

# GOVERNMENT TECHNOLOGY<sup>®</sup>

VOL 23 ISSUE 1 SOLUTIONS FOR STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE JANUARY 2010

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City takes new path  
to enterprise GIS

**Techno Trash:**  
Solar-powered  
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**Unwelcome Gifts:**  
Mystery laptops rattle  
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**PLUS:**  
Nebraska CIO  
Brenda Decker

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# Digital DESTINY

Portland, Ore.'s  
ERP implementation  
wasn't easy, but  
it was ultimately  
successful



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In a growing number of cities, interactive gaming helps keep public libraries relevant in an age where information is a commodity. Find out how in the February issue of *Government Technology*.

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## Liberating Work From Time and Place

Imagine your boss announced that he or she didn't care how much time you spent completing your work or where you did it. What if that boss only cared about the quality of the results you produced? Consultant Jody Thompson made this approach thrive at retailer Best Buy. The company's productivity grew 41 percent and voluntary turnover dropped 91 percent during the mid-to-late 2000s. She pitched her methodology to a ballroom of government IT officials at the Center for Digital Government's Best of California event last December. Many attendees appeared spellbound as Thompson explained the Results-Only Work Environment (ROWE), which she insisted could apply to any job. She and business partner Cali Ressler started consulting firm CultureRx to help governments and businesses transition to the ROWE office culture. I think all government agencies should consider it.

"ROWE" is not just a flashy way of saying "telework policy." Working remotely may or may not be appropriate in a ROWE, depending on what a given job requires. For example, I'd choose to work in the office free from home distractions.

The basic idea is to let people work when and where they want, as long as they complete their work at the level their managers stipulate. If a software programmer arrived

at 9 a.m. and left after completing his work by 2 p.m., a ROWE-oriented manager would simply congratulate the programmer for being so quick and efficient.

"This is about paying people for work, not for time," Thompson said.

She considers it foolish to believe that employees work more if they're forced to spend a set amount of time working. Often employees just slow down based on the amount of time they need to fill, according to Thompson. Why finish your workload in five hours if a co-worker with the same job takes 10 hours and looks more dedicated because of it?

Thompson ridiculed companies that built sprawling campuses with amenities designed to keep employees at their offices longer. All that accomplishes is creating a more pleasant prison, in Thompson's view.

"Employees don't want a dry cleaner at the office. They don't want a day-care center," Thompson said. "What they want is some control over their lives."

It seems doubtful that an onsite customer service representative or security guard could function without set shifts. However, it would be fascinating to see how far governments could take the ROWE philosophy. As a new decade dawns, it could be a way to entice badly needed new talent. 

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# Hot List

Here are the 10 most popular stories from Nov. 7, 2009 to Dec. 7, 2009.

- 1 Texas Releases Recommended Fixes for Data Center Consolidation**  
Study suggests Texas renegotiate its contract with IBM.  
[www.govtech.com/733336](http://www.govtech.com/733336)
- 2 State CIOs Offer Government Cloud Option**  
State-operated government clouds add another option to a growing menu of hosted infrastructure and application offerings.  
[www.govtech.com/734128](http://www.govtech.com/734128)
- 3 Chicago 911 Official Resigns Over \$2 Million Mistake**  
Deputy commissioner resigns to avoid being fired, according to newspaper report.  
[www.govtech.com/733288](http://www.govtech.com/733288)
- 4 Real ID Act Deadline Pushed Back to 2009**  
DHS extends deadline for states to implement regulations of the Real ID Act to Dec. 31, 2009.  
[www.govtech.com/104173](http://www.govtech.com/104173)
- 5 Site Reveals Salaries of New York State Employees**  
Conservative think tank launches Web site with comprehensive state financial data.  
[www.govtech.com/383701](http://www.govtech.com/383701)
- 6 San Francisco, Amsterdam Work Toward Sustainability**  
Mayors meet via Cisco Telepresence to discuss the cities of the future.  
[www.govtech.com/734210](http://www.govtech.com/734210)
- 7 Dozens of Governments Interested in Google Apps, Los Angeles Official Says**  
City's plan to transition work force to Google Apps draws plenty of attention.  
[www.govtech.com/733435](http://www.govtech.com/733435)
- 8 Personal Computing: Should You Upgrade to Windows 7?**  
Most existing computers with Vista or XP don't need Windows 7 upgrade.  
[www.govtech.com/732885](http://www.govtech.com/732885)
- 9 Enterprise Architecture Demystified**  
What is enterprise architecture and who is it intended to benefit?  
[www.govtech.com/418008](http://www.govtech.com/418008)
- 10 Many More Government Records Compromised in 2009 than Year Ago, Report Claims**  
Public-sector organizations see a drastic increase in breached records, but the number of data leaks appears to decline.  
[www.govtech.com/734214](http://www.govtech.com/734214)

Updates from *Government Technology's* daily online news service.

### Gaga for Google

The public sector could be entering the era of cloud computing sooner than most expected. In a recent sit-down with *Government Technology*, Los Angeles Chief Technology Officer **Randi Levin** said her staff has fielded inquiries from more than two dozen governments in California that are interested in Los Angeles' decision to transition all city employees to Google Apps — the company's "hosted" productivity suite that includes Gmail. Other governments nationwide also have expressed interest, she said. [WWW.GOVTECH.COM/733435](http://WWW.GOVTECH.COM/733435)



**8,000**  
L.A. city employees signed up to participate in the Google Apps pilot project.

**\$369**  
BILLION

The total budget shortfall facing states between now and fiscal 2012, according to the Economic Policy Institute.

**10 LUFTBALLONS:** In December the Massachusetts Institute of Technology (MIT) won the Defense Advanced Research Projects Agency (DARPA) Network Challenge. The challenge saw the agency hide 10, 8-foot red balloons in various locations around the country. Any person or organization that, between Dec. 5 and 14, submitted to DARPA the correct longitude and latitude of each balloon's location would win \$40,000. The MIT team, via a nationwide network of searchers, found all the balloons in only nine hours.

### California IT Plan Saves Millions

California's five-year capital plan for IT spending has delivered more than \$400 million in savings and cost avoidance since its release in early 2009, according to the Office of the State Chief Information Officer (OCIO).

"The process specifically focuses on what the state's emerging needs for IT are,

and allows us to ensure prioritization and alignment with the state's policy and programmatic standards," said Chief Deputy CIO **Adrian Farley**, in testimony to a legislative committee in November. California's OCIO will oversee 600 IT projects worth \$7 billion over the next 11 years.

[www.govtech.com/734136](http://www.govtech.com/734136)



### Web Comment of the Month

“It's all very nice to think of social networking as 'private' and not related to work. But the merger is inevitable. When the first company is sued because a worker had something in his background that suggested he was not trustworthy (and the employer should have known because it was on the guy's Facebook page), all liability insurers will *require* that employers look at social networking sites in order to have insurance coverage.”

By Bob on Dec. 4, 2009 – In response to Bozeman, Mont., asking job applicants for their passwords to social media Web sites.  
[www.govtech.com/732085](http://www.govtech.com/732085)



### SAN FRANCISCO, AMSTERDAM WORK TOWARD SUSTAINABILITY

San Francisco Mayor **Gavin Newsom**, Cisco Chief Globalization Officer **Wim Elfrink** and Amsterdam Mayor **Job Cohen** showcased the latest developments in the Connected Urban Development initiative, which aims to demonstrate how incorporating technology into the foundation of urban development can enhance sustainability and diminish a city's carbon emissions. The three officials gave a presentation on the initiative in December via Cisco Telepresence. [www.govtech.com/734210](http://www.govtech.com/734210)





### **ON TARGET**

Airdropping supplies or troops has always been an inaccurate affair. Wind and altitude can wreak havoc on missions, and faulty data can send people and materials miles off target. To solve this problem, Planning Systems Inc., a Reston, Va.-based military contractor, developed the Precision AirDrop System (PADS) software, which incorporates the National Oceanic and Atmospheric Administration's Laptop Analysis and Prediction System. The software shrinks the drop distance error rate from 5,000 feet away from the drop zone to just 1,300 feet. PADS is a laptop-based application operated aboard aircraft, such as this C-130 dropping troops over Kenya.

## Brenda Decker

CIO, Nebraska



**BRENDA DECKER** has worked in Nebraska state government for more than 20 years and has served as CIO since Gov. Dave Heineman appointed her in 2005. During her tenure as the state's technology chief, her office and the state's Web site have received numerous awards and accolades, including several from this magazine, the Center for Digital Government and the National Association of State Chief Information Officers.

### 1 What's your top priority as CIO of Nebraska?

Right now it's dealing with our economy and the economic conditions of all our citizens. We're in the process of trying to do more with less and more with the technologies we own today.

### 2 Are there technologies on the horizon you're interested in?

We're really looking at combining some of the things we own today. The technologies out there providing services — in an area like health and human services — can be transferred into some of our other agencies to assist people. For example, our call centers. We've never really used our call centers to help us get intelligence so that we can give people the information they need right away.

### 3 What's been Nebraska's approach to transparency?

Nebraska's approach has been twofold. One is that we, like many other states, put up a transparency Web site where we allow citizens to look at data, research it and do some manipulation. The other side, I think, is more interesting: We're becoming very transparent in making sure citizens see how we actually set our policies and allowing them to participate in their government. We're doing a lot with [video] streaming Web services to make sure they can see how government operates, how laws are made and how the governor interacts with councils and committees. We're being transparent in a lot of ways we've never been before.

### 4 Are you looking at ways to get citizen input into that process?

Nebraska is big into Web 2.0 technologies. We've been trying very hard to educate our younger citizens, who have never seen newspapers and don't deal in the things we have traditionally used. These are people who use Facebook and Twitter as the normal way to gather information. We have things like health information that we want delivered to our citizens, and the best way to get to them is through Web 2.0 tools. [GT](#)



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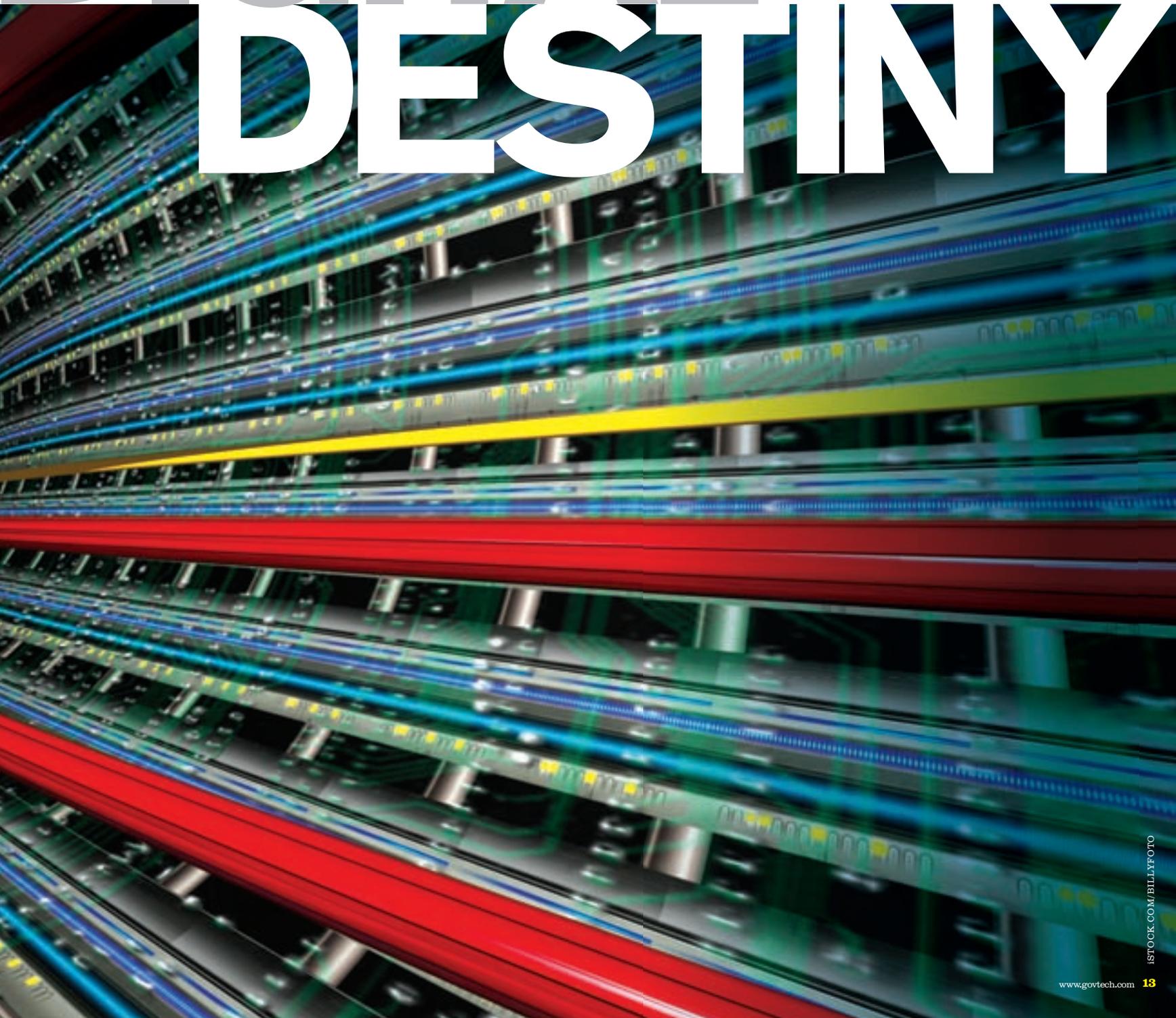
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BY CHAD VANDER VEEN ASSOCIATE EDITOR



**Portland, Ore.'s  
ERP implementation  
wasn't easy, but was  
ultimately successful.**

# DIGITAL DESTINY



If there's one truism that can be attributed to enterprise resource planning (ERP) projects, it's this: They're hard. They're hard to plan, they're hard to predict, they're hard to manage. But with the right combination of committed leadership and skilled work force, plus a little good luck, the grueling work of ERP implementation can pay off.

Such was the case for Portland, Ore. When the time came to overhaul the city's decades-old back-end technology, everyone



**Jennifer Sims,**  
chief financial  
officer, Portland

knew it wouldn't be easy. But no one anticipated how difficult it would become.

Portland aimed to completely replace its systems for financials and logistics, capital projects, HR and payroll. The city's experience offers an inside look at the complexities involved in major legacy replacement projects. Portland's story also provides lessons for jurisdictions contemplating ERP deployments, as delays and technology integrator changes cast doubt on whether the project would succeed. Yet the city persevered and built itself an IT foundation that will last well into the future.

### '70s Tech

Ken Rust, Portland's chief administrative officer, was all too familiar with the inadequacies of the city's old systems.

"I always like to refer to it as late-'70s technology the city implemented in 1991 and ran for 18 years," said Rust. Portland used mainframe technology to manage its financial system. Human resources was a separate process. Reports were delivered

## Tips for ERP Optimization

John Hoebler, a director at McLean, Va.-based business and technology solutions company MorganFranklin, offered five tips for anyone looking to optimize an enterprise resource planning (ERP) implementation.

### Explore and understand your needs and capabilities.

**1** Determine what your current business and operational objectives are, and examine what you are using in your current ERP package. It's best to document precisely what modules you have in place, and then move through each module, feature by feature, to assess if you're currently using each feature. If you are using a feature, are you using it to its fullest functionality? If you're not using a feature, what's the feature's value or benefit, and what is the cost to implement it?

This forms a full picture of how to focus efforts to minimize spending while maximizing the return. Some questions typically asked during this phase are: How many people and how much effort are required to complete each process? What are the current issues? Where is the process being bogged down? What features are you using or not using today? What is the new release that can help solve your issues? Have you purchased software that is on the shelf and could help you?

### Prioritize your options.

**2** Rank each feature based on the following factors: timeline to implement, cost to implement, organizational readiness to accept the feature, and expected benefits of implementing the feature. By ranking each feature for these factors, you can create a score that ranks the features based on a cost-benefit analysis. The score should provide an objective assessment of which features would provide the most value to the organization in the near term and the long term. It also can provide a ranking to determine how to efficiently deploy the resources you have on hand, as the to-do list will be long and require extensive planning to match resources, timeline and objectives.

### Look for quick wins.

**3** Consider taking on a few quick wins first before completing a big ERP optimization project. These will help demonstrate the ERP optimization's potential to the business users and help make a case for a big project grouped in with several high-priority tasks. Typically there are five to 10 quick wins that can be implemented within days or weeks that provide immediate benefits, while also providing results that can be the basis for funding larger projects.

### Don't forget about change management.

**4** Since the direct results of an optimization effort are changed or new processes, change management should be an integral part of an optimization effort. Identify and involve impacted end-users early in the process. Schedule formal training if needed, and update existing business process documentation.

### Optimization is a continuous journey.

**5** Government processes and applications will continually change over time. So should your ERP. ERP optimization assessments should be continually updated — at least annually — to keep your feature inventory up-to-date and aligned with your organizational goals.

in a batch format so massive the papers had to be wheeled around on carts. In fact, everything was paper-based. There was no online component to speak of. And over the years, hundreds of unauthorized "shadow" systems sprang up to compensate for the mainframe's shortcomings.

Perhaps the single biggest problem with Portland's mainframe system was that there was no single source of truth.

"If there was any decision-making information that was needed, you could end up with competing numbers because there was no one source of data," said Jennifer Sims, Portland's chief financial officer and executive director of the ERP project. "We were certainly ripe for some change here."

That change had been suggested as far back as 1999. Even then, the technology implemented in 1991 was showing its age.

# UMUC HOMELAND SECURITY



## PROJECTED JOB GROWTH: 23% OVER THE NEXT DECADE.

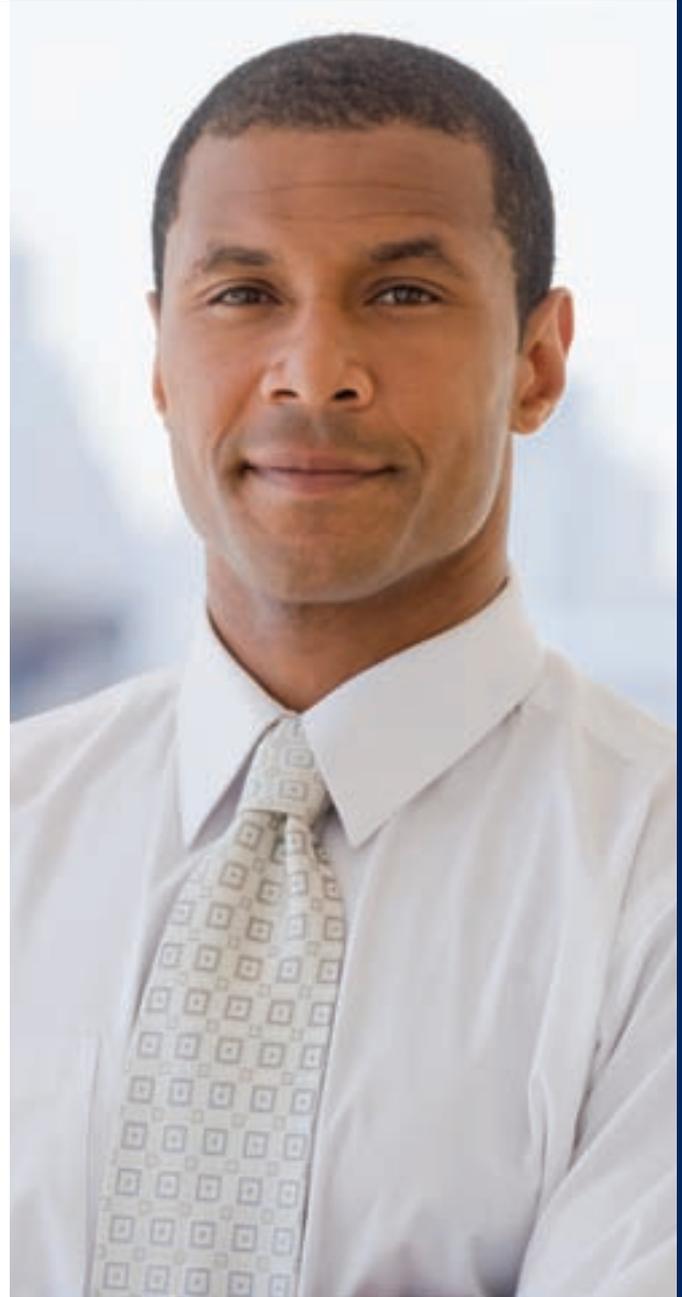
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## PORTLAND ERP: BY THE NUMBERS

**18**-year-old mainframe technology was replaced by new ERP software.

**2** project phases: software selection and technology deployment.

**7,000** city employees rely on the system.

**2008** Financials and logistics modules went live in November.

**2009** Human capital management module went live in June.

As the 20th century ended, interest in public-sector ERP implementation grew. City officials at the time launched a needs assessment to examine the city's existing back-end technology. Working with the Government Finance Officers Association (GFOA), city staff members created a report that laid out the business case for moving to an ERP environment. Yet in 1999, Portland, like most other entities, had a different technology concern on its plate — Y2K.

Y2K readiness took precedence over the needs assessment report, Rust said, and the city shelved the report for years. Only in 2003 did Portland's Office of Management and Finance (OMF) take another look at ERP.

"My predecessor understood the inadequacies of the system," Rust said. "We brought GFOA back in, we updated that needs assessment, determined the business case was stronger, the ERP product had matured, and all the Y2K issues were behind us. That became the framework to bring something to our City Council in July 2004. The Council green-lighted it in 2004 with an initial budget."

The plan presented to the Portland City Council called for a two-phase implementation. First would be analyzing business requirements and selecting software; second would be the actual technology integration. The OMF was careful to build in the option of choosing different vendors for phase one and phase two, a move that proved particularly prescient.

Portland chose Accenture to handle phase one, but the company's bid for phase two was more than the city wanted to pay, according

to Rust. Instead, Portland hired San Diego-based Ariston Consulting & Technologies Inc., which was acquired in September 2009 by Black & Veatch, a global engineering, consulting and construction company, to integrate the SAP software the city had chosen as its ERP platform.

The plan called for Portland to go live with SAP financials and logistics in early 2008, to be followed later in the year with the human capital management element. But things didn't go as anticipated.

"During the implementation and the configuration period, we really ran into some issues. In late 2007, we determined we weren't going to make the go-live date of January 2008." In 2008, the city replaced Ariston as the integrator for phase two. "It wasn't an easy decision and not the way we planned it. We reached a point where we believed we needed a different firm to help, and decided it was in our best interest to make that change. We worked out an orderly transition that minimized impact on the project. While I'm sure it was a disappointment to the first firm, I think we all worked collectively to make it work as well as possible, given it wasn't the ideal condition."

### Take Two

Besides needing to find a new project partner, the city had begun to learn disturbing details about the patchwork IT back end it was replacing. Along with hundreds of shadow financial systems, the city uncovered procedural and organizational shortcomings that would greatly complicate the deployment.

For instance, some union contracts hadn't been consistently implemented and some unwelcome practices had crept into



the bargaining process. Reviewing contract provisions, determining proper application of rules and gaining agreement on those issues proved to be "very cumbersome," Sims said.

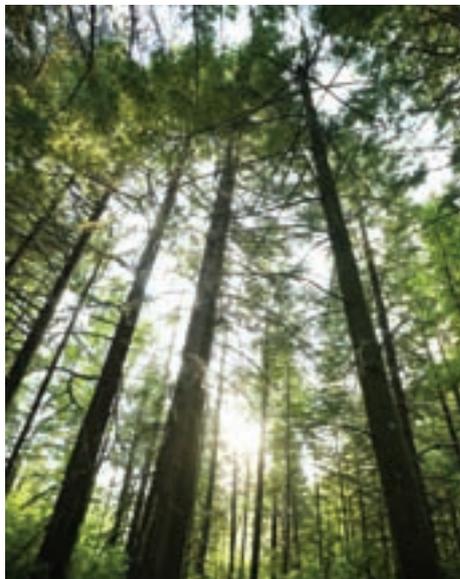
The project also revealed just how decentralized Portland's IT operations were. The ERP project was intended to unify 7,000 city employees working in 26 bureaus in 75 locations. The whole endeavor, it seemed, was growing more difficult and time consuming than the initial estimates predicted.

"It revealed a lot of our weaknesses that had developed and become institutionalized over a long period of time," Rust said. "Cleaning that up was extremely time consuming and took a lot more effort than we ever expected."

With Ariston out and problems mounting, Rust and Sims brought in SAP Public Services for the integration, configuration and implementation. By then, the launch dates had been pushed back nearly a year and fatigue was starting to set in among project staff.

These setbacks gave way to another set of problems — keeping the City Council informed and onboard, and keeping employees motivated. As the project's executive sponsor, it was up to Rust to stay the course. His strategy was to ensure that he had access to the city's best. One of them was Sims, so Rust took over her duties so she could commit to the project full time.

"They always say you need to bring your best and brightest to these things and that's absolutely true," Rust said. "You can't send the B-team. It has to be your A-team. Organizationally you have to figure out how to bring in the right people while continuing





the day-to-day work that goes on. A lot of the folks on the A-team were in my operation, in finance and HR. So I just simply had to make it a requirement that they'd be on the team, and they didn't have much choice."

Sims noted that to keep people motivated, the city had little to offer as incentives. She came up with a modest solution, however, for employees who had been pulled from their regular duties to work full time on the project.

"The one thing people complained about is they didn't get to use vacation [during the project]," Sims said. "So we let them carry it over when normally it would expire. And that was about the only thing we were able to give them, which is kind of sad."

### Over the Hill, Into the Valley

Rust and Sims worked to shore up City Council and employee support, then buckled down to work with their new implementation partner. SAP executives said Portland remained a strongly committed to the project, despite the difficulties.

"It really took unprecedented consensus-building on their part," said Rich Beggs, SAP's director of state/local government and education. "The commission form of government [in Portland] is five council members who essentially act as managers. The mayor is not one who can just dictate; they have to form a consensus. So we were quite impressed with the leadership of the city. They were able to make sure we had everybody onboard. We were also able to make sure they were very business-driven."

Things finally started to click for Portland. The new go-live target dates were eventually met. The software modules were planned

to deploy in two stages. The financials and logistics piece went live in November 2008 and the human capital management piece in June 2009.

There were additional challenges along the way, but the hurdles the city faced the second time around didn't catch it off guard.

"This project touches the entire city," said Harish Luthra, vice president of professional services at SAP Public Services. "The leadership has to make sure the key stakeholders from each department are engaged. The city did a really good job of that, and that helps in change management and adaptation of the system as well. Going through a change in system like this can be equivalent to a corporate root canal. If you have the key stakeholders engaged, if you are doing the right things from a change management and training perspective, that root canal essentially becomes a dental cleaning. It's still painful, but much less so."

### COMPREHENSIVE PACKAGE:

Portland's ERP deployment includes the following software modules:

#### Finance/Procurement

- ✓ Finance Controlling
- ✓ Funds Management
- ✓ Grants Management
- ✓ Material Management
- ✓ Fixed Assets
- ✓ Project Systems

#### Human Resources/Payroll

- ✓ Organization Management
- ✓ Personnel Administration
- ✓ Benefits
- ✓ Time Administration
- ✓ Payroll

With the technology integration behind it, Portland is starting to realize the benefits of citywide ERP. But the realization process will be slow. Because Portland split the deployment into two phases, city employees must wade twice through the so-called "Valley of Despair" — a term used by consultants to describe the period after a technology switchover when organizations struggle to learn new rules and processes. Generally the larger the project, the longer it takes to escape the valley.

Portland employees marching through the first-phase valley can see the end. Unfortunately the respite will be short-lived.

"We're coming out, a year later, from the phase-one Valley of Despair," Sims said. "I talk to people almost every day who tell me how happy they are. They are getting comfortable with it and are getting value from it. But we're still in the valley with phase two, which included payroll. But it takes a long time to get everyone on track with using the system and then driving efficiencies with it."

Still, the project's fundamentals appear sound: Bills are getting paid; employees are getting paychecks; and most importantly, to Sims at least, there's finally a single source of truth for all city financial data. Not to mention the city automated the 25,000 or so pages of procurement documents in the old system, while also eliminating legacy and shadow systems. And like any technology deployment, it's people who make it work — and make it hard.

"Whether it's ERP or anything, we have a saying around here: 'There are no problems except people problems,'" Rust said. "People are critical to the success of anything you're trying to do. When you have new technology, a huge change effort, huge training demands, limited ways to incent people or reward them, it's a huge challenge. Ultimately there were enough good people and enough of a sense of the common vision that we got through that."

Although the city government now can look back with pride at its accomplishments, the future may be the real test.

"Check with us in five years and see how well we've used the system to improve the business of the city of Portland," Rust said. "We've been successful, but the real potential is just beginning to be seen." 

BY ANDY OPSAHL FEATURES EDITOR  
ILLUSTRATION BY TOM McKEITH

**AS** many government officials can attest, leading a consolidation effort can earn you enemies rather quickly. But Max Samfield, deputy director of the Houston Planning and Development Department, avoided some of those problems: He opted for a hybrid approach that requires city agencies to add basic data to a new enterprise GIS, but lets them choose whether to publish more specialized data to the system.

As is typical before a consolidation, several city agencies collected and maintained their own GIS data, usually with spotty accuracy. Other agencies bought GIS equipment occasionally, but lacked the staff and expertise to bring it to fruition.

Samfield's solution was to create a repository of newly accurate GIS data delivered to end-users from a central server farm. Agencies then use that scrubbed enterprise GIS data as a foundation on which to build more layers of data using their own specialized information. Agencies can choose to import the scrubbed base data into their own internal map-creation systems, but publishing those additional layers for other agencies and citizens to view is optional.

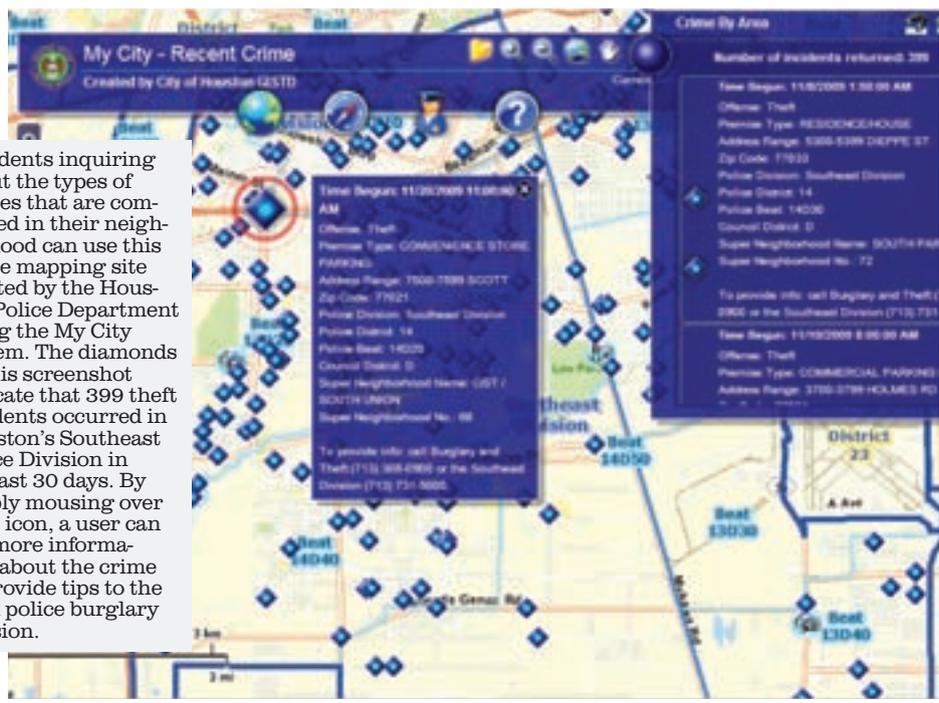
Houston's hybrid approach improves GIS accuracy and builds agency buy-in.

# BUILDING A BETTER MAP





Residents inquiring about the types of crimes that are committed in their neighborhood can use this crime mapping site created by the Houston Police Department using the My City system. The diamonds in this screenshot indicate that 399 theft incidents occurred in Houston's Southeast Police Division in the last 30 days. By simply mousing over each icon, a user can get more information about the crime or provide tips to the local police burglary division.



Samfield had several goals for the new system. First, he wanted the agencies to find the enterprise GIS so efficient that they'd publish their generated layers in the enterprise GIS rather than their internal GIS. Second, he wanted agencies to use the enterprise GIS to create their maps.

Now Samfield's plan appears to be working. Due to wide participation among agencies, dozens of GIS maps are available to city employees and citizens through a delivery mechanism called My City.

### Accuracy Carrot

When Samfield first surveyed Houston's GIS infrastructure in 2006, he knew the delicate hybrid approach was the most realistic — simply consolidating everything would have been too complicated.

"There was so much investment in the silos of systems and so much culture organized around those silos," Samfield said. "Some departments employed their own IT staff rather than utilizing the city's central IT. It wouldn't have been easy to dislodge those things."

The meticulous effort Samfield's team put into boosting the accuracy of its GIS data helped agencies take the enterprise GIS more seriously. Five planning and development employees spent two years

collecting independently maintained data from various agencies and comparing it for inconsistencies.

"We spent the first two and a half years cleaning up the base map, examining the street center lines, making sure the address range on each block was correct," Samfield explained. "If the address block was missing, we'd enter it. If a street was shown as being the wrong direction, we'd fix that. If the name was misspelled, we'd fix it. If the parcel didn't have an address, we gave it one."

Samfield said consulting firm Idea Integration found Houston's enterprise data had roughly 95 to 98 percent accuracy after the overhaul. This was stunning, given that GIS databases in most agencies are typically accurate around 40 percent of the time, Samfield claimed.

"A lot of cities have systems that look flashy on the exterior," he said, "but that tends to be a thin veneer because once you start working with the actual underlying data, it really relies on the address accuracy."

**"We spent the first two and a half years cleaning up the base map."**

**MAX SAMFIELD,**  
deputy director,  
Houston Planning  
and Development  
Department

### A Break for the Network

Another benefit that seduced Houston agencies to voluntarily use the enterprise GIS was that it ran faster than individual agency systems. GIS is especially taxing to networks, which slows down processing for GIS analysts. Houston's centralized system uses Citrix technology to deliver functionality in a way that travels much more easily through the network.

"The way Citrix works is you type at your keyboard and all it sends is your keyboard commands," Samfield explained. "The keyboard commands go and interact with the application server, which runs everything, and what it sends back to your terminal are just screenshots. It's very fast and looks just like you're at the computer."

In most cases, he said, it runs faster than people's services do on their own desktops.

"Let's say you were looking at some aerial imagery," he said. "You might be pulling 100 MB across the network, whereas the maximum size on the screen shot is typically less than 1 MB."

Jackie Smith, GIS manager of the Houston Planning and Development Department, said agencies running their own individual GIS often caused bottlenecks on the network.

"We do have quite a bit of users doing the Citrix," she said, "because they just can't get the performance otherwise."

### Ease and Speed for Users

The enterprise GIS can also cache GIS layers, further improving its speed, said Lee Graham, GIS manager for the Houston Planning and Development Department. Retrieving the various GIS layers in the city's old applications required the applications to "draw" each layer on the map image. This made creating maps a sluggish process, according to Graham. But the system also functions as a mechanism for creating new GIS tools, one of which offers simple icons of precached GIS layers that quickly appear on the maps when clicked.

"We spent a great deal of time taking our different data sets and building base

**GETTING IT RIGHT:** Five employees from Houston's Planning and Development Department spent two years collecting independently maintained GIS data from city agencies and combing through it for inconsistencies. As a result, Houston's enterprise GIS data boasts an accuracy rate of 95 to 98 percent, compared with about 40 percent before the consolidation.

map layers and aerial photograph layers,” Graham said. “The result was Web layers that come up really quickly.”

Those layers are available on My City, which is easy to operate, according to Larry McClure, firefighter with the Houston Fire Department. He uses a layer within My City highlighting all fire hydrants in Houston. This helps McClure tell firefighters exactly where to find the hydrants at incident sites, reducing setup time.

“Our hydrants all have unique feature identification numbers. We can just type in a number, click on it, and boom, the map is right there on it, McClure explained. “It has the cross streets and the waterlines. With 58,000-plus hydrants on the ground, it’s incredible to have a tool like this.”



## LOW-COST COURSES

Houston saves thousands of dollars by having a city employee teach GIS classes for new users. **Larry Nierth**, GIS supervisor for the Department of Planning and Development, is certified by GIS vendor ESRI to teach courses on the company’s ArcGIS Desktop software. The city estimates that using a vendor-supplied instructor would cost more than **\$800 per student.**

Rather than developing his own course materials, Nierth got certified by GIS vendor ESRI to teach classes on the company’s ArcGIS Desktop software. The decision saved the city thousands of dollars per class.

“It would cost the city anywhere between \$17,000 to \$19,000 to have an ESRI instruc-

Students enter the classes needing only basic computing skills and after a few days, exit with the ability to create GIS maps and edit layers. For example, if a parcel’s boundaries have changed, the student can alter the shape of it on the map.

“We have a whole group of folks here who work on streets, addressing and digitizing streets as they’re put in,” Nierth said. “They’re adding new lines and connecting them to the lines already there.”

These GIS novices also can edit the data tables behind the layers. The tables list all of the information previously entered for each location.

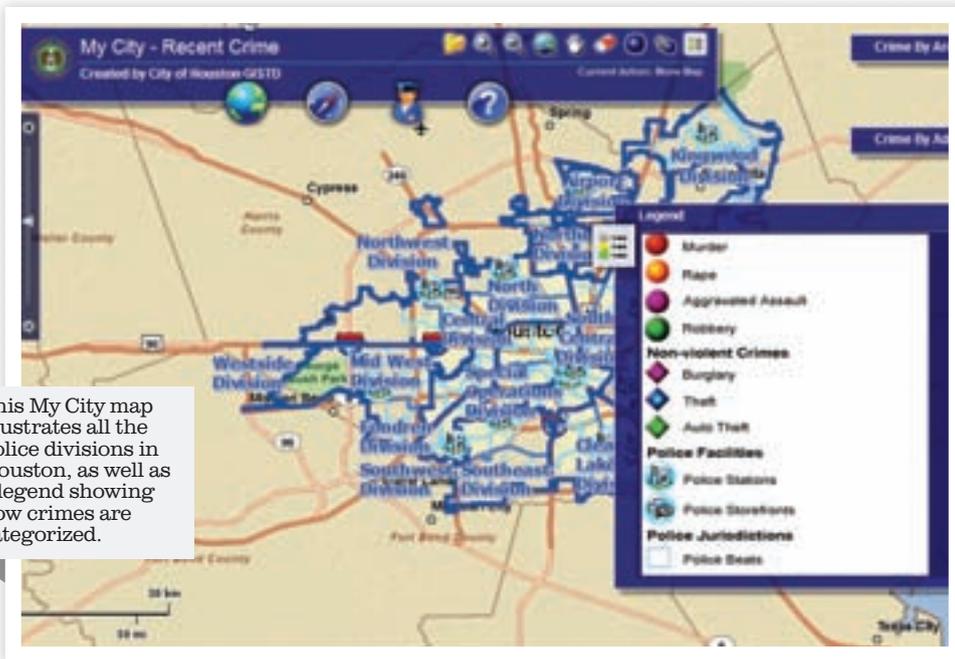
## Reaching Beyond the City

Use of Houston’s enterprise GIS is spreading beyond city employees: The Texas Comptroller of Public Accounts is an avid My City user.

“It gives them a very accurate idea of where businesses are located. If certain businesses are supposed to be paying sales taxes to the city, but they’re really close to the city boundaries, then this tells the comptroller’s office whether they’re in or out of the boundaries,” Samfield said, adding that prior to My City, the comptroller lacked a viable source for making that determination.

Fireworks vendors also use My City to plan where to sell fireworks — which are illegal in the city — to Houston residents.

“They love the ability to accurately know if a parcel they are considering putting a fireworks stand on is inside the city or not,” Samfield explained. “If somebody buys fireworks, in some cases, if they turn left, they enter the city and get a ticket because they have fireworks. If they turn right, they’re OK. Now they can even advise people, ‘OK, don’t go left; there is a policeman waiting behind the billboard. You have to turn right.’” 



This My City map illustrates all the police divisions in Houston, as well as a legend showing how crimes are categorized.

McClure even said the system was ideal for non-GIS experts.

“For a noncomputer person, anybody can get on that thing,” he said, “and you wouldn’t even need a class to use it.”

## GIS Craze Spreads

Accessible and accurate GIS data delivered through My City has spurred a flurry of interest in GIS across the city. Samfield anticipated this and assigned the Department of Planning and Development’s GIS Supervisor Larry Nierth to teach classes.

“They knew there was going to be an explosion of new users who wouldn’t have any prior formal training,” Nierth said.

tor come in from San Antonio, which is their regional headquarters, and teach that particular class. It comes out to about \$860 per student, per day,” Nierth said, adding that his monthly classes don’t typically exceed 13 students.

Nierth’s status as an ESRI instructor is contingent upon his performance. The vendor monitors his competence via the evaluations his students must submit after each class. Students submit the evaluations online and ESRI receives them immediately.

“They’re making sure I’m responding to the students — that I’m representing ESRI correctly and efficiently, and that I’m knowledgeable,” Nierth explained.

# Who Rules the Net?

The debate over network neutrality is far from over. With recent moves by the FCC, some say the battle's just beginning.

## SYNOPSIS

The FCC appears poised to enact net neutrality rules. Industry observers debate the potential impact.

**In the epic battle between giant corporations and pirates of digital media, the latter faction has struck a severe blow with the help of regulators at the FCC. Bureaucrats soon will pen regulations that will keep the Internet free forever from — well, regulation. Meanwhile, Internet service providers (ISPs) like Comcast and AT&T will slink back to their caves to bemoan their inability to further mine profit from customers.**

Such a description of the network neutrality debate is clearly a gross oversimplification of what's in reality a complex problem. If you listen to net neutrality advocates, ISPs are described as aspiring digital gatekeepers out to wring every last cent from innocent consumers. ISPs, on the other hand, have had a terrible time crafting a countermesssage — their best attempt has been claiming that they want only to reinvest profit into building more broadband.

Net neutrality is an important issue, as it may well determine the future of the Web. And with the FCC's October 2009 notice of proposed rulemaking regarding network

neutrality regulation, it would seem the grass-roots activists have defeated their corporate adversaries. Although there aren't any written rules yet, some worry the federal government is claiming power it doesn't possess to regulate the Internet in a manner that's far worse than what Time Warner or AT&T would even consider.

## Choose Your Master

The core of net neutrality is the notion that no one should be "in charge" of the Internet, yet its advocates have gravitated toward the idea of endorsing some sort of government regulation to ensure neutrality. That very

concept, however, is counter to network neutrality. In a perfect — and perhaps improbable — world, the Internet would regulate itself.

"There are two entities we want to keep their hands off the Internet," said Jennifer Granick, civil liberties director of the Electronic Frontier Foundation, a nonprofit digital rights advocacy. "One is broadband providers and the other is the government. We're in a situation where no one wants broadband providers to discriminate and tell consumers what content they can receive and what applications they can run. But no one wants the FCC to do that either."

The net neutrality debate has been going on for years. It reached a high (or low) point when in 2006, then-Sen. Ted Stevens of Alaska clumsily explained the Internet was like a "series of tubes." Despite Stevens' primitive grasp on Internet architecture, as a metaphor, his description isn't entirely without merit. ISPs argue that without the

ability to practice network and application management, the “tubes” will get clogged by users who move bandwidth-intensive data, such as video, on the network. What upsets network neutrality advocates is that this network management is likely to take the form of “traffic shaping” — where content providers that have struck deals with ISPs will be made “more available” to users than rival content providers that haven’t agreed to a pact.

Net neutrality advocates say the federal government needs to regulate what kind of network management is acceptable and what kind is essentially extortion. This would prevent, say, Time Warner’s Internet customers from not being able to access content that competes with Time Warner. The demand for oversight grew to a fever pitch when, in 2007, Comcast was caught red-handed throttling peer-to-peer traffic, which typically involves large file exchanges like BitTorrent. Comcast never told customers it was managing traffic in such a way, prompting outrage when the practice was discovered. After the FCC ruled Comcast’s practices were discriminatory and invasive,



**Jennifer Granick**,  
civil liberties director,  
Electronic Frontier Foundation

the agency banned throttling as a form of network management. Comcast, meanwhile, set about creating new, open network management principles that largely have been well received. Since then, an uneasy truce has existed. But with the election of President Barack Obama and the change in management at the FCC, the issue is once again at the forefront.

“Obama endorsed network neutrality as a senator. He made it a lead point on his technology policy as part of his campaign,” said Christopher Yoo, law and communication professor, and director of the Center for

“There’s a lingering fear that if the FCC says the wrong things in the rules, they could really screw things up badly.”

**Christopher Yoo**, director, Center for Technology, Innovation and Competition, University of Pennsylvania Law School

Technology, Innovation and Competition at the University of Pennsylvania Law School. “That technology policy was authored by Julius Genachowski, who’s now chairman of the FCC.”

Indeed, in October 2009, the FCC voted to begin discussion on rules that Genachowski had proposed. The rules were designed to prevent ISPs from using discriminatory practices in network management. According to the agency, under the proposed rules, the broadband ISPs:

- would not be allowed to prevent users from sending or receiving the lawful content of the user’s choice over the Internet;
- would not be allowed to prevent users from running lawful applications or using the lawful services of the user’s choice;
- would not be allowed to prevent users from connecting to and using on their networks those lawful devices that do not harm the networks;
- would not be allowed to deprive users of their entitlement to competition among network, application, service and content providers;
- would be required to treat lawful content, applications and services in a nondiscriminatory manner; and
- would be required to disclose such information concerning network management and other practices as is reasonably required for users and content, application and service providers to enjoy the protections specified in this rulemaking.

Public comments on the notice of proposed rulemaking were due in January. Replies to comments are due by March 5.

Looking at the proposed rules, it seems that net neutrality advocates finally achieved victory. But some now question whether the FCC has the authority to enforce such sweeping regulation, and whether the rules are so ambiguous that they’ll allow the federal government to crack down on content it finds unacceptable.

### Follow the Money

Net neutrality observers like Yoo and Granick see the issue as a battle between ISPs and content providers, with end-users largely on the sidelines. Content providers like Google benefit in an environment where all content is treated equally. Content providers make money by getting eyeballs on their Web pages. None of their profit needs to go to investing in the nation’s broadband infrastructure. That responsibility is largely at the feet of ISPs. The ISP argument, then, is that for broadband expansion — the cornerstone of Obama’s technology policy and the stimulus package — to occur, revenue needs to increase to build out next-generation infrastructure, like fiber-optic lines to individual homes.

To generate that increased revenue, ISPs say they should be able to do one of two things: favor traffic going to content they provide by slowing or stopping traffic to competing content providers; or cutting deals with content providers so end-users get a better Web experience by using those providers’ sites. Tiered end-user service, one of the rallying cries of early net neutrality advocates, already exists. Most ISPs offer different levels of broadband connection speeds at different prices.

**70%**  
of broadband bandwidth is consumed by downloads of music, games, video and other content.

**10%** of broadband subscribers consume 80 percent of bandwidth; of those, 0.5 percent of broadband subscribers consume about 40 percent of total bandwidth.



## PAY TO PLAY?

Network neutrality advocates fear that without federal regulations, the future of the Internet may involve a tiered, “pay-to-play” access structure like this:

Basic Internet Service.....**\$29.00/**  
month



Search Engines.....**\$5.00**



Social Networking...**+\$10.00**



News.....**+\$5.95**



Shopping.....**+\$5.00**

Total.....**\$54.95**

*Government Technology* requested comment from Comcast on the FCC’s proposed rules. However, the company would only provide prewritten statements from its executive vice president, David L. Cohen.

“We welcome the dialog suggested by [Chairman Genachowski] in his comments, and we completely agree that any consideration of new ‘rules of the road’ begin with notice and an open, public rulemaking proceeding — this is both fair and appropriate,” Cohen wrote in September. “But before we rush into a new regulatory environment for the Internet, let’s remember there can be no doubt that the Internet has enjoyed immense growth even as these debates have gone on.”

Dan Martin, a member of Google’s Global Communications and Public Affairs team, countered such arguments against federal regulation.

“The FCC is basically trying to outline rules of the road that will ensure broadband providers aren’t allowed to begin discriminating against certain types of traffic for commercial purposes,” he said. “From our perspective, we’ve always said that folks should be able to practice reasonable network management. Obviously there’s a certain amount of bandwidth and ISPs need to be able to manage traffic. With that said, they shouldn’t be able to use that in a way to discriminate against certain types of traffic for commercial purposes.”

While the war of words continues between ISPs and content providers, federal regulation of the Internet seems inevitable. The concern now is that if the FCC doesn’t get the rules exactly right, they may inadvertently quash innovation down the road.

Many who follow the net neutrality debate — including the Electronic Frontier Foundation — are concerned the FCC might be overreaching. An ISP industry source, who spoke on the condition of anonymity, told *Government Technology* there is a fear the FCC may deliver regulation so shortsighted that business development will be disrupted.

“The current administration, in the campaign, said it was in favor of net neutrality regulations, and it’s doing what folks would expect by following through on its campaign promise,” the industry source



Julius Genachowski, chairman, FCC

said. “But I don’t think people anticipated the changes to be as radical as they might become.

“How far does nondiscrimination go in the final document? What things that we’re doing now to serve customer and maintain a network won’t be doable? As far as network management, will we be able to manage the network in a way that isn’t scary for consumers? And wireless — how will that engineering deal with radical nondiscrimination?”

Yoo said regulation seems inevitable, and he agreed that the FCC would be wise to tread lightly.

**80%**  
of broadband subscribers use less than 10 percent of bandwidth.

“There’s a lingering fear that if the FCC says the wrong things in the rules, they could really screw things up badly,” he said. “There are new technologies emerging; there’ll be new uses that we can’t even conceive of today.

“The catch is, they’re going to set rules and they’re not going to do so with any particular application or technology in mind. And then a new technology or application will come up, and how these old rules will apply to new developments will be essentially arbitrary. No one’s thought it through. We’re just going to read a bunch of rules that were written for a different context and apply them.”

### Absence of Control

Instead of relying on the FCC or corporations to dictate the rules, Granick argues for

*Kids think the place is haunted.  
You suspect it's not up to code.* Getting building inspectors to places all around town takes serious choreography. Good thing there's Nextel Direct Connect.® It uses GPS to help you track and manage your team. Letting you instantly locate and connect, whether they're inspecting new construction or a creepy old manor. Nextel Direct Connect.® Only on the Now Network.™ 1-800-NEXTEL-9 [sprint.com/nextel](http://sprint.com/nextel)

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letting the Internet guide itself through its evolution. New and nascent means of broadband delivery may develop — such as broadband-over-power-lines or improved wireless broadband — that may prove feasible, but may be hindered by poorly conceived federal regulations.

“If the choice is between corporations and government, they’re both bad choices. But that may not really be the choice we’re faced with,” she said. “So we need to resist the temptation to react so strongly against the potential problems with ISPs and say the only solution is government regulation. There are other things that would greatly alleviate the problem and, as the Internet evolves, it may turn out that these things that really worry us now are not worries at all later.”

Those “other things” Granick mentions are innovation and competition. End-users often have few choices when it comes to broadband. This is due largely to the regional monopolies that cities and coun-

“If the choice is between corporations and government, they’re both **bad choices.**”

**Jennifer Granick**, civil liberties director, Electronic Frontier Foundation

ties established years ago with phone and cable providers.

It stands to reason that some time will elapse before anything concrete comes from the FCC’s proposed rules. For the time being, finding ways to improve competition and broadband availability may solve the net neutrality problem before the FCC puts itself in charge. Plus, the public has proven to be adept at loudly decrying any attempts by ISPs to manage traffic in a discriminatory fashion.

“[Competition] will go much further toward resolving this neutrality problem without having the corollary danger that, once the FCC gets its hands on the Internet, we’re also going to see indecency regulation to ‘protect the children,’ or digital rights

management, and those sorts of things,” Granick said.

“One of the things the FCC is supposedly charged with doing is to encourage broadband deployment. In some ways, I do think we have the luxury of figuring this out — despite the FCC’s eagerness to move forward — because the few instances where there has been content or application discrimination have been pretty quickly fixed because of people’s attention to the problem,” she added. “It’s a serious problem, but I think we have some time to see whether we get more broadband providers or broadband-over-power-lines. Competition alone won’t fix everything, but it will go a long, long way to fixing the problem.” 

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## MARYLAND THINKS GREEN

Maryland's Green Registry commends public- and private-sector organizations that have implemented at least five practices toward a greener working environment. The registry boasts more than 80 participants, including the city of Bowie and the Maryland Department of the Environment, and provides tips and resources for incorporating green practices.



**SMART CITIES:** Six U.S. communities made the Intelligent Community Forum's (ICF) 2010 Smart21 list. The ICF, a think tank that studies the economic and social development of 21st-century communities, recognizes 21 cities annually for their use of broadband to compete in the global economy. The list includes three winners from Virginia: Bristol, Arlington County and Danville; as well as Dakota County, Minn.; Dublin, Ohio; and Riverside, Calif. SOURCE: ICF

## Vetting Help

U.S. veterans who require constant medical follow-ups due to traumatic brain injuries or other serious health conditions can be medically monitored via their cell phones.

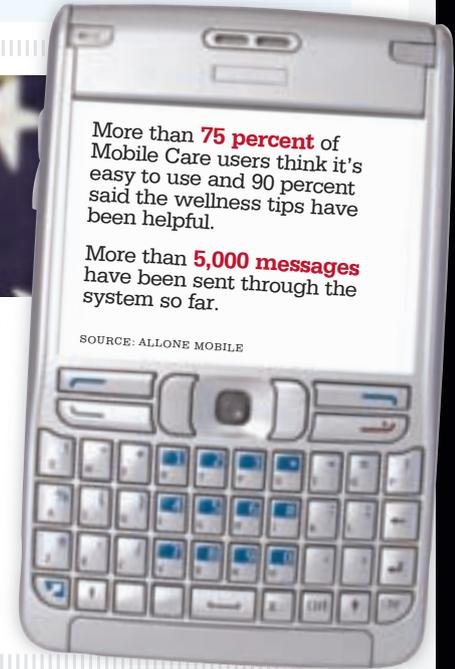
Mobile Care is a downloadable application that facilitates two-way

communication between patients, doctors and approved third parties. The application lets users store health-care information on their phone and provides a secure channel for sending and receiving messages, according to the company.

More than **75 percent** of Mobile Care users think it's easy to use and 90 percent said the wellness tips have been helpful.

More than **5,000 messages** have been sent through the system so far.

SOURCE: ALLONE MOBILE



## Feeling Insecure?

A 2009 survey of 300 federal IT professionals conducted by computer vendor CDW-G found that their top three daily cyber-security issues are malware (**33 percent**), inappropriate employee activity/network use (**25 percent**) and managing access to remote users (**25 percent**).

Send spectrum ideas

to managing editor  
Karen Stewartson  
[kstewartson@govtech.com](mailto:kstewartson@govtech.com)



Americans are victims of identity theft annually, according to the Federal Trade Commission.

## Keeping the Lights On

Most IT departments spend less than 25 percent of their time on strategic initiatives, according to a survey of more than 400 *Government Technology* subscribers. The same survey found that most departments spend 26 to 50 percent of their time maintaining and supporting existing IT systems.



# 78%

of employees say they are less productive at work when they are **too hot or too cold**, according to a 2009 Harris Interactive Survey.



# Unwelcome Gifts

Mysterious laptops show up in several governors' offices, prompting some to wonder if they're part of a hacker's plot.

**S**omething smelled fishy in Vermont, Washington, Wyoming and West Virginia in August 2009 when the states' governors received mysterious laptops they never ordered.

Each office reported receiving three to five laptops in two deliveries of either Hewlett-Packard or Compaq units, according to several news sources. A National Governors Association bulletin disclosed that HP intercepted another shipment to at least one other state. The federal government is reportedly investigating deliveries in at least 10 states.

If the laptops were intended as bait, no one bit.

"There was a realization that we did not order these computers," said West Virginia State Police Sgt. Mike T. Baylous. Once the state police realized the delivery could pose a problem, the department sought federal action.

"We reached out to the FBI. We have a great working relationship with them here," he said.

Cindy Smith, an administrative manager in West Virginia Gov. Joe Manchin's office, told *The Charleston Gazette* that no one in the state government knew what was on the laptops because they weren't turned on for security reasons.

Leigh Anne Manlove, acting press secretary for Wyoming Gov. Dave Freudenthal's office, told a similar story. "I don't think it was that big of a deal for our office because we knew we didn't order them," she said. "We didn't keep them."

Manlove added that her office turned the laptops over to Wyoming state troopers, who said they were originally shipped from Shanghai, China. The state troopers also X-rayed the packages and found that they didn't contain explosives, and the investigation was turned over to the FBI.



ILLUSTRATION BY TOM McKEITH

"They were drop shipped from Shanghai to Indianapolis through Hewlett-Packard," said Wyoming state trooper Lt. Klief Guenther. "They were ordered with a fictitious credit card, not related to any Wyoming government credit card or credit card processing. So I don't know where the credit card information came from."

Now the case is in the federal government's hands.

"Once the state troopers did all that they could do with those computers, they turned it over to the FBI because the FBI has the capability to sic some tech-savvy brilliant person on it and find out more beyond just, 'Is there a bomb inside?' or 'Is there some nefarious

plan that has to do with technology that was part of those laptops?'" Manlove said.

Guenther has confidence in the federal government's ability to dissect the laptops for anything that's malicious. Although Wyoming officials didn't find any evidence of physical danger from explosive, biological or chemical agents, he senses something fishy regardless.

"I don't think it's a coincidence that all these laptops ended up in governors' offices," he said.

In West Virginia, Baylous wouldn't divulge details about where the investigation is now and, the FBI is unable to comment on details about ongoing investigations. 

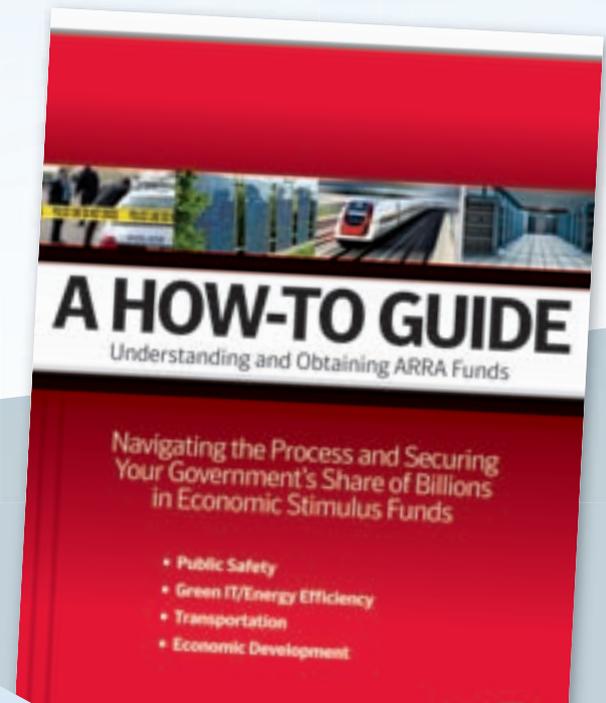
## SYNOPSIS

State governments got some unwelcome surprises when they received mystery equipment in the mail.

## JURISDICTIONS

Wyoming, West Virginia, Vermont, Washington.

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<sup>1</sup> U.S. Government Accountability Office, July 2009

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**SYNOPSIS**

The Salt Lake Valley Health Department uses social media to market community health campaign.

**CONTACT**

Kate Lilja, public information specialist, Salt Lake Valley Health Department, [klilja@slco.org](mailto:klilja@slco.org).



# Small Changes, Big Ideas

A tough economy drives one county to think outside the box when prompting citizens to practice good health.

As humans, we make choices daily that affect our lives in ways we take for granted. Little things — like that 11 p.m. bowl of ice cream eaten four nights a week or the half-hour walk taken every other day at noon — play roles in our long-term health, for better or worse.

Habits can be hard to break, even when we know they're bad for us. That's something staff members of the Salt Lake Valley Health Department in Salt Lake County, Utah, probably had in mind when they devised the One Small Change — For the Health of It campaign, which encourages people to make tiny lifestyle changes where they can.

"A lot of times with health messages, people are asked to change so much of what they do, and that can be very intimidating," said Kate Lilja, the department's public information specialist. "So the One Small Change campaign was a new spin on that by encouraging people to begin with manageable things."

Terri Sory, the department's chronic disease program manager, said these changes can guide people toward better health. "The more they make the small change, the more there is an impact on them individually — their families, obviously the community, and then our county as a whole," she said. "And then as they continue to make these one small changes and see how easy it is to do, they'll continue to progress in health."

It's a community-minded promotion, which users discover while perusing the One

Small Change section of the department's Web site, [www.slvhealth.org](http://www.slvhealth.org). The recommendations include small and personal changes, such as eating healthier or getting a vaccination; larger, group-oriented efforts, like starting a wellness-at-work program; and eco-friendly endeavors — for example, using recycled paper products.

"We wanted to encourage Salt Lake County residents to make a healthy lifestyle change this year, and that could be a behavior change that would positively impact our

## Healthy Choices

The Salt Lake Valley Health Department's One Small Change initiative encourages individuals to make little changes that together can yield big results. Some of the suggested changes include:

- 1** Taking public transit or riding a bike whenever possible to help reduce one's carbon footprint.
- 2** Quitting smoking, which can lower a person's chances of developing heart disease by 70 percent.
- 3** Choosing healthier food options, such as breakfast cereals with more fiber per serving.
- 4** Installing compact fluorescent light bulbs over standard bulbs and taking the stairs instead of the elevator.



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environment, like taking public transportation when available or switching to energy-efficient light bulbs,” Lilja said.

But the campaign isn’t just tips on a Web page: Its key component is the department-made video featured prominently on the department’s site and YouTube channel. The department uses social media tools, like Twitter and YouTube, to let citizens know it’s out there.

“We decided that our YouTube video would really be the key part of our campaign, so a lot of our efforts would just lead back to this video, which would introduce people to the campaign,” Lilja said.

A video on a Web page is likelier to grab someone’s attention than plain old text, no matter how wonderfully it’s written or designed.

“Directing people to a video is easier than directing them to a Web site where they read through a couple of pages of just information, ideas and instructions,” Lilja said.

## Lights, Camera, Action!

The video is a quick, informative affair that runs about four minutes and features county employees and friends speaking to the audience, and sometimes to each other, about changes people can make to improve their health or the environment.

“We used employees throughout the health department who became our resource,



Salt Lake County Mayor Peter Corroon (center) appears on local news to promote healthy cooking.

and it was actually a very incredible morale booster,” Sory said. “People were excited about it, and they were buzzing about it.”

To keep things from getting stale — a problem that plagues educational productions — Lilja, the director and camerawoman, filmed short scenes that lasted no more than several seconds.

She also switched up the styles of the scenes — the video opens with people speaking to the camera in different places in the community, similar to how they might answer a TV reporter or documentary filmmaker asking questions. After that, people either disseminate healthy tips to viewers public-service-announcement style, or discuss them with each other.

Peppered throughout are shots of folks affixing One Small Change stickers on various objects — boxes, trash cans, signs, bags and other things — to remind people that one small change can make a difference.

Since April, the department has promoted the video and campaign via Facebook, Twitter and Flickr, and Lilja said staff members have received positive feedback from the public on the YouTube page, other social media avenues and in person.

Many YouTube comments, Lilja said, are from people mentioning their positive life changes and feelings of empowerment.

“That’s what we were going for, especially with the video, was to

empower people, to motivate them, to begin on a healthier path,” she said.

Although Web feedback has been positive, it’s not enough to gauge the campaign’s effectiveness. The department’s YouTube channel has garnered a handful of encouraging comments from the public, but they are hardly representative of the entire county.

At press time, the department had plans to conduct a survey to discern the campaign’s success in motivating people to make healthier lifestyle choices, but Sory said the exact nature of the survey or how it would be conducted hadn’t been determined.

## Behind the Scenes

Each year, according to Sory, Community Health Services decides on a goal with public wellness in mind, and Division Director Dan Kinnersley works with the program directors he oversees to determine that goal. In early 2009, they decided to motivate 67 percent of the population to make a positive behavior change in one year.

Then worked on how to make it happen.

“We all got together, did a brainstorming session,” Sory said. “Out of that session, One Small Change — For the Health of It was born and how we wanted to move it forward and what we wanted to do.”

Lilja became involved because, as the county communication specialist in charge of new media, Internet interactivity falls

59%

The decrease in the chance of death in an auto accident among children in booster seats, according to the city’s health department.



One small change for these Salt Lake County residents is riding their bicycles to improve their health and reduce their carbon footprint.

under her purview. So once Community Health Services decided Web 2.0 was the way to go, she was the woman to call.

“Our first account was Twitter, and then we started to grow and expand to other social media tools as we became comfortable with the ones that we were using,” Lilja said. “Twitter kind of has a steep learning curve, so as we became comfortable with Twitter, and we were able to appreciate the benefits of being involved in the social media community, we expanded our program.”

“We used employees throughout the health department who became our resource, and it was actually a very incredible morale booster.”

— **Terri Sory**, chronic disease program manager, Salt Lake Valley Health Department, Utah

As for filming the One Small Change video, there were no big production dollars needed because Lilja’s office already owned a camera. And she edited the footage using Apple’s iMovie software on her personal computer.

“I actually did not have a lot of experience editing video, but through online tutorials and an hour-long in-store training session, was able to get the hang of it, get comfortable with it and create that video,” she said.

Then the county put the video on the site and notified the local media, which covered it. Some also pushed it on their social media accounts.

“They also have Twitter accounts, and they would promote it on their Twitter feed. That would start spreading virally with people retweeting the messages, so we got some great exposure that way,” Lilja said. The county also cross-promoted that with its social media accounts.

Both Lilja and Sory said the county lacked budget money for the campaign — another reason why social media, which is largely free, was such a boon. The only money they recalled spending was



Incorporating small changes is sometimes hard to achieve, but residents can motivate each other by pairing up.

\$300 to pay local graphic designer Matt Shay to design the campaign logo, which adorns the stickers showcase repeatedly in the video.

Salt Lake County continues to use social media to distribute tips and posts linked to One Small Change and related health programs.

“Sporadically I will post an idea of what somebody could do for their one small change, like something as simple as switching from white rice to brown rice because it’s more nutritious,” Lilja said. “I’ll also solicit responses by asking people, ‘What’s your one small change? What change have you made?’ That’s just through Twitter and Facebook.” 



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# Speed Bump

Is the federal government's defined speed for broadband too slow?

BY ANDY OPSAHL FEATURES EDITOR

**D**uring the 2008 presidential campaign, Barack Obama endorsed a federally mandated National Broadband Plan to promote Internet connectivity. The American Recovery and Reinvestment Act (ARRA) directed the FCC to establish a National Broadband Plan. The federal government is now poised to follow through on that idea, but it may prove to be a hollow victory for those who've long advocated for higher minimum broadband speeds.

Broadband advocates and some vendors consider standards tied to the \$7.2 billion for broadband projects in ARRA indicators of what will come from an overall broadband strategy. And some don't like what they see. The federal government set 768 kilobits per second (Kbps) for downloading and 200 Kbps for uploading as minimum

acceptable speeds to qualify for broadband stimulus grants.

But critics say those speeds hardly equate to true broadband.

"It's almost impossible to participate in a real-time video conference [at that speed]. It's almost impossible to share video files, music files, pictures — any large quantity of data with a time-sensitive nature to it. It's almost impossible to do that because it's barely four times the speed of dial-up," said S. Derek Turner, research director of Free Press, a consumer group advocating for higher speeds within the National Broadband Plan, which the FCC plans to release February.

"Certainly on the downstream side, you might be able to stream YouTube videos, but you're going to have a lot of stuttering and buffering," Turner added. "On the upstream side, it's barely enough to engage in a two-way voice over Internet phone call."

Some critics say the federal government's standard, as written, would cement America's low ranking among national average broadband speeds. Turner contends that this would stunt the nation's economy, which increasingly depends on fast Internet connections. The U.S. ranked 19th in average advertised broadband speeds compared to other countries in a 2008 study conducted by the Organisation for Economic Co-operation and Development (OECD), a group headquartered in France that helps governments tackle economic, social and governance challenges of a global economy.

Not all experts view the OECD study as cause for alarm. Gartner Research Vice President Alex Winogradoff said U.S. population centers have broadband speeds comparable to other nations. The large rural population in the United States, however, makes the country seem further behind the broadband curve than it really is.

And major broadband providers, like Comcast and AT&T, say many areas of the country lack sufficient demand to make higher speeds financially sustainable. In July 2009, AT&T argued in a letter to the FCC that the agency should create one lower-speed standard for residential users and a higher one for businesses.

Existing providers and some analysts contend that users don't need access to the newest broadband applications to be

**SYNOPSIS**

Municipal broadband advocates debate whether the FCC's current speed minimum is sufficient.

**CONTACT**

Alan Shark, executive director, Public Technology Institute, shark@pti.org, 202/626.2445

**THE NEED FOR SPEED**

A 2009 report from the Information Technology & Innovation Foundation identified bandwidth requirements for common broadband applications. Here are a few examples:

<p><b>1.2</b> Mbps</p> <p>Streaming Video</p>	<p><b>4</b> Mbps</p> <p>Standard HD Digital Television</p>	<p><b>1.2-4</b> Mbps</p> <p>Basic HD Video Conferencing</p>	<p><b>10</b> Mbps</p> <p>Video Home Security Service</p>
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SOURCE: THE NEED FOR SPEED: THE IMPORTANCE OF NEXT-GENERATION BROADBAND NETWORKS, MARCH 2009

legitimately connected. AT&T claimed in its letter to the FCC that, for rural residential users, the ability to send e-mails and instant messages and do basic Web browsing should drive national broadband goals.

### Unavoidable Limitations

If the national plan holds to the minimum speeds required by the stimulus, old-style copper lines will likely be used to provide DSL connections in regions that are now classified as unserved, said Alan Shark, executive director of the Public Technology Institute. He wants subsidies to fund more advanced technology. “We’re preserving the current infrastructure,” Shark said. “What new is going to be built, other than taking copper lines and putting in a few little switches?”

Gartner’s Winogradoff agrees that the stimulus’s definition for minimum speed is dubious, but said it is likely to be the most realistic option for rural areas. He believes that convincing a vendor to partner on fiber deployments in rural areas would be financially impossible. “There is no way you could push fiber that deep anywhere,” he said.

Winogradoff explained that a fiber network must reach back to an area’s broader Internet infrastructure. Wherever fiber is extended from the broader Internet infrastructure, enough consumers must buy services over it to maintain that fiber extension. Many rural areas don’t have enough consumers to support such an extension.

Shark acknowledged that commercial providers can’t make a business case for some of the upgrades. But he contends government should take the lead in bringing true high-speed connectivity to rural America.

“The government has more of a responsibility to take the leadership role because Verizon and AT&T can’t, and they shouldn’t be expected to. Neither should Comcast, [which] can’t,” Shark said. “But the federal government is the one taking your money and my money — \$7 billion [in stimulus money] to build infrastructure. I don’t understand why we should be satisfied with accepting status quo.”

Comments from AT&T to the FCC suggest the current speed requirement would improve the status quo in communities accustomed to even slower speeds. “For Americans who today have no terrestrial broadband service at all, the pressing concern is not the ability to engage in real-time, two-way gaming, but obtaining meaningful

access to the Internet’s resources and to reliable e-mail communications and other basic tools that most of the country has come to expect as a given,” AT&T’s letter said.

### Low Expectations

Right now, it isn’t clear how much federal assistance beyond the stimulus will go toward the national plan. But another concern is that a minimum speed requirement that’s too low could exclude communities from federal assistance that already have broadband that’s only slightly faster than the minimum. According to Shark, eligibility requirements for ARRA funds for broadband projects already have that exclusion.

“They set the bar so low it was impossible for [many governments] to say they had an ‘unserved’ area because, under the conditions, everything was pretty much served,” Shark said. “It’s just a step above dial-up in certain ways.”

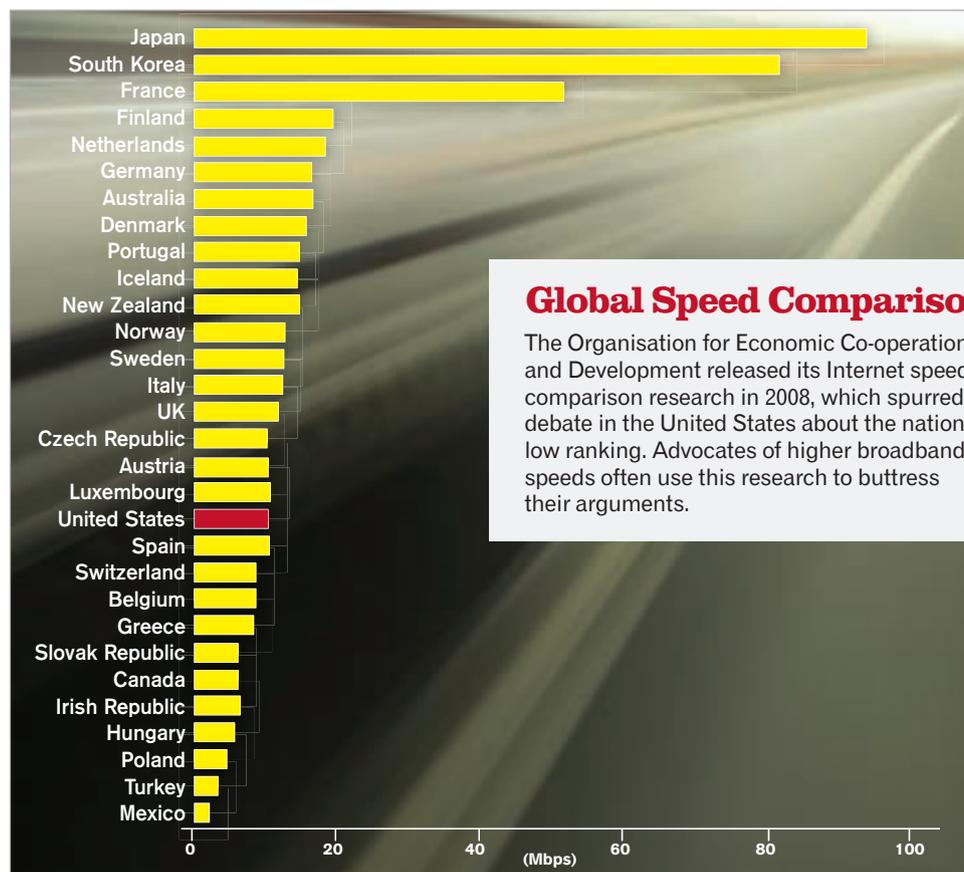
That snag left some observers wondering if the federal government should raise the speed standard to ensure that communities with average broadband are included in the national plan. But others are unsure the federal government could afford to subsidize that many projects.

Free Press contends that changing telecommunications regulations is more viable than raising the minimum speed. Turner blames slow connection speeds on a lack of competition among ISPs. He wants the FCC to enforce language in the Telecommunications Act of 1996 that compels incumbent ISPs to share their infrastructure with competitors.

“Incumbent carriers and cable companies aren’t going to like a lot of this, but they have to recognize that we live in a duopoly marketplace, and that’s just not good enough,” Turner said. “There is going to have to be some type of policy aimed at encouraging more competition.”

Turner said the current setup creates a disincentive for providers to build new infrastructure. “They’re essentially just taking the profit they have on the deployment they did a decade ago and aren’t deploying the capital you would see in a competitive industry,” he said.

Aggressive regulations aimed at enforcing competition were the rule in much of Eastern Europe and Japan, Turner said. “It has been remarkably successful policy that’s really helped grow the broadband market and led to lower prices and much faster pace of different higher-quality services.” 



**Global Speed Comparison**  
 The Organisation for Economic Co-operation and Development released its Internet speed comparison research in 2008, which spurred debate in the United States about the nation’s low ranking. Advocates of higher broadband speeds often use this research to buttress their arguments.

# High-Tech Trash

Solar-powered, self-compacting trash bins cut the cost of garbage collection in Pasadena, Calif.

As local governments seek any and every way to save money during this economic recession, Pasadena, Calif., found that spending extra money on new technologies can sometimes reap cost savings.

Along with local nonprofit Leadership Pasadena, the city participated in a pilot to deploy 12 solar-powered, self-compacting trash bins to city streets. “We discovered that they were very efficient and required very little maintenance,” said Gabriel Silva, environmental programs manager for the city’s Department of Public Works.

The specialized trash containers — called BigBelly Solar Compactors — can hold up to five times more trash than regular containers, according to the manufacturer, BigBelly Solar. Instead of connecting to the power grid, the devices run off solar power.

## Solar-Powered Expansion

Because less than 10 percent of the material collected during the pilot was recyclable — most of the trash was soiled papers from fast-food wrappers and drink containers — Silva said the city is using the containers solely for trash disposal.

Based on the pilot’s success, the City Council recently approved the purchase of 40 additional containers at a cost of nearly \$147,000 — about \$3,700 each. By comparison, Silva said standard steel garbage cans cost several hundred dollars apiece.

Despite the added upfront costs, Pasadena found the solar compactors cost-effective because they can be emptied weekly instead of daily, allowing the city to redirect its labor force to other tasks. Since employees don’t need to visit the containers as often for trash pickup, the city also has reduced the amount of fuel used. The



This self-powered trash compactor obtains all its energy from the sun. Though they are the same size as standard receptacles, they hold five times more trash due to their self-compacting nature.

PHOTO COURTESY OF BIGBELLY SOLAR

## SYNOPSIS

By installing solar-powered, self-compacting trash bins, Pasadena, Calif., has redirected labor and saved money.

## TECHNOLOGIES

Solar powered, self-compacting trash cans from BigBelly Solar.

## CONTACT

Gabriel Silva, environmental programs manager, Department of Public Works, Pasadena, Calif., recycle@cityofpasadena.net.

city expects combined labor and fuel savings to reach \$61,400 annually once all containers are deployed — about a three-year return on investment, Silva said.

To determine where to deploy the BigBellys, Pasadena conducted a survey of all trash cans throughout the city. “We identified all the containers that required daily emptying, and we’re replacing those

high-use trash containers with these more effective trash compactors,” Silva said.

## Trash Trends

Pasadena isn’t the only city to enlist the high-tech trash bins. Deployments also have been made by Boston; the Portland, Ore., Zoo; the Bergen County, N.J., Parks Department; and Arizona State University.

In April 2009, Philadelphia replaced 700 of its wire basket trash bins on city streets with 500 self-compacting containers, according to a report released in June 2009. And as part of its Philly Throws Green initiative, Philadelphia also distributed 210 single-stream recycling bins — which allow all types of recyclables, like paper, plastic and glass, to be collected in one container. Before adding the new receptacles, city workers made 17 trips per week to empty the 700 wire trash bins, which cost about \$2.3 million annually. According to the report, the new receptacles require emptying five times a week at a cost of about \$720,000 annually. [GT](#)

## Fast Fact:

Pizza boxes and soiled paper and cups cannot be recycled. Why?



Foil, grease, paint, plastic or oil on food boxes or paper show up farther down the paper-making process, causing a defect that’s an “oily” spot on newly formed paper.

These spots don’t print or glue properly, and cause stains on the

paper. When these non-paper materials become part of the new paper, the new paper is rejected and ultimately ends up in the garbage.

— ANOKA COUNTY, MINN., INTEGRATED WASTE MANAGEMENT DEPARTMENT



1

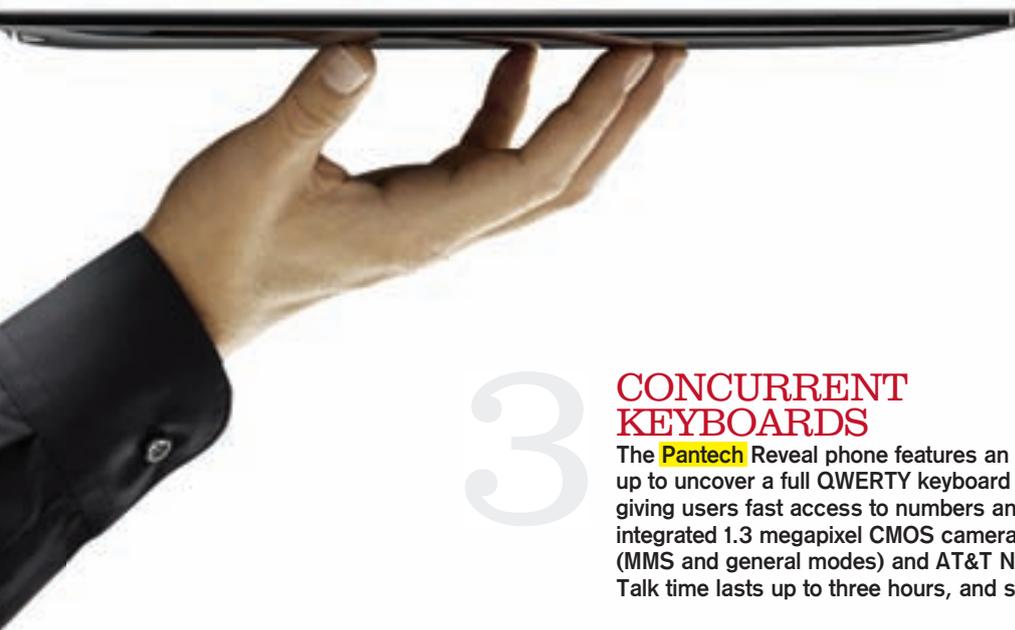
## PANORAMIC PATROL

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2

## E-BOOKS FOR THE EXECUTIVE SET

**Plastic Logic** unveiled QUE, the first e-book reader designed for business professionals, connecting them to business and professional newspapers, books and periodicals. The device also supports document formats that business users commonly need (including PDF, Microsoft Word, PowerPoint and Excel documents), and features tools for interacting with and managing the content. QUE measures 8.5 x 11 inches, is less than 1/3 of an inch thick, and weighs less than many periodicals. It features a shatterproof touchscreen and connects via Wi-Fi and AT&T's 3G network. [WWW.QUEREADER.COM](http://WWW.QUEREADER.COM)



3

## CONCURRENT KEYBOARDS

The **Pantech** Reveal phone features an open-faced numeric keypad on its front, which glides up to uncover a full QWERTY keyboard underneath. Both sets of keys stay active simultaneously, giving users fast access to numbers and letters at the same time. The phone also has an integrated 1.3 megapixel CMOS camera, up to 1280x1024 resolution, voice memo recording (MMS and general modes) and AT&T Navigator GPS. The address book holds 1,000 contacts. Talk time lasts up to three hours, and standby time up to 10 days. [WWW.PANTECHUSA.COM](http://WWW.PANTECHUSA.COM)



# Resolutions for Zombie Governments

Physicians and clergy are fond of saying that if there's a pulse, there's hope. As the new year begins, many public agencies are rightfully worried about their vital signs after what's been a punishing and traumatic season of fiscal and social disruption.

Some have relied on federal stimulus for life support and the promise of resuscitation until a recovery takes hold. Others see the problem in bleaker terms, suggesting that nothing short of resurrection is needed.

Author, columnist and progressive political operative David Sirota concluded that many of our institutions don't need life support, but a decent burial. That's not going to happen. In popular culture, post collapse economics and politics the undead are too big to die.

Sirota noted how easily the phrase "zombie banks" entered the cultural lexicon to explain the unfathomable, "From a balance-sheet perspective, many of these firms were dead. But they were quickly reanimated as zombie banks with trillions of taxpayer dollars."

And it spread from there, "On Wall Street, we have zombie executives." At the White House, zombie advisers "now sit in high government office letting out moans in support of the zombie banks." At the other end of Pennsylvania Avenue, Sirota continued, "Decrepit zombie politicians with the funk of 40,000 years stalk Congress with the very zombie lobbyists that the election was said to disempower."

From a balance-sheet perspective, at least two of the largest states — and a distressingly large number of cities and counties — are exhibiting zombielike characteristics. There's plenty of aging funk in state legislatures, city councils and county commissions. In a time of financial scarcity and cuts, the great mysteries may revolve around zombie programs that lurch forward in light of higher priorities elsewhere.

Enter Bill Eggers and John O'Leary as modern day ghostbusters. As co-authors of *If We Can Put a Man on the Moon ... Getting Big Things Done in Government*, the public-sector clinicians offer a diagnosis of what's killing government's best laid plans and a prescription for exorcising public-sector zombies.

In a recent conversation, Eggers said government intentions can go awry by falling into seven common traps on the journey from inception to implementation. Avoiding three in particular seem like a good place to start:

1. Avoid design-free design, a political rendering meant for legislative passage by obfuscating the level of difficulty, making it of little use for implementation.
2. Avoid overconfidence, which obscures and discounts risk.
3. Avoid complacency, which fails to recognize that a program needs change.

The good news is that many public agencies have avoided the traps, Eggers said. "Governments that do this the best have institutions in place — sunset commissions or performance review processes or something else — that force that re-evaluation to occur [and] force you to look at wholly new ways of doing ... things."

Eggers also said he hopes the fiscal crisis will bring about change. "That's probably one good thing about the budget crunch: [It's] a forcing mechanism to force states and localities to re-evaluate. I just hope they do this hard work now as opposed to cutting heads and across-the-board budget cuts, because we are entering an age where I think a lot of our structures and systems are ... arcane and obsolete."

The lesson is: Zombies are analog, mindlessly undead. Digital demands a clearer, cleaner choice — on/off, alive/dead. And that's going to take a lot more thinking. **GT**

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