILLIAMS** | ASSISTANT EDITOR | ILLUSTRATION BY TOM McKEITH

A day of reckoning is quickly approaching for state and local governments that have received money from the federal American Recovery and Reinvestment Act — the stimulus package that some lawmakers and economists hope will help sweeten the nation's sour economy.

Budget officials are bracing for Oct. 10, the first quarterly deadline mandated by the U.S. Office of Management and Budget (OMB) for stimulus fund recipients to upload detailed financial data to a new Web site called FederalReporting.gov.

For the sake of transparency and accountability, President Barack Obama's administration and the OMB instituted what they say are the most stringent reporting requirements of any government grant-making process in history. Agencies will be required by the OMB to upload expenditure data — via an Excel spreadsheet or Extensible Markup Language (XML) — pertaining to subrecipients, subgrantees and subcontracts. Grants administrators say that extra level of detail will make accounting more complex.

Those requirements will put the onus on state and local governments to deliver an unprecedented amount of financial record keeping and reporting, and some agencies' computer systems likely are ill prepared to cope. Governments find themselves with a choice: purchase software that's built specifically for the stimulus, or forge ahead with enterprise software they already own. »

DOWN TO THE WIRE

> "These dollars are going to be **watched closer** than any federal dollar that has ever come out of the Treasury."
>
> **Dave Quam**, *director of federal relations, National Governors Association*

"These dollars are going to be watched closer than any federal dollar that has ever come out of the Treasury," said Dave Quam, the director of federal relations for the National Governors Association. "We're talking Congress, reporters, states, locals — everyone is going to be watching this money. You might be able to know exactly where your tax dollar went at the end of the day. That's pretty remarkable considering where we are right now."

But challenges are ahead. States will be asked to do more than they've ever done before, Quam said. And the same burden of transparency and detailed record keeping has also been placed on local governments.

Getting Out in Front

Rich Robinson, the chief operating officer of San Francisco's Department of Technology, said when he read the first draft of the stimulus package's reporting requirements, he quickly realized it would take 18 to 24 months for his IT department to build an in-house reporting application — much too long.

"I initially saw a significant gap," Robinson said. "The reason was because the local governments — being a city or county, you have lots of different agencies: public health, public transportation, law enforcement — all to some extent do their own thing on project management and financial accounting."

Robinson said he knew the 65 departments in the consolidated city-county government would have to be on the same page for stimulus reporting, because at least $500 million is estimated to be awarded to San Francisco. He decided the best choice for doing that was Microsoft's Stimulus360 — a solution built atop existing software that many governments already own: Office, SharePoint and Microsoft Dynamics; SQL Server, Virtual Earth and BizTalk are optional add-ons. Stimulus360 has been deployed in San Francisco's controller's office, the mayor's office and will soon be used by the auditor's office, Robinson said.

Robinson believes San Francisco's stimulus projects will be under even more scrutiny than elsewhere because of the city's large community of activists. Therefore, he said it was important to get out in front of the reporting issue. But he said some of his peers in other large cities are probably falling behind.

"Chicago seems to be understanding, and Washington, D.C., and the state of Tennessee. I think there are a couple of others. I think San Francisco and those cities are ahead in understanding the problem is fairly significant," Robinson said. "What we don't want to happen, and I think the Obama administration is kind of showing its cards a little bit in saying, 'We're going to crack down if you can't meet the needs.'"

Grants management has been a longtime bugaboo for municipalities like San Francisco and Chicago — even before the stimulus arrived on scene. But the Recovery Act added urgency. In an April white paper, Gartner called the $787 billion that will be disbursed by the economic recovery package "one more good reason" for local governments to modernize their grantee management tools.

"If you walk into these [state and local] grants coordinators' offices, they all do this on Excel, Access database or Word. They're doing it today — it's not like they're not doing it," said Craig Peting, the senior technology consultant for CA, which also has released a stimulus tracking solution. "It's just now the key factor is that the reporting is going to crush them, and also the auditing. I've been in 14 of the 16 states personally that are getting bimonthly GAO [Government Accountability Office] audits, and have talked to those people — plus I've been to 12 other states. They're all starting to realize this is not going away."

> "If you walk into these [state and local] **grants coordinators' offices**, they all do this on Excel, Access database or Word."
>
> **Craig Peting**, *senior technology consultant, CA*

Several Software Choices

States received some budgetary help in May when OMB Director Peter Orszag sent a memo to agency and department heads allowing them to spend 0.5 percent of their total Recovery Act funds on administrative costs. This includes the deployment of software to track stimulus dollars.

With demand for hardware and software stalled in general by the recession, a growing number of technology vendors — Microsoft, CA, IBM, SAP, Acumen Solutions and others — hope that selling software tailored to the stimulus will provide them with some economic stimulus of their own.

For example, CA's Stimulus/Project and Portfolio Management includes year-to-year comparisons, computation of personnel time used on each grant, and reporting capability. The solution can assemble a project plan for applying to a grant, manage the financials when the grant is awarded, and map projects on a geospatial dashboard. A new on-demand version of CA's solution launched in July is entirely Web-based, so it's able to feed data in HTML or XML to public-facing

Stuart McKee, the former CIO of Washington state, is overseeing Microsoft's Stimulus360 as the company's national technology officer of U.S. public sector.

Web sites — including the many "transparency" portals that states and cities have built recently in response to Obama's call for transparency.

Meanwhile, Microsoft's selling point for Stimulus360 is that it's built with software parts that many organizations already own, so the only additional cost is a modest licensing fee. It's a collaborative workspace remixed into a brand-new intellectual property, said Stuart McKee, the national technology officer of U.S. public sector for Microsoft. He is also former CIO of Washington state.

Other software vendors are taking a different approach. Acumen Solutions' START program — Stimulus Tracking and Recipient Transparency — is built on the increasingly popular Salesforce.com platform, so it's a hosted solution.

Greg Sanders, senior manager of public-sector services for Acumen Solutions, said the application's advantage is that because it's a "cloud" solution, it's easily updatable with the most recent grant information released by federal agencies, as well as reporting and accounting regulations from the OMB.

"We watch OMB, and we make sure that our application interfaces with OMB properly so that the state and local governments … don't have to worry about that. They just get the data into the application, we keep the application lined up with OMB and keep it running for them," Sanders said.

A Hot Market

There is no shortage of software choices for government agencies that need help accounting for stimulus money. Some of them were created specifically for the stimulus, while others were built atop existing platforms with capabilities added on with the Recovery Act in mind.

"Many vendors like Microsoft, IBM and SAP entered this market quickly — as either their middleware or supporting software is already being used by various government agencies. Since most local and state governments are operating under budget restrictions, adding new functionality to the existing compatible platform at lower cost has been a natural fit," said Sanjeev Pal, research manager of IDC's Product, Project and Portfolio Management Solutions service.

Here is a partial list of vendors' solutions for the stimulus:

ESRI's GIS products can be used to track stimulus dollars flowing through agencies.

Kronos' webTA automates grant reporting, identifies work force-related problems, tracks time attendance and meets the accountability requirement for work force reporting and analytics.

IBM is using the existing Cognos product as the foundation for a tool called Economic Recovery Fund Tracking.

MicroStrategy has built a software-as-a-service dashboard that gives users a graphical, comparative snapshot of total stimulus funds received and disbursed by federal agencies, according to Recovery.gov.

Actuate for Stimulus and Recovery is a performance management suite that includes a framework of more than 250 prebuilt metrics for the American Recovery and Reinvestment Act. It provides root-cause analysis to investigate and report operational details.

SAP has introduced new software for the stimulus based on its existing BusinessObjects Xcelsius and Web Intelligence to provide the dashboard templates.

Microsoft's Stimulus360 is on-premises or hosted, and was developed with help of Microsoft gold partner Infostrat for managing incoming resources, funding and tracking the resources with reporting. It's built atop Office programs and other existing assets.

CA offers a software-as-a-service solution that's suited for stimulus-related grants management based on its existing Clarity Project and Portfolio Management platform.

SAS Recovery Optimization and Management features a role-based interface for public officials, analytic capabilities and Web-based reporting that complement existing grants management solutions.

Acumen's Salesforce.com-based Stimulus Tracking and Recipient Transparency application is updatable because it's software as a service.

CGI's ARRA Reporting Gateway, a solution based on open source technology — hosted or on-premises — aggregates, distributes and publishes reporting metrics associated with stimulus funding recipients.

Visible Strategies' See-It solution is a Web-based dashboard that reports real-time data.

NIC's transparent-gov.com, is a free-to-use Web portal that aggregates government transparency projects and Web sites for all levels of government.

Source: Sanjeev Pal, analyst, Government Insights

Synopsis: A new vehicle fleet management program saves Washington, D.C., money and increases utilization.

Jurisdiction: Washington, D.C.

Technology: FastFleet by Zipcar.

Contact: Ralph Burns, vehicle control officer, Washington, D.C.'s Fleet Management Administration, ralph.burns@dc.gov.

Going the Distance

BY ELAINE RUNDLE | STAFF WRITER

When Washington, D.C., government employees need a vehicle from the city's fleet, they can now reserve one online and use a special card that unlocks and tracks the car. Besides making life easier for city workers, the DC Fleet Share program streamlined the district's fleet management, cut costs and increased utilization of the vehicles.

Participating agencies create an account, so employees who choose to register receive a vehicle access card, which tracks who is using a particular car and which account should be charged. City vehicles are used in the program and are outfitted with a modem and card reader that are linked to the ignition and door locks.

Agencies forgo the cost of owning their own cars and instead only pay for the time in hourly increments their employees use vehicles from the city's central fleet. The hourly fees incorporate the vehicle's purchase or lease cost, maintenance fees and fuel.

Washington, D.C.'s vehicle fleet management program eliminates unused autos and increases car sharing.

The district piloted DC Fleet Share in October 2008 with 29 vehicles located at four sites, and has since expanded it to 58 vehicles at eight sites. The city uses software from Zipcar — a large car-sharing company based in Cambridge, Mass. — to run the Fleet Share program, said Ralph Burns, vehicle control officer for the district's Fleet Management Administration.

Starting with the company's basic FastFleet platform — a car-sharing program that utilizes a Web-based reservation system — the district and Zipcar developed government-specific improvements, like changing the reporting functions.

Before the district enlisted FastFleet, the city motor pool was managed through a call-in system. If government employees needed to use a vehicle, they called the motor pool phone line, Burns said. Callers would tell an operator what time they needed a car and where they wanted to pick it up. They were issued passcodes to access a box that released the keys for the specific car the employee reserved.

The old system wasn't foolproof. Sometimes a key would be put in the wrong slot, so

it wouldn't be released, Burns said. In other instances, the employees calling to reserve cars were directed into the voicemail system if no one was manning the motor pool's desk. Some city agencies also ran their own motor pools, in which someone who kept keys in a desk drawer would track cars by having employees sign vehicles in and out.

"We had been looking at many different ways to make the motor pool more accessible and easier to use. And we arrived at partnering with a technology leader, such as Zipcar, and finding that it had developed the technology, process and system that allows you to access your vehicles and really maximize the utilization rate of those vehicles over time," said Dan Tangherlini, city administrator for Washington, D.C.

Motor Reduction

Along with improving how often city vehicles are used, the city wanted to reduce the number of vehicles it owned. Burns said reaching those goals involved a one-two punch: He ran a program to identify vehicles that were underutilized, while simultaneously launching DC Fleet Share. "As we were taking vehicles away, we wanted to make sure the users had a place to go," Burns said.

When Burns was eliminating underused fleet vehicles, he was surprised to hear that the agencies thought they needed more cars. He also discovered that departments never shared vehicles if one needed an extra car for a day. "I think one of the benefits is now it's basically nobody's car, but it's everybody's car," Burns said. "One car is being used by three different employees in three different agencies during a day, so we're sharing these assets like we should be and the utilization has increased."

The city ultimately eliminated 360 vehicles from its fleet, bringing the total to approximately 1,200 (not including law enforcement vehicles, which aren't eligible for the program). Cutting the city's fleet size will save more than $1 million annually, Burns said.

At press time, DC Fleet Share used 58 passenger sedans — 56 of which are hybrids and two of which are powered by alternative fuel. Burns said the district's vehicles are parked at several large office complexes that are home to city government. Between 10 and 25 Fleet Share cars are parked at each site. After distributing the cars, Burns said the fleet administration contacted agencies to inform them about the program, how it works, what it costs and how the employees can use it.

Burns said the district received a special rate on the technology because it participated in the pilot, but he estimated that it would cost other municipalities $1,200 to $1,500 to outfit each vehicle. He also said the monthly fee to use the scheduling application ranges from $115 to $125 per vehicle, which includes an on-call service that can remotely unlock a vehicle or replace lost access cards.

Mobile Technology

After an employee receives an access card, he or she logs on to **http://dcfleetshare.net** to reserve a vehicle. The reservation is sent wirelessly to the appropriate vehicle's modem, which programs the car so only the person who made the reservation can access the car at that time. To use that vehicle, the employee places his or her access card over a card reader located in the top left corner of the windshield. If the information matches the modem's information, the doors and ignition are unlocked. After using the car, the employee parks it in the same parking spot and places his or her card over the card reader again to lock the car. It's then ready for the next person to use it.

"People like the fact that the car is already gassed up for them, it's easy to access and you can find them throughout the city," Tangherlini said. "At the administrative level, people like the fact that they're only going to pay for what they actually use and they find it is a way to gain efficiencies in their programs."

When workers are responsible for returning car keys, Burns said they might put them in their pocket and forget to return them. In the past, some cars could be put inadvertently out of service for a few days after someone forgot to return the keys and then was out sick. "With this new system, the keys are always in the car and people come and go as they want to, and it's so smooth and seamless it's incredible," Burns said.

Fleet Share's Future

Currently the fleet administration receives reports every 30 minutes that detail when a reservation is made, who made it, why the employee needs the vehicle (they are required to specify a task), when the vehicle was accessed, when it was locked and the mileage, among other specifics.

In the future, Burns said GPS functionality will be added to Fleet Share vehicles to provide additional information. He said the district is working with Zipcar on three tools that would utilize GPS: the ability to "ping" a vehicle, which means sending a command to identify its location; creating a "crumb trail" in which the car emits data packets every five to 15 seconds that create a trail of latitude and longitude coordinates so the car's location can be looked up at a later date; and geofencing, which is creating a virtual perimeter that alerts the fleet administration if a car passes beyond it.

> "One car is being used by three different employees in three different agencies during a day, so **we're sharing these assets like we should be** and the utilization has increased."
>
> **Ralph Burns,** *vehicle control officer, Washington, D.C.'s Fleet Management Administration*

Tangherlini said GPS could be used to increase accountability if a citizen made a claim or complaint against the district regarding a vehicle. City staff would be able to determine who was driving the car at that time and whether it was in the appropriate boundaries of operation.

Once Washington, D.C., gains more information about how employees use their access cards, when they use them and which locations the cars are reserved from, Tangherlini said the city will be able to purchase additional vehicles as needed. "We've traditionally bought vehicles on an agency-by-agency basis, based on their need for access to mobility," he said. "What we haven't bought is that actual mobility when we need it." GT

Synopsis: Chicagoland Chamber of Commerce experiments with crowdsourcing to get ideas on how to increase public transit ridership.

Technology: Crowdsourcing.

Contact: Lance Pressl, president, Chicagoland Chamber of Commerce, 312/494-6766, lpressl@chicagolandchamber.org.

Crowdsourcing and the Web make it possible to truly ask the world a question. As this image illustrates, people on every continent answered a question posed by the Chicagoland Chamber of Commerce.

Mass Appeal

BY CHAD VANDER VEEN | ASSOCIATE EDITOR

The Chicagoland Chamber of Commerce taps the ultimate idea resource — the entire planet.

"A person is smart. People are dumb, panicky dangerous animals, and you know it," proclaimed Agent K, actor Tommy Lee Jones' character in the film *Men in Black*. Agent K was referring to the chaos that would ensue were the public made aware of aliens living among them. Because when people think and act in unison, the results are rarely productive, and occasionally they're catastrophic.

But what if you could take groupthink and eliminate the dumb, panicky and dangerous parts? That's the idea behind crowdsourcing: When you ask the whole world a question at the same time, it's safe to assume you'll end up, by default, with a reasonable answer.

And thanks to the Web, you really can ask the world a question and get individual answers in return. That's exactly what the Chicagoland Chamber of Commerce did as part of its InnovateNow campaign. The chamber turned to the wisdom of the crowd to determine how to increase public transit ridership and reduce greenhouse gas emissions.

One Billion Rides

Four years ago, in partnership with the Illinois Department of Economic Opportunity, the chamber launched InnovateNow, an effort to transform the Chicago metropolitan area into a global center of innovation, entrepreneurship and creativity. To achieve its goal, the chamber is working with state and local governments, schools and businesses on ideas for design and innovation that will spur economic growth and environmental sustainability.

During preparation for the 2009 Innovation Summit, the chamber was approached by InnoCentive, a company that specializes in using crowdsourcing to help clients solve problems, said Chicagoland Chamber Foundation President Lance Pressl. For a fee, InnoCentive helps its clients design a challenge, which can be related to any subject — from math and science to public policy. Once the challenge is finalized, the client (a.k.a., the "seeker") offers a reward for a workable solution and InnoCentive posts the challenge on its Web site. Once the challenge is posted, "solvers" from around the world can access it and attempt to devise a solution. Anyone can be a solver, and InnoCentive said it has around 180,000 people registered.

"As we were preparing for our third annual Innovation Summit, we were thinking about what the theme might be," Pressl said. "We seized upon 'How innovation plus design can equal sustainability.'

"We thought, 'Wouldn't it be cool if we were able to link the theme of what we were doing with an InnoCentive challenge?'"

After some brainstorming, the chamber settled on a challenge that would ask how the Chicago Transit Authority could increase public transportation ridership and reduce greenhouse gas emissions. The challenge

For government, crowdsourcing with a company like **InnoCentive** might be appealing. The hitch, however, might be in procuring reward money to spur solutions.

dovetailed with the already-established Billion Rides campaign — an effort to tally 1 billion public transit rides in one year.

Last fall, Pressl and the chamber began working with InnoCentive's sales vice president, Jon Fredrickson, to devise a challenge they hoped would generate a blueprint for boosting public transit ridership to 1 billion. The chamber managed to get $5,000 for a reward and posted the challenge in November. Pressl presented the winning solution at the Innovation Summit in May 2009.

While it's not a government body, the not-for-profit Chicagoland Chamber of Commerce seeks to improve the Chicago region. The chamber was also the first organization with a public interest to work with InnoCentive. As such, both Pressl and Fredrickson said they weren't sure what interest there might be in solving a public-works problem. They were both pleasantly surprised.

"That people somewhere would have an opinion and be willing to use their intelligence to offer that opinion, idea or solution to a public body was pretty compelling," Fredrickson said. "And when you started looking at the number of responses that came in from different points around the globe, it really started giving us all an idea that people care and have the intellectual capacity to add quality in a solution to something of public interest."

In fact, the challenge yielded 125 proposed solutions, with participation from every populated continent. Everyone involved in the chamber's challenge was stunned — not only by the number of solutions offered, but also by their worth.

"The quality of the submissions was impressive. We didn't know what to expect, but there were some really thoughtful people," Pressl said. "[InnoCentive has] 180,000 solvers from around the world in its community. It would be very hard to cut through the clutter to get people to look at it if we were going to do [a challenge] individually. They bring 180,000 solvers to the table immediately. They have solvers who make a living just solving challenges. I was impressed with the fact that more than 50 percent of the solvers in its community are outside the United States."

> "For us, it was **intoxicatingly addictive**. The idea of being able to tap into 180,000 people is kind of cool. It was really fun reading the submissions."
>
> **Lance Pressl**, *president, Chicagoland Chamber of Commerce Foundation*

Winning Solutions

Though there was global participation in the challenge, the winner and runner-up were Chicago-area residents. The winning entry came from Aaron Renn, a local writer who covers urban affairs. Renn's submission, which can be viewed at **www.innovatenow.us**, is an exhaustively researched, 18-page work that details precisely how the Chicago Transit Authority can reach that billion riders mark. It's exactly what Pressl hoped would come out of the crowdsourcing experiment.

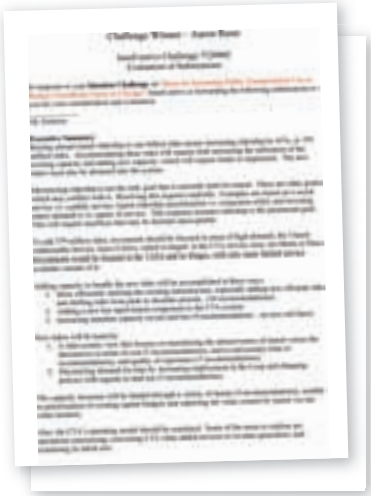
"We were impressed with his depth of knowledge of the system and his recommendations," Pressl said. "His writing was clear, precise and concise. He had a complete picture of what needed to happen to make the public transportation system more desirable to riders."

For a government agency, a crowdsourcing challenge could be an appealing approach to problem solving. But for these challenges to work, there must be a reward. Sure, some people may submit ideas because they take pleasure in it. But to reach the talent pool that's all of humanity, something beyond intellectual curiosity is needed. Unfortunately an agency procuring reward money from its budget for such a contest is likely a tall order — especially when the reward would go toward something called crowdsourcing.

But crowdsourcing is nearing credibility, if it hasn't reached it already, as a way to generate legitimate information. For example, Wikipedia has been a wildly successful experiment. It's not perfect, nor will it ever be. But Wikipedia has perhaps become something more important — reliable.

The way Pressl looks at it, a government agency funding a similar endeavor might not be an impossibility after all.

"I think once people begin to see the value of crowdsourcing — nothing against consultants — but you might spend $50,000 on consultants," Pressl said. "This might be an alternative, more cost-effective way to get some different ideas. The diversity of ideas by unique experiences is the real value here. For us, it was intoxicatingly addictive. The idea of being able to tap into 180,000 people is kind of cool."



InnoCentive's crowdsource has provided solutions for a host of challenges, such as improving low temperature adhesives, developing biomarkers for ALS (Lou Gehrig's disease) and optimizing software pricing for supercomputer applications.

The choice was spending $50,000 for a consulting firm to generate solutions or a quarter of that to ask the world. For the Chicagoland Chamber of Commerce, the answer was in the crowds. GT

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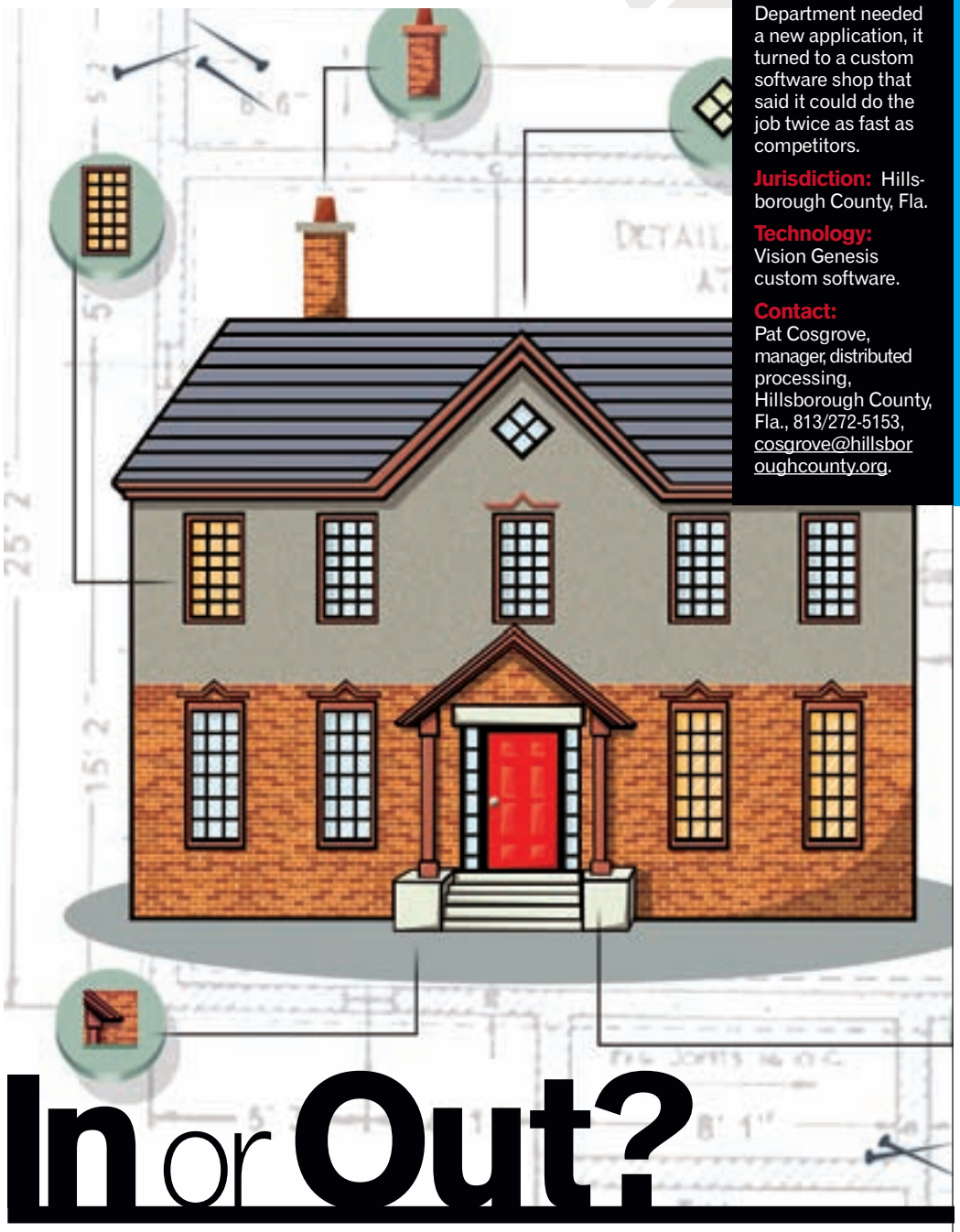
In or Out?

Florida county experiments with outsourced application development. End-users are pleased, but could this set a precedent?



Synopsis: When the Surveying and Mapping division of Hillsborough County, Fla.'s Real Estate Department needed a new application, it turned to a custom software shop that said it could do the job twice as fast as competitors.

Jurisdiction: Hillsborough County, Fla.

Technology: Vision Genesis custom software.

Contact: Pat Cosgrove, manager, distributed processing, Hillsborough County, Fla., 813/272-5153, cosgrove@hillsboroughcounty.org.

BY MERRILL DOUGLAS | CONTRIBUTING WRITER

When a government agency needs a new business application, it can meet that requirement in several ways. It might buy an off-the-shelf product. An in-house IT professional might develop the software. Or the agency might outsource the job to a custom software service. Which of those options works best is a matter of debate.

There's also a fourth option: the informal route. Consider the Surveying and Mapping division of the Real Estate Department in Hillsborough County, Fla. That organization boasts several employees who, although they aren't trained programmers, know their way around Microsoft Access. Previously when one of them needed to track projects, staff activity or other administrative details, he or she would whip up an ad hoc Access application.

Those databases and related queries worked well for specific needs. But as managers raised more questions, even when all the required data was available, staff had a hard time retrieving answers.

A manager who needed to report on staff utilization, for example, might not know that Employee A had been tracking exactly the data she needed. If the manager turned instead to Employee B, who had developed his own Access applications, the two of them might end up pulling information from two or more databases, moving the results to an Excel spreadsheet and then performing further calculations. "That used to literally take us a couple of days before we could crunch out an answer," said Jose Sanchez III, manager of Surveying and Mapping.

When Surveying and Mapping finally took stock of its Access applications, it found that employees had been busily reinventing the wheel. "I think there were 23 different databases. There were a total of 230 different fields of data, and 85 percent of them were common to each other," Sanchez said. In other words, most of the fields contained duplicate data.

Hoping to transform these disparate solutions into a more useful, integrated tool, two and a half years ago, officials in Surveying and Mapping presented the problem to Pat Cosgrove, manager of distributed processing in the county's Information and Technology Services Department. Cosgrove is responsible for business application development and enterprisewide support.

When a department needs new software, Cosgrove's team first evaluates what's commercially offered and buys it if the right product is available. That strategy didn't work for Surveying and Mapping. "We did not find anything out there that was off the shelf that met this department's particular requirements," Cosgrove said.

The usual alternative is to write the software internally. Unfortunately Cosgrove

couldn't take on that project. "I didn't have the resources to address it, in view of other program requirements that were going on," he said.

Half the Time

A third option arose from developer Vision Genesis. Based in Reston, Va., the company says it can produce custom software in half the time a traditional shop would need to do the job, and therefore at a much lower cost. The company has largely been marketing its services to the federal government; the U.S. Defense Venture Catalyst Initiative conducted a review of its work this spring. Company officials were looking for a chance to demonstrate their services, so they offered to develop a new application for Hillsborough County free of charge.

Cosgrove doesn't know the mechanism Vision Genesis uses to develop applications faster than other software shops. "They didn't provide that information to us," he said.

To a large extent, that's proprietary information, said Mark Pomponio, CEO of Vision Genesis. But the secret has to do with the fact that the company's programmers don't develop a comprehensive, abstract design before they write code. "We start coding, and then our tool generates those other abstractions that are needed," he said.

In a sense, a traditional programmer works like an architect who creates a detailed blueprint for a house before workers start digging a foundation or putting up a frame, Pomponio said. His company starts by building the software equivalent of walls, doors and windows; then its proprietary, automated processes ensure the parts work together to make a house.

All applications consist of three things: input, evaluation and output, Pomponio said. "We've enabled the developer to work within that concept, rather than working on higher levels of abstraction," he said. "We stick to, 'What do you actually need to make this thing work?'"

> "We start coding, and then our **tool generates those other abstractions** that are needed."
>
> **Mark Pomponio,** *CEO, Vision Genesis*

Vision Genesis also operates in an iterative fashion. The programmer writes some code, shows the client the results, takes comments, and then revises and writes some more. Sanchez said he liked that process, because it was a chance to correct some bad decisions they'd made when they first specified how the software should work. "Once you saw it, you realized that wasn't the smart thing to do," he said.

A team of end-users worked with Vision Genesis to define seven standard reports they wanted the software to produce. Vision Genesis also gave suggestions about how to automate some of the data entry, Sanchez said.

As Vision Genesis delivered code, county employee Tim Brown, senior professional surveyor and one of the original Access programmers, tested the software, trying to make it crash. If a problem arose, a screen would display the code for the function that had the problem. "I would sit there, copy all the coding, paste it into a document and e-mail it back to Vision Genesis," Brown said.

> "The good part is, you don't have to hire new people to support a new program; you just **outsource everything**."
>
> **Pat Cosgrove,** *manager of distributed processing, Hillsborough County Information and Technology Services Department*

Cosgrove's team wasn't involved much in the process, but he observed that Vision Genesis worked quickly. "It took less than two months, I think, from the time they started the project until they got the first version of the program," he said.

Garbled Messages

The project wasn't problem free. One obstacle was bureaucracy. Early on, the county's protocol dictated that when Surveying and Mapping needed to communicate with Vision Genesis, its people would talk to someone in the Information and Technology Services Department. That person passed the message to someone in the purchasing department, who relayed it to Vision Genesis. Because the people in the middle didn't understand surveying and mapping jargon, instructions sometimes were garbled, Sanchez said. "My boss finally put his foot down and said, 'I want [Vision Genesis] to come in here and work with Tim Brown.'"

Once the developers and end-users started talking directly, Vision Genesis was able to deliver software that fit the department's needs. "It would look and smell exactly like what you were talking about," Sanchez said.

Although the company produced the original program for free, Hillsborough County set up a purchase order to cover future modifications. "The good part is, you don't have to hire new people to support a new program; you just outsource everything," Cosgrove said.

When Surveying and Mapping employees decided that the new software did everything they needed, they used it for a while before presenting requests for modifications. Recently employees have been discussing what changes on their list are desirable but nonessential, and which are really necessary. "I don't think we've actually come up with anything that truly needs to be adjusted," Sanchez said.

Although this project worked out well, Cosgrove isn't sure he wants to outsource future software development to Vision Genesis or any other company. "I would much rather have them offer to sell me their development environment, and we'll do it if I have the staff," he said. "There are some pros to outsourcing, but there are also a lot of cons." Software projects done in-house usually go faster, cost less and offer more flexibility, he said.

For Sanchez, though, the bottom line is that Surveying and Mapping now has an application that quickly assembles any information he needs. The two-day ordeal with multiple databases and a spreadsheet is a thing of the past, he said. "It now takes me about five minutes to pull the report." GT

CONTRIBUTING WRITER MERRILL DOUGLAS MDOUGLAS@STNY.RR.COM IS BASED IN UPSTATE NEW YORK.

Biometric technology strengthens network security, saves time and eases help-desk headaches.

Synopsis: Biometric technology is used in popular movies and shows, but government's using it to increase efficiency.

Jurisdictions: Tahlequah, Okla.; San Bernardino County, Calif., Auditor Controller-Recorder's Office; Jefferson County, Colo., Sheriff's Office.

Technologies: Hand scanners, iris readers and fingerprint readers.

Contact: Jim Shires, public information officer, Jefferson County Sheriff's Department, jshires@jeffco.us.

Positive ID

BY HILTON COLLINS | STAFF WRITER

Screens that scan your eyes, machines that read images of your hands or face, computers you access with your fingerprint instead of a user name and password — these were once the stuff of science fiction. But in the real-life IT world, biometric technology — authenticating users based on their physical characteristics — has gradually become fact.

Government agencies are using biometrics to enhance security in access control, but this technological endeavor, like most others, also can be applied to save time and effort. And since time and effort equal money, biometric deployments also can produce some nice savings.

Hand in Hand

Tahlequah, Okla., uses 11 "hand-punch" terminals — which record user handprints — to track and manage 129 city employees. The system replaced paper time sheets, according to Sue Stacy, Tahlequah's human resources director.

"It's just awesome. That's all I can say about it. Before, when I did payroll I had to go through all the time sheets and look to see who took a vacation day," she said. Stacy also needed to post vacation time and other time-related information publicly so others could see it. "Now I don't do that. It's all right there for me," she said.

Tahlequah uses Schlage HandPunch 3000 terminals to record employee handprints. The terminal has a flat metal plate with pegs that ergonomically direct the hand for proper placement. When an employee enrolls in the system, he or she places their hand on the plate three times, and the 3-D hand template is registered in the human resources office and associated with a unique identification number. When employees clock in or out for work, they enter the identification number, place their hand on the terminal, and the handprint is verified against the registered template and identification. The verification process takes seconds.

The terminals — or clocks, as Stacy and others call them — record when someone clocks in or out. Stacy uses software from NOVAtime to access the data and see who is clocked in or out and for how long. There are no timecards or paper reports involved.

"I can sit here at my computer, and I can pull a time and it tells me whether Joe Smith is at work or not. It shows whether he's punched in or if he's punched out or if he's off that day," Stacy said. "Somebody calls in and says, 'Hey, is Joe here today?' 'Well, I don't know. Let me check.' I can look to see if he's clocked in or out."

Employees also can view their time and attendance history from their work computers, which eliminates the need for them to contact Stacy or her colleagues.

"They have the ability to go in and look at their accrual time — how much time they have for sick leave or vacation or comp time," she said.

Eight terminals are linked to the city's network, and three remote locations use a dial-up connection to transfer information to the human resources department. Tahlequah deployed the system in 2004. Ed Goss, the city's IT manager, also thinks the technology has spared Tahlequah from laborious, paper-based timekeeping procedures of the past.

"They were doing it by paper and you can imagine — chaos, confusion, even in a small

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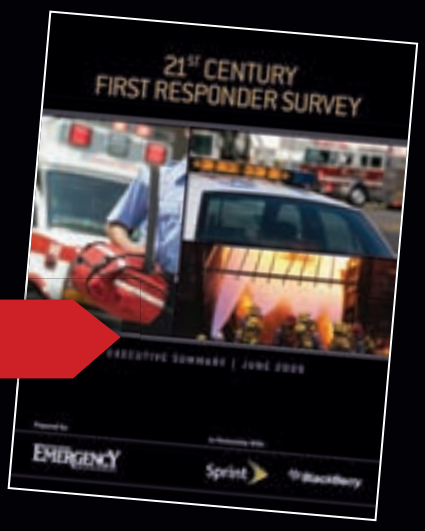

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city, trying to keep a lot of different paper records up-to-date," he said.

A Better Password

In California's San Bernardino County, biometric technology eased the burden on help-desk employees in the Auditor Controller-Recorder Department. Employees touch a fingerprint reader to log on to the network, which eliminates the need for them to remember passwords. This has reduced by 90 percent the number of "lost password" calls to the department's IT help desk.

"That particular type of help-desk request, which were lost or forgotten passwords, plummeted. We rarely get those now," said Patrick Honny, the department's information services manager. They do, however, still receive calls from people who object to having biometric devices as part of the authentication process.

In 2003, the department deployed fingerprint-reading technology from Digital Persona. Readers built into the department's computer keyboards capture users' fingerprints. The authentication software integrates with the department's Microsoft Active Directory network.

Fingerprint readers also are used to authenticate people who are submitting title insurance documents electronically. This is more secure than passwords, Honny said.

"It's hard to share your thumb or your finger, where it's very easy to share a password. So we found that it worked out well for us and continues to work out well for us," he said.

The Eyes Have It

The Jefferson County, Colo., Sheriff's Office has many functions, one of which is to track inmates and arrestees as they enter and leave county facilities. Personnel use portable readers that scan the human eye's iris to verify inmate identities.

Special Duty Officer Jim Prichett said the technology strengthens security. "The false rejection rate is almost nonexistent. The probability that a biometric system will fail to identify an enrollee — it's not going to happen," he said.

A 2004 article in *Hi-Tech Security Solutions* journal, *Iris Recognition — Debunking the Myths*, claimed that the human iris is unique even between twins or between right and left eyes, and that iris-recognition technology is the most accurate biometric. The iris is also stable from age 1 until death.

Prichett estimates that the technology — which has been in place since 2000 — has shaved about 10 minutes off the verification time. The office used to take longer with the ink fingerprinting process.

"We no longer do it, but we used to capture a single index fingerprint upon initial arrest, and that inked right-finger index print would follow the individual through his stay at the facility," he said. "And at the end of his stay here, as he was about to exit, we would take another fingerprint and then we would have to examine the two prints to ensure that it's the same individual leaving."

A handheld reader in the sheriff's office can capture a video image of the human iris from three to 21 inches away, depending on the camera used. Prichett estimated that the county has indexed between 90,000 and 100,000 irises. When an offender is first booked, both irises are captured, but after that, only one iris must be scanned for verification.

The sheriff's office has six readers located in various units, including one in the booking station to capture new arrests, two in the work-release facility to track inmates who leave to work for the day, and one in the inmate services unit to track inmates coming and going for court or to other facilities.

After the identifying information is collected from a scanner, it's verified against information contained in a bar code on an offender's bracelet. The sheriff's office still uses other identification procedures, including photography and digital-fingerprinting procedures.

"I guess the biggest thing we were looking for is some way to, with absolute certainty, ensure that the person we booked into our is the same individual that's leaving the facility," Prichett said. "So that you don't have an opportunity where inmates would trade wristbands or change their identity or something of that nature."

Prichett estimated that the sheriff's office pays an annual licensing fee of about $2,400 for all six units, which were provided by L-1 Identity Solutions, along with accompanying proprietary software that was built specifically for the office. GT

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The Garmin Oregon 550t with built-in camera offers touchscreen GPS. The Oregon 550t navigator is preloaded with 1:100,000 scale U.S. Geological Survey-comparable topographical maps for the entire nation in 3-D elevation perspective. The device creates geotagged images with its 4x zoom, 3.2 megapixel, waterproof digital camera. The Oregon 550t has 850 MB of internal memory and a microSD card slot for additional storage. The device operates for 16 hours on a single charge.
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AOC offers a green, high-definition, ultra-thin 22-inch monitor. The AOC V22 widescreen, white-light-emitting diode display is equipped with two HDMI inputs, 100,000:1 dynamic contrast ratio and 2 millisecond response time. It also has integrated speakers, webcam and microphone, and a silver navigation ring that allows for control of its features with graphic on-screen display adjustments. The 18.5 mm profile monitor has 1680x1050 resolution, Electronic Product Environmental Assessment Tool silver certification and is Energy Star-compliant.
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signal: noise

BY PAUL W. TAYLOR
CHIEF STRATEGY OFFICER
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The Enterprise Confronts Web 2.0

The setup is easy. An intern can do it. Within minutes, a governor, mayor, county executive or almost any public agency can be up on Facebook, tweet on Twitter, share videos on YouTube and create a photo album on Flickr.

The repercussions can be hard and long lasting. The ease and speed of going social often short-circuits the best-made plans of those who are responsible for enterprise IT operations and security. "It's tough. It's really tough," conceded Michigan CIO Ken Theis. "You have to be extremely nimble … and have a framework of policies and practices in place [so you know what to do when] you do need to open up to be able to provide those levels of service."

Virginia sees a need for speed and agility in policymaking to make sure new projects don't go off into the tall grasses for lack of policy guidance. There is continuous risk of becoming overtaken by events, said the state's chief applications officer, Peggy Feldmann. "We can collaborate very quickly with our Web services — putting reporting tools on top over a weekend, essentially. That's a little tough when your policies would have taken a while," she said.

In Utah, the state's Web standards provide both caution to and a wide berth for developers: "Web 2.0 services focus on autonomous, distributed services and recombination, and are fraught with ownership, boundary and control issues." Nonetheless, "there is no reason why agencies should not use [these] services as an integral part of their Web design implementations."

But that isn't the last word on the subject. "There is certainly a debate that is very rigorous here," said David Fletcher, Utah's chief technology officer (CTO). "There are always new services, and the way people are using services is changing."

There is a growing sense that enterprise public CIOs and CTOs simply cannot afford to become known as the people whose only answers are "No" or "Wait." That's absolutely correct, said Theis. "There is a big argument about Web 2.0 and how to deal with it and whether you should deal with it, shut it down, turn it off," Theis said. "… I just think those folks have their heads in the sand."

Rather than getting caught up in an irrelevant fight, Theis said the end game is that "CIOs have to make sure there [is a] safe, efficient, auditable and secure way to make this thing happen. "

California Chief Information Security Officer (CISO) Mark Weatherford agrees. "My job is to make sure that we don't do things dumb and that we don't expose data, assets or systems to vulnerabilities that we can avoid. …" With that said, "I think it's naive of us to think we can say no to some of these things," he added. Weatherford said there will necessarily be limits imposed by CISOs. "I don't mean always. There will be cases and probably technologies where we'll say, 'You know, there's probably just too much risk associated with that,'" he said.

Utah's David Fletcher reminds us that all this action at the edges is bigger than any single enterprise. "I think more and more, we need to have … an awareness of and participation in the global online community so we understand well what's happening, what we can leverage and what might get us in trouble," Fletcher said. GT

index

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