

Freedom of Information/Public Records Request

Part I: I hereby request to: Inspect Copy the following records:
(please be specific and include names, dates, keywords, and name of record type where possible).

Please provide all Everton City and Police Department social networking content from May of 2012 regarding special notices and street closures related to the Everton Memorial Day parade

Part II: What format do you request? Electronic Paper

Part III: Name of individual(s) requesting information: John A. Reizer
Address: 1076 Freedom Way City: Everton State: TX Zip: 75496
Phone: (210) 867-5309 Email: jpublic1@gmail.com



For Internal Office Use Only

Date Request Received: **July 1, 2014** Request Status: **Pending**

Notes: Staff has invested more than ten hours scrolling through social media pages and collecting stored screenshots from department hard drives. Citizen comments no longer available, City Attorney issued subpoena to social network - response still pending after four weeks.

HOW WILL YOU RESPOND?

ArchiveSocial automates the capture and retrieval of records from social networks including Facebook, Twitter, YouTube, Instagram, and LinkedIn for compliance with state and federal public records laws.

<http://archivesocial.com/respond>



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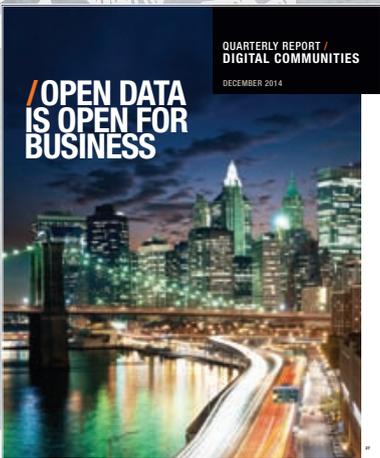
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Digital Communities Quarterly Report

27 / Originally viewed as a path to greater transparency, governments are realizing there are substantial economic benefits from open data.

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Innovations in Health
Will wearable tech change the health-care landscape?

Doctoring by the Numbers
A look at ways agencies are using big data for better outcomes.

Policy Rx
How laws written in another era should adapt to the high-tech age.

FOLLOW US ON    

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The Case for Saying Yes

It's better to have change happen with you than to you. That was the takeaway from government innovators speaking at our annual re:public leadership retreat in November. And as we close out 2014 and look toward a busy 2015, it's a good message to keep in mind.

Keeping pace with technological change is tough for many organizations, but it's particularly wrenching on governments, which by design — and often by temperament — aren't inclined to make major course changes quickly. Nor are the questions raised by disruptive technologies easy to answer. Cities struggled this year with regulating ride-sharing startups that challenged traditional taxi companies, for instance. And the FAA grappled with how to safely mix pilotless drones into airspace used by commercial airliners.

Yet it's far riskier for governments not to engage on these issues.

"If we don't want to become irrelevant, we have to develop policy that's responsive," said Story Bellows, co-director of the Philadelphia Mayor's Office of New Urban Mechanics. "The timeline to develop policy is long and it's fixed. We assume we don't need to revisit it for decades. We have to figure out how to iterate on policy."

Given that tech-driven change continues to accelerate, governments

“Given that tech-driven change continues to accelerate, governments at all levels will need to figure out how to confront these developments nimbly, collaboratively and head-on.”

at all levels will need to figure out how to confront these developments nimbly, collaboratively and head-on.

"Cities can let autonomous vehicles just happen to them, or they can embrace the change and figure out how to use it," said Gabe Klein, former transportation commissioner of Chicago and Washington, D.C., who is now COO of Bridj, a startup company that offers an alternative to public bus service. The same goes for 3-D printing, wearable health devices, big data and a long list of other potentially disruptive developments.

To be clear, engaging with new companies and technologies doesn't mean giving them a free ride. "The argument that new types of companies can't be regulated is BS," Klein acknowledged. "But unless we embrace it, we can't regulate it effectively. If we just say no, it doesn't work."

In there somewhere might just be a New Year's resolution for regulators and policymakers: Pay attention to risk and public safety, of course, but also look for opportunities to say yes, and give innovators a little bit of leeway. **CT**

RAISE YOUR VOICE

Your opinions matter to us. Send comments about this issue to the editors at editorial@govtech.com. Publication is solely at the discretion of the editors. *Government Technology* reserves the right to edit submissions for length.

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Privacy Policy

Seattle announced Nov. 3 that officials will create a citywide privacy initiative intended to show the public how the city collects and uses data. The announcement comes after controversy in past months when civil liberties advocates protested the quiet deployment of police-operated cellphone trackers. “The trick that we really need to work on as part of our privacy efforts here in the city is to help the public trust in what we’re doing,” said Seattle Chief Technology Officer Michael Mattmiller. A team of stakeholders will develop principles that govern the city’s approach to privacy-impacting decisions as well as writing a privacy statement to communicate the practices to the public.

Digital Life After Death

When you die, what happens to your online accounts? If you’re like most Americans, you probably haven’t considered the issue, much less prepared for it. But states have been busy legislating the fate of virtual assets in recent years, pitting **lawmakers and technology companies** against one another in a war over whether a person’s digital afterlife should be kept private. Eight states have passed laws addressing digital life after death. The most recent was Delaware in August, with an act that gives fiduciaries the power to manage a decedent’s online resources like email and cloud storage as part of an estate.



“I’ve been working for the government for over 30 years, and I guess I’m the exception to the rule in terms of valuing large amounts of time off regardless of financial repercussions. I’ve also hired and managed young IT workers for 15 years, and find that most of them like flexibility but not excessive time off. I believe managers need to understand what motivates individuals and not lump everyone together — that will invariably not work out as envisioned. Hire the ‘best athlete,’ continually challenge them, invest in them, hold them accountable and pretty much give them whatever they want. That’s how you keep talented IT staff from jumping to the next employer a year after you bring them in, and if you do that, they will ‘bring it’ for you.

John Hornby in response to Will Government Entice Millennials With Unlimited Vacation Days?

“Geographic information systems can help a lot and have the ability to predict Ebola movement, however, some basic data is needed. If you have mapped out common travel routes and frequencies, then you can overlay outbreaks and visually see the most likely paths for new outbreaks. Likewise, if you have a good understanding of trade movements, you can also selectively block routes that are likely to lead to large outbreaks.

Joel R in response to How Well Can Technology Fight Ebola?

“I don’t understand the idea that everyone should have to use the Internet. In any given area, some group of people will use it and some won’t. Over time, the number that use it will grow. Our focus should be on the millions of Americans who are waiting for better Internet access and don’t have any prospect of getting it rather than wringing our hands over whether everyone in some small town will run out and buy a Dell or iPad.

Communitynets in response to Broadband Expands Into Rural America, But How Many Will Adopt?

MOST SHARED STORIES

2014 Digital Cities: Winners Focus on Innovation, Boosting Transparency and Privacy

475 SHARES

New Orleans Cuts Murder Rate Using Data Analytics

463 SHARES

Breaking In: How Tech Entrepreneurs are Changing Government

425 SHARES

ⓘ
f
in
g+

MOST READ STORIES ONLINE

- The Best Government Websites for 2014
8,940 VIEWS
- Fairfax County, Va., Provides Real-Time Access to Police Data
7,052 VIEWS
- Is Microsoft’s Newest Security Flaw the Next Heartbleed?
2,482 VIEWS
- Top 10 Ways the Internet of Things Will Impact Our Cities
1,952 VIEWS
- 12 Startups Poised to take on the Latest Cybersecurity Threats
1,914 VIEWS
- Will Government Entice Millennials With Unlimited Vacation Days?
1,903 VIEWS

WHO SAYS?

“My greatest desire [is that] we’ll be much lower-profile than we are now, by which I mean most people will have forgotten that we exist because the government’s technology problems are not nearly [as] top of mind for people as they are right now.”

www.govtech.com/quote-dec14



CITY ACCELERATOR

Follow the work of the first three Accelerator cities – Nashville, Philadelphia, and Louisville – in improving the lives of their low income residents through **expert analysis on urban innovation.**



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Urban Technologist in Residence
Living Cities

Co-founder
New Urban Mechanics



Ron Littlefield
Senior Fellow
Governing Institute

Former Mayor,
Chattanooga, Tennessee



Ceasar McDowell
MIT Professor of Practice of
Community Development

President
Interaction Institute for Social Change

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City Accelerator at www.governing.com/cityaccelerator

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The City Accelerator is an initiative to speed the adoption of local government innovations to improve cities and the lives of their low-income residents.



Trends to Watch in 2015

What will the New Year bring in civic tech?

In 2014, municipalities across the country made meaningful progress in systematically integrating data and technology into the way they conduct government business. In the new year, they'll face the next challenge of ensuring that this new data-driven approach goes beyond the walls of city hall and empowers them to be responsive to citizens' wants, needs and ideas.

Here are the four trends that I expect will be pivotal to continuing the ongoing transformation of government in the coming year.

1 / Cloud Computing

The growing adoption of cloud technology at the local government level will transform the way city departments spend money and allocate their IT resources. This won't just be in the country's largest cities; the cloud will give small and medium-sized cities equal, on-demand access to a shared pool of computing resources. This effect will be especially apparent in municipal procurement and project management processes. For a resource-strapped city that had traditionally purchased expensive enterprise software licenses, modularized cloud-based software as a service solutions will make purchasing cheaper, more flexible and more efficient. In the coming year, expect to see more city governments

rethinking the role of systems integrators as they shift to the cloud.

2 / Government as a Platform

Next-generation 311 technologies are making tangible an idea that's long been percolating: Government should structure itself as a platform on which solutions can be built, rather than as a "vending machine," as public policy scholar Donald Kettl put it, that doles out these solutions. New York and Chicago will continue to be leaders in the effort to reimagine the traditional call center as a place where citizens and government officials can come together not just to solve problems, but also to ensure that they're being solved as effectively as possible.

3 / Social Collaboration

The coming year will bring the escalating use of social media and social media mining as a collaboration tool with citizens. For years now, we've seen local governments use social media as a one-directional talking tool to communicate news, alerts and advisories to citizens; increasingly, however, governments are using it to listen and respond. This approach is transforming law enforcement efforts, and I anticipate that in the coming year we'll see more social-media-driven collaborations like that between the Vancouver Police Department and citizens in the wake of the Vancouver Stanley Cup riot in 2011.

4 / The Sensing Environment

Every hour, 300,000 new things are connected to the Internet of Things, according to Cisco's chief globalization officer — a pace that will ensure substantial momentum in the rise of the technologically interconnected network of smart objects. With Chicago's Array of Things project leading the way, city officials who begin to adapt this increasingly sophisticated technology in the coming year will have more information than ever to keep an eye on system changes — sometimes even before they happen. Sensors are another popular trend; watch for the development of more sensor technologies like ShotSpotter, which allows police to react quickly to gunfire and monitor trends in gun violence.

The municipalities that can successfully integrate these technologies and approaches in 2015 will be well positioned to save money, run more efficiently and, ultimately, be more responsive to residents. **GT**

Stephen Goldsmith is a professor at Harvard Kennedy School and director of the Innovations in Government Program and Data-Smart City Solutions. The former mayor of Indianapolis, his latest book is *The Responsive City: Engaging Communities through Data-Smart Governance*.



GOVERNING OUTLOOK 2015

STATE & LOCAL MARKET FORECAST

PAY FOR PERFORMANCE \$

NEXT ECONOMY: \$3 TRILLION

36 GOVERNORS ELECTED

ANNUAL SPENDING: P3's

ACA WHAT'S NEXT?

COMMON CORE: 10 TOP LEGISLATIVE ISSUES TO WATCH

19M LOCAL EMPLOYEES

STATE/LOCAL

TRANSPORTATION FUNDING: MUNI BONDS, BUDGETS, PENSIONS

PROCUREMENT REFORM: HEALTH+ HUMAN SERVICES

FINANCE

SMART INFRASTRUCTURE: \$94.5 BILLION

EDUCATION

GOV 3.0

IN IT \$

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★ YEAR IN DATA ★

The Center for Digital Government, owned by Government Technology's parent company, e.Republic, conducts several awards programs throughout the year, honoring state and local jurisdictions for their innovative uses of technology. Here are some key facts and figures from the following 2014 surveys: Digital Cities, Digital Counties, Digital States and Best of the Web.

HOW DIGITAL ARE STATES IN 2014?

Here's how states stack up in 2014, compared with the last Digital States Survey in 2012.



BEST GOVERNMENT WEBSITES OF 2014

STATE

1 / Hawaii
Population: 1.4 million
Average unique monthly visitors: 76,655

2 / Utah
Population: 2.9 million
Average unique monthly visitors: 1,505,403

3 / Arkansas
Population: 2.96 million
Average unique monthly visitors: 110,946

CITY

1 / District of Columbia
Population: 646,400
Average unique monthly visitors: 1,116,666

2 / Los Angeles
Population: 3.9 million
Average unique monthly visitors: 210,697

3 / Boulder, Colo.
Population: 103,200
Average unique monthly visitors: 632,208

COUNTY

1 / Oakland County, Mich.
Population: 1.23 million
Average unique monthly visitors: 214,051

2 / Sacramento County, Calif.
Population: 1.46 million
Average unique monthly visitors: 46,209

3 / King County, Wash.
Population: 2.04 million
Average unique monthly visitors: 1,157,418



CIO PRIORITIES

CITY

- 1 Open Government/ Transparency/Open Data
- 2 Mobility/Mobile Applications
- 3 Cybersecurity
- 4 Portal/E-government; Hire and Retain Competent IT Personnel
- 5 Disaster Recovery/ Continuity of Operations
- 6 Broadband and Connectivity; Virtualization
- 7 Cloud Computing
- 8 Social Media
- 9 Budget and Cost Control
- 10 Shared Services

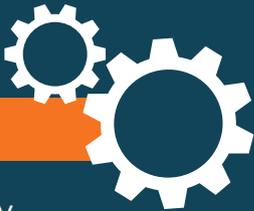
COUNTY

- 1 Cybersecurity
- 2 Hire and Retain Competent IT Personnel
- 3 Shared Services
- 4 Budget and Cost Control
- 5 Mobility/Mobile Applications
- 6 Disaster Recovery/ Continuity of Operations
- 7 Open Government/ Transparency/Open Data
- 8 Virtualization: Server, Desktop/Client, Storage, Applications; Portal/ E-government
- 9 Broadband and Connectivity
- 10 Governance, Data Center Consolidation and Cloud Computing

WHAT CITIES NEED TO MODERNIZE



SERVICES STATES WANT TO SHARE



STATE

- 1 Cybersecurity
- 2 Shared Services
- 3 Cloud Computing
- 4 Mobile Applications
- 5 Hire and Retain Competent IT Personnel
- 6 Open Government/Transparency/Open Data; Budget and Cost Control
- 7 Governance; Disaster Recovery/Continuity of Operations
- 8 Portal/E-government
- 9 Health Care; Virtualization
- 10 Data Center Consolidation

67%

of states use cloud-based licensing and permitting systems

72%

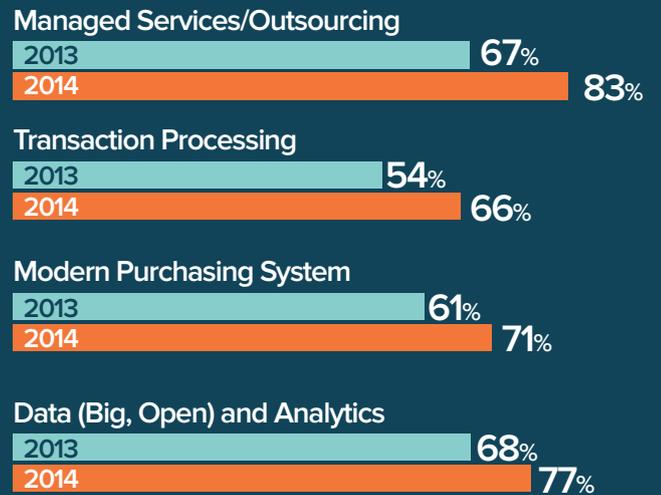
of counties will spend more time on mobile apps over the next two years

66%

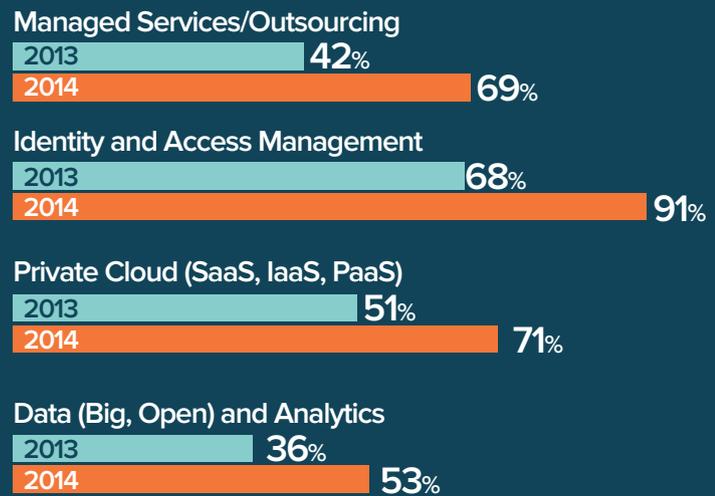
of cities will pay more attention to big data over the next two years

TOP TRENDS

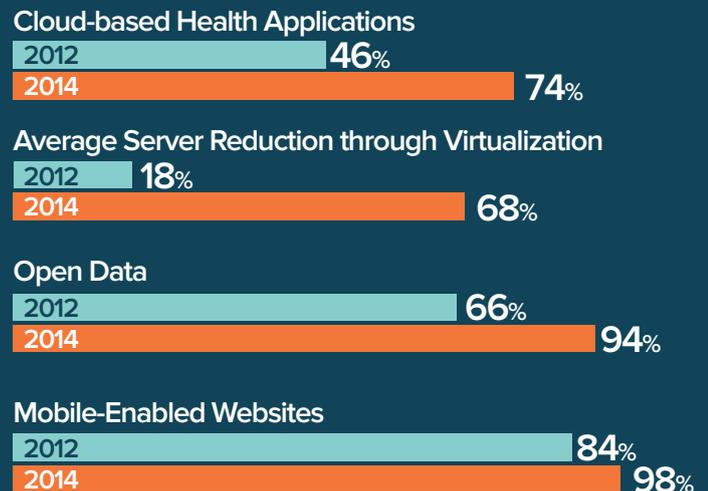
CITY



COUNTY



STATE





THE YEAR
IN REVIEW
2014

MAKING SENSE OF 2014

LOOKING BACK AT 2014, one can't help but be struck by the pace of technological change.

Autonomous vehicle activity ramped up this year — and commercial driverless vehicles could hit public highways in 2015. In January, the Obama administration announced the creation of six drone test sites intended to work out the details for introducing unmanned aerial vehicles into commercial airspace.

Availability of wearable technology continued to grow with the formal release of Google Glass and the long-anticipated announcement of the Apple Watch — although it remains to be seen how many people will actually wear these and other high-tech contraptions. And investor interest intensified in startup companies creating new public-sector solutions, signaling a challenge to the legacy firms and technologies that dominate the government market.

As the ground shifted, policymaking struggled to keep up.

Perhaps the strain was most evident in the evolution of the sharing economy. The year was marked by struggles between state and local regulators and

disruptive upstarts like Lyft, Uber and Airbnb. That wasn't the only hot spot, either. At the federal level, the FCC grappled with net neutrality after the U.S. Supreme Court struck down open Internet rules in January. And governments of all types contended with old-school purchasing rules that made it difficult to acquire new cloud services and other innovative technology.

But there were glimmers of hope, too. San Francisco struck a deal with Airbnb in October to legalize short-term rentals in the city. The company also announced partnerships with San Francisco and Portland, Ore., to help house city residents in the wake of major disasters. Even procurement may have taken steps toward improvement with interesting experiments in a few cities and a government-industry partnership to write better contract language for cloud purchases.

So maybe 2014 wasn't the year when we figured it all out, but there are some signs we're pointed in the right direction.

By Steve Towns, Noelle Knell and Elaine Pittman



GET READY FOR DRONES

FIRST THING THIS YEAR, the Obama administration announced six drone test sites, which will provide information on how to introduce the technology commercially. Currently public safety departments and research universities can be granted permits to operate drones, and the technology's potential in other fields like agriculture is said to be nearly limitless.

Drones are set to truly take off next year, with the Federal Aviation Administration (FAA) scrambling to meet a September 2015 deadline to issue regulations for integrating unmanned aerial vehicles into the U.S. airspace. The agency predicts that 15,000 drones will be in the sky by 2020.

But there are some rather large details standing in the way of widespread drone use, at least in the near term. A government audit says the FAA isn't likely to meet the September deadline for several reasons, including the fact that the agency hasn't decided what type of technology is needed to prevent drones from crashing into manned aircraft.

Even after the FAA determines its conditions for moving forward, the conversation will keep going at the state and local levels. Since 2013, 20 states have passed drone laws, with 13 of those restricting law enforcement's use of the technology. And others are still struggling with the issue. For instance, California Gov. Jerry Brown vetoed legislation in September requiring public safety agencies to obtain warrants before using unmanned aircraft except in emergencies, saying the measure exceeded constitutional requirements.

Whether or not the FAA meets its deadline next year, the interest around drones is only increasing. States and localities that have sat on the sidelines so far will need to confront the issue in 2015, or risk not keeping up with this rapidly emerging technology.

What was originally slated to be a citywide gigabit network in Seattle is stopped by newly elected **Mayor Ed Murray**.

Philadelphia launches the **Municipal Innovation Academy**, which aspires to institutionalize the processes and ideas driving government innovation.



Arlington County, Va., and Columbus, Ohio, are the only two U.S. jurisdictions to make the cut as finalists in the **Intelligent Community of the Year** competition.

JANUARY

In a major restructuring of South Carolina state government, a bill signed by **Gov. Nikki Haley** transfers most administrative duties, including IT, to the governor's office.

Chicago unveils its new predictive analytics initiative, the **SmartData Project**, which will analyze and aggregate data, identify trends and offer problem-solving predictions. (And its open source infrastructure makes it available to any government interested in building upon Chicago's work.)

HEALTH EXCHANGE WOES LEAVE FEDS, STATES SCRAMBLING

THE NEW YEAR ushered in the same problems that plagued state health insurance exchanges since the October 2013 launch date, with issues beyond linking to the troubled federal website. Executives left and contractors were shuffled as leaders sought someone to take the fall, and fix the problems. Accenture, credited with the largely successful rollout of California's HIX, replaced CGI as the lead contractor for the federal exchange in **January**. Deloitte had a hand in a number of state success stories, most notably Kentucky, which now boasts the highest percentage of insured residents per capita, and Connecticut, whose director was tapped in August to be CEO of the federal exchange.

Among the most notable state exchange failures was Oregon, which is now embroiled in legal battles with original contractor Oracle and paying Deloitte to help transition the state to the federal exchange. Maryland also abandoned its glitch-ridden website and adopted software used in Connecticut. Legal friction between Maryland and contractor IBM parallels troubles in Minnesota, where the governor and Big Blue sparred publicly over site outages and enrollment delays.

Media pundits wondered aloud why the feds failed to tap Silicon Valley expertise in planning and executing arguably the highest-profile government IT project in modern times. Movement in that direction started to surface with the formation of 18F in the General Services Administration, modeled after local incubators committed to open source software and lean, agile development focused on the user experience. In August, Obama tapped Google exec Mikey Dickerson to lead the U.S. Digital Service, a new internal consulting group charged with fixing troubled federal projects. The jury is out on whether these efforts will make a difference when the next major federal IT project comes along.

Howard County, Md., launches its **CISO-in-Residence** program to improve cybersecurity at businesses that lack security or privacy officers.

FEBRUARY

NIST releases version 1.0 of its **Framework for Improving Critical Infrastructure Cybersecurity**, which experts say will give agencies a method to evaluate the security of their computing environments against their peers.

Palo Alto, Calif., adopts an **Open Data by Default** proclamation to celebrate more than two years of data transparency efforts and formalize the future practice of open data.

St. Louis taps 10 data points on residential real estate conditions to help formulate neighborhood redevelopment plans.



BIG YEAR FOR WEARABLES

UTAH DREW attention in **February** with the launch of OnTime for Glass, a public transit tracking app for Google's high-tech eyewear. Released even before Google Glass became widely available, the Utah app notifies users of an approaching train or bus and lets them track public transit vehicle locations in real time.

State CTO Dave Fletcher called the project an attempt to sort out how rapidly emerging wearable technology applies to government.

"We all need to understand the kinds of apps that will make sense in that space," Fletcher told *Government Technology*.



President Barack Obama introduces his \$4 trillion budget for fiscal 2015. Tech-related expenditures include: expanding federal cloud computing, continuing PortfolioStat, consolidating data centers, expanding shared services and opening data to spark innovation.

PRIVACY IN A TIME OF EMERGING TECH

WHEN EDWARD SNOWDEN revealed to journalists classified NSA documents exposing global surveillance programs, everything changed for privacy. While that occurred in May 2013, the implications have been far reaching and nonstop. Citizens clamored to know how far government — at all levels — can go in the name of security, and governments sought to understand what evolving technology means in terms of privacy. As big data and predictive analytics became major themes in state and local government, policymakers struggled, in part, because the issues are unprecedented. With technology firmly embedded in our everyday lives, when is the line crossed from harnessing data for better decision-making to invading an individual's privacy?

One way governments are tackling the issue is by establishing positions charged with protecting privacy. Chief privacy officers aren't new to government, Ohio's had one since 2007, but the job title is gaining ground in the public sector. "As more data becomes electronic, the risks get vastly greater, and that can trigger a lot more laws that govern the data," Sallie Milam, chief privacy officer of West Virginia, said earlier this year. "At the same time, the public's expectations are growing and compliance obligations are expanding."

Privacy received another round of national attention in **March** when a lawsuit revealed that Google was scanning the email content of students using its Apps for Education suite for purposes including targeting potential advertising at users. By the end of the year's legislative sessions, student data privacy bills were enacted in 20 states.

Clearly the issue of privacy isn't going away, as government and industry introduce new data-driven technologies. But what will change is the definition of privacy for citizens and how rules will govern data protection. Legislatures and IT chiefs will once again take up the issue in 2015, seeking ways to protect data and harness it for a smarter future.

MARCH

FIELD OF BROADBAND PLAYERS CONTINUES TO GROW

THE GIGABIT BUG PROVED contagious in 2014. In **February**, Google invited 34 cities in nine major urban areas to explore joining the ranks of its first set of fiberhoods. Selected from 2010's initial 1,000 Google Fiber applicants, not all cities will likely end up with fiber, pending the outcome of talks exploring network feasibility. April saw AT&T grab headlines with its own ambitious gigabit plans to explore networks in 100 U.S. cities, dependent also on amenable city policies and available infrastructure. Even Time-Warner Cable, focused on an impending merger with cable giant Comcast, announced in July plans to upgrade Internet speeds in six major markets. Overlap is inevitable, setting the stage for competition among service providers, which can only benefit consumers.

Meanwhile, other cities fought state restrictions on municipally owned networks, arguing that their broadband needs are ignored by private-sector providers. Muni broadband successes Wilson, N.C., and Chattanooga, Tenn., petitioned the FCC in July to remove restrictions on expanding existing networks and developing new ones. While FCC Chairman Tom Wheeler suggested his support for city-run networks in cities that want them, the agency has yet to take official action. A flurry of legislative attempts this year promises continued friction on the issue in 2015.

By any measure, 2014 was a big year for wearable tech products. Wearables were front and center in January at CES 2014, the industry's massive annual Consumer Electronics Show in Las Vegas. Google Glass hit the consumer market in May, after a year of limited availability. And Samsung, which released its first smartwatch in late 2013, followed up with a more capable version that arrived in stores in November.

Perhaps the biggest news came in September, when Apple's announcement of a long-awaited smartwatch triggered the requisite bouts of euphoria among the company's disciples. Though the new Apple Watch won't be available until 2015, the announcement fueled speculation that citizens soon would expect to interact with government agencies using the new device, especially in conjunction with the company's Apple Pay wireless payment service released at the same time.

CONNECTED CARS

DRIVERLESS CARS MAY still seem to be the stuff of science fiction, but the vehicles could debut commercially on public roadways as early as next year — and several states are preparing. The California DMV hosted a workshop with automakers in **March** to gather public input on how existing roadway rules will have to change in response. Issues of privacy, security, safety, liability, proper usage and standardization came to the forefront, with official regulations expected in early 2015.

Separate rules for manufacturer testing of driverless cars were adopted in May, the same month the University of Michigan Transportation Research Institute broke ground on the U.S. DOT-funded Michigan Mobility Transformation Center. The \$30 million simulated city, built like a movie set on 32 acres, will test connected vehicle and infrastructure technology to simulate crash scenarios in a realistic environment. Experts think connected driving environments could cut crashes by more than 80 percent.

But for all their promise, driverless cars represent a major new component of the Internet of Things, and are therefore raising concerns about their susceptibility to hacking attempts. Surveys show growing acceptance of the technology by the driving public, especially when coupled with a sharp decrease in auto insurance rates. But questions about how driverless cars can safely share the road with conventional vehicles will dominate the debate in coming years.





In what is described as a first phase for the city, Boston Mayor Martin Walsh launches "Wicked Free Wi-Fi" in a 1.5-square-mile area known as Grove Hall, home to 30,000 residents.

A MIXED BAG FOR FIRSTNET

THE EFFORT TO BUILD a nationwide broadband network for public safety faced its share of ups and downs in 2014. The good news: The First Responder Network Authority (FirstNet) passed some real milestones this year. In April, the FirstNet Board made key appointments, naming Ali Afrashteh as CTO and Jim Gwinn as CIO. Afrashteh, a telecom industry veteran with vast wireless experience, leads planning and deployment of the network. Gwinn, former CIO for the U.S. Department of Agriculture's Farm Service Agency, is in charge of FirstNet's internal IT and communications. FirstNet officials also met with Maryland first responders in July, marking the beginning of state-by-state consultations that will dictate the new network's blueprint. And a few months later, FirstNet's governing board released an RFI seeking industry input on the network's design, a precursor to an actual RFP for the project.

But FirstNet also had high-profile stumbles, the biggest of which were accusations that the board bent government personnel rules to hire pricey consultants who were friendly with FirstNet Chairman Sam Ginn. Ginn, former CEO of Vodafone AirTouch, resigned in May, as did board member Craig Farrill and FirstNet General Manager Bill D'Agostino, both also former Vodafone executives. In addition, there was grumbling throughout the year that industry hotshots weren't consulting enough with public safety representatives who'll actually use the network.

T.J. Kennedy, now FirstNet's acting general manager, may be an antidote for the latter issue. Kennedy is a former cop, paramedic and firefighter who's earning praise for helping the agency regain its footing. But FirstNet will need to be firing on all cylinders going into a busy 2015. The agency intends

to release a network RFP in March, and ultimately it must develop a network platform and a pricing model that will attract enough state and local users to support the ambitious new service.

APRIL

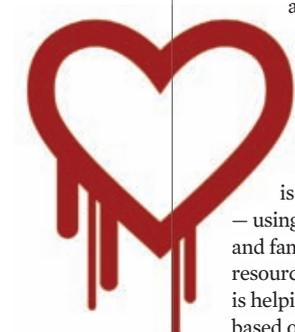


Montgomery County, Md.'s desire for more financial transparency prompts a new suite of budget apps from Socrata, which joined a number of other vendors and open source tools shedding light on government spending.

A citizen tweet asking for Twitter records from the Seattle Police Department may represent the first time the social platform is used to make a public records request.



MAY



Governments around the world respond to Heartbleed, a bug affecting online encryption software OpenSSL. To protect confidential taxpayer data, Canada's Revenue Agency takes its tax filing site temporarily offline.

BIG DATA BRINGS BIG RESULTS

JANUARY SAW PRESIDENT Obama call for a comprehensive report on the transformational power of big data. *Big Data: Seizing Opportunities, Preserving Values* arrived in May, offering analysis and a series of policy recommendations to help realize the benefits of big data in areas like health care, education, public safety and energy efficiency while protecting personal privacy. Meanwhile, state and local governments in 2014 grabbed hold of big data's potential, making bold moves toward applying it to real problems — efforts which promise to reap even greater rewards in coming years.

The Indiana Management and Performance Hub, championed by Gov. Mike Pence, is a multi-agency effort establishing centralized data-sharing capabilities. But the power of this big data warehouse will come in the opportunities for analysis it provides. The state is setting its sights on real problems that coordinated data can help address — job No. 1 is chipping away at the state's infant mortality rate.

Analyzing performance indicators across state agencies will improve upon Indiana's already award-winning transparency efforts and unlock more ways of putting the data to work. The Florida Department of Children and Family Services is working on a similar effort — using data to identify at-risk kids and families, and applying public resources to the most vulnerable. Data is helping refine intervention methods based on the best chance at success.

The Iowa Department of Workforce Development is applying big data analytics to another vexing problem: unemployment fraud, which costs government billions each year. A cloud solution analyzes publicly available data sets to flag potentially fraudulent claims, handing them off to government investigators.

Local governments are setting their sights on data-driven decision-making too. A grant-funded pilot project in Chicago places sensors on downtown light poles to collect block-level weather and air quality data as well as pedestrian traffic estimates, all released in real time on the city's data portal.

Los Angeles' Cyber Intrusion Command Center, operated by the Police Department, unites city staff and federal agents to coordinate intelligence and ward off cyberattacks.

SHINING A LIGHT ON GOVERNMENT DATA

THE CONCEPT OF civic-minded hacking continues to gain legitimacy, evidenced in part by White House support for the National Day of Civic Hacking, which swelled to more than 100 participating cities in the U.S., Canada and abroad during the weekend of May 31. Google hosted its first government hackathon in May as well, in conjunction with state agencies from Wyoming and Colorado.

And coders and other technologists have more government data as raw material for app-building due to big spikes in available data sets and open data policies sweeping public-sector agencies. An executive order signed by Connecticut Gov. Dan Malloy in February laid out responsibilities for the state's new open data portal, the same month that Palo Alto, Calif., switched to an "open data by default" posture. Maryland added an open data policy via legislative action earlier this year, as did a number of local jurisdictions, including Houston, Salt Lake City, Boston, Pittsburgh and Minneapolis.

Along with more government data basking in the sunlight comes more creative uses of it. The nonprofit OpenGov Foundation, devoted to government transparency, launched an open data platform earlier this year aimed at making all District of Columbia municipal code accessible and easily usable by citizens. Funded by the Knight Foundation, the effort follows similar projects in Baltimore, San Francisco, Philadelphia and Chicago. Chattanooga, Tenn., Mayor Andy Berke released a portal in September, Chattadata, featuring metrics on violent crime, job growth, investment and literacy rates — all to help ensure city budgets are tied to programs that work.

2015 will likely see growing evidence of government finding tangible value in open data, moving beyond simple (and sophisticated) apps for citizens to programs bringing actual revenue to public-sector coffers.



Eight governors from around the country sign a joint pact to promote electric vehicles on U.S. roadways. California, Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island and Vermont, which collectively represent a quarter of the country's "new vehicle market," join the effort.



Digital Transaction Management for the Public Sector

The tide is shifting in the public sector, with citizens expecting a higher level of accountability, transparency and efficiency from government agencies and educational institutions.

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Switching to paperless processes with **Digital Transaction Management from DocuSign** enables public sector organizations to do more with less and improve the quality of citizen interactions:

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- Reduce risk, cut costs and enhance productivity
- Improve compliance and data security
- Increase transparency and accountability

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Wyoming Gov. **Matt Mead** proceeds with an ambitious plan to increase broadband capacity to **100 gigabits** using public-private partnerships.

Ohio pilots a **new CRM system** aimed at digitizing records and improving services to the developmentally disabled across its 88 counties.

JUNE



Developers and entrepreneurs in Silicon Valley, Boston, Baltimore, Miami and New York City join the U.S. State Department for a **"fishackathon"** aimed at boosting the sustainability of the global fishing ecosystem.

California Gov. **Jerry Brown** signs legislation making it legal to use **Bitcoin** and other virtual currencies in the state.



AGENCIES LOOK FOR WORKFORCE ANSWERS

ATTRACTING AND RETAINING talented IT staff remained a challenge for government at all levels as the year reached its midpoint. The tech sector's recovery from the Great Recession was a welcome relief to everyone — except maybe government IT departments. The recession delayed retirements and led to a surge of skilled workers applying for public-sector technology jobs. But with companies once again scouting for IT and cybersecurity talent, government leaders took innovative actions to hire and keep skilled employees.

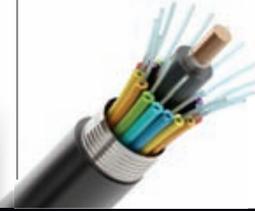
New job classification and evaluation procedures sprouted in several jurisdictions. Utah's master engineer career path was designed for IT employees who want to remain in the trenches, but still be financially rewarded for the highly skilled work they do. And in the Harris County (Texas) Information Technology Center, employees are evaluated using a performance matrix that gives staff members a clear look at what's required to move up in the ranks.

Another big change was seen in job titles and responsibilities. As hosted services replace systems that government IT departments once developed in-house, the technology workforce itself is evolving. Titles like "data scientist" are finding homes as IT roles that once focused on system deployment and upkeep gradually diminish.

Government Technology predicted that future positions could include machine-learning engineers, autonomous vehicle managers and drone fleet engineers. As these technologies continue to gain ground in the public and private sectors, the change will be reflected by a workforce filled with specialized roles.



The Portland, Ore., City Council green-lights a **Google Fiber franchise** agreement for the city and five suburbs. The search giant will decide by the end of 2014 whether it will bring its ultra-fast Internet to **Portland**.



JULY

Funded by the Bill & Melinda Gates Foundation, seven universities explore using **big data** to provide personalized education.

A decade after the **Help America Vote Act** pumped billions into new voting technology, election officials search for a strategy to replace devices that are reaching the end of the line.

A new online tool from the **Indiana State Police** gives prospective property renters and buyers a chance to see if their new home was once a meth lab.

THE CLOUD GOES MAINSTREAM

IN A YEAR FULL OF BIG cloud deals, Pennsylvania's \$681 million contract with Unisys stands out as one of the biggest. The state announced in **July** that it would work with the company to launch a massive hybrid cloud for state agencies. Under the seven-year deal, Unisys will move seven data center facilities to the cloud and allow agencies to provision computing resources on demand. Pennsylvania CIO Tony Encinias said the deal revolutionizes how his state does IT. "Rather than attempting to predict our technology requirements years ahead of time, this contract will allow us to purchase services when we need them, giving us greater flexibility and efficiency while saving money," he said.

The Pennsylvania announcement came on the heels of another cloud mega-deal. In June, Los Angeles County kicked off a plan to move more than 100,000 employees to Microsoft's hosted Office 365 platform. County officials said the five-year contract is worth \$72 million in licensing fees, but predicted that the switch would save \$2.5 million annually compared with the county's old email system. "We've been working on this kind of arrangement for quite some time to consolidate some licenses," said CIO Richard Sanchez. "Basically we had 16 enterprise agreements in place amongst the 37 county departments that we have."

2014 also saw California launch CalCloud, a new private cloud service operated by IBM inside two state data centers; Colorado ink a \$116 million contract with Hewlett-Packard for a hosted Medicaid claims processing system; and both Boston and Maryland complete Google Apps for Government implementations.

Although public agencies still face challenges with procuring and budgeting for hosted solutions — Encinias notes that Pennsylvania's contract took three years to put together — these deals show the cloud becoming firmly established in the mainstream of state and local government IT.

San Francisco civic tech startup **Appallicious** releases disaster assessment dashboard powered by open data.



The **Oregon Department of Transportation** uses data from **Strava**, a popular fitness app, to design better trails for hikers and cyclists.

Lawmakers in New York and California experiment with **crowdsourced legislation**.



After more than a decade of work, **California** flips the switch on possibly the nation's largest **state financial system upgrade**.





SOCIAL MEDIA RESISTANCE PROVES FUTILE

IN AN INDICATION of how pervasive social media has become, police in Oregon launched a campaign reminding citizens not to tweet officers' locations or take selfies in the midst of an armed standoff.

Public safety agencies fear that citizens will endanger themselves and officers by posting pictures and other information to social media during emergency situations.

Oregon's Tweet Smart initiative, which we covered in **August**, warns citizens about the potential dangers of sharing too much information during an emergency. Police say they don't want people to stop using social media, just to exercise a little common sense. One recommendation: "Do not put yourself in a photo (take a selfie) and endanger yourself, no matter how compelling."

But 2014 also saw the introduction of helpful new platforms for the public sector and new sophistication in how governments use social networks.

One of the biggest developments was Nextdoor's release of services specifically for local agencies. The popular Nextdoor social platform hosts private networks in 45,000 individual neighborhoods, according to the company. Government agencies could participate in these networks at arm's length — and many did — but changes announced

in September let local agencies conduct targeted two-way conversations with neighborhood residents through the platform.

Agencies also found other practical applications for social media. For instance, the South Carolina Department of Health and Human Services used social analytics to monitor Twitter, Facebook and other social networks for comments about state Medicaid services. Officials say they'll use the unvarnished feedback — "South Carolina Medicaid seriously sucks!!" wrote one online forum user — to make improvements.

And CIOs in California began posting job openings on Twitter, with encouraging results. Palo Alto's Jonathan Reichental noted in April that the free service is a great way to reach tech-savvy job seekers. And Adrian Farley, CIO of the state Attorney General's Office, told *Government Technology* that early efforts to use Twitter as a recruitment tool already were paying off.

Despite a few headaches, it's clear that governments have moved beyond questioning "why" they should use social media to address the more important issue of "how."

NET NEUTRALITY MEETS MUNI BROADBAND

THE NET NEUTRALITY discussion has raged since January when a U.S. appeals court struck down federal rules that barred broadband providers from creating fast and slow Internet lanes, essentially allowing ISPs to favor some sites and slow down others. In response, the FCC proposed rules that would comply with the court's ruling, causing a national debate that crashed the commission's public comment system in **July**. The agency received more than 1.1 million comments on the proposed rules, the most that have ever been received for FCC rulemaking (and making it the second most popular FCC issue in terms of comments, ranking only behind 2004's Super Bowl halftime wardrobe malfunction).

The FCC is expected to make a decision by the end of the year, but at the heart of the debate is the commission's authority to regulate the Internet — an issue that could impact state and local government. Under the Telecommunications Act of 1996, Congress gave the FCC the power to regulate telecommunications services and depending on how the FCC asserts its power, it could change the municipal broadband field significantly. Twenty states have outlawed or restricted muni broadband networks, but many people now contend that the FCC's congressional charter, which has come under review during the net neutrality talks, lets the commission pre-empt state-level restrictions.

The FCC's net neutrality ruling has turned into a bigger conversation about broadband's future and how far the FCC's authority reaches. Some light will be shed once the agency decides on the new open Internet rules — an issue being watched closely by industry, consumers and governments alike.

Mayor Bill de Blasio signs a measure to give citizens free online access to updated New York City laws.

In a move to cut traffic congestion, **Austin, Texas**, plans to **re-time traffic lights** on the fly based on data from drivers' smartphones.

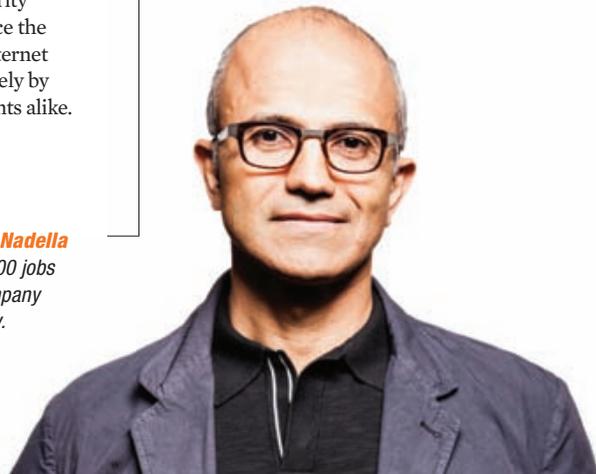
AUGUST

Los Angeles announces a plan to replace more than 20 city websites using the open source **Drupal** platform.

IT consolidation in **Minnesota** saves the state close to \$30 million in two years. The state says it cut more than **60 percent** of its servers.



Philadelphia opens an **innovation lab** for city employees in an effort to transform culture.



New Microsoft CEO Satya Nadella announces plans to cut 18,000 jobs in a move to refocus the company on platforms and productivity.



Michigan, Utah and Missouri top Government Technology's 2014 **Digital States Survey**. The survey also shows states largely bouncing back from years of recession.

Police in Ferguson, Mo., begin wearing **body-mounted cameras** a month after an officer's shooting of an unarmed black teenager sparks massive protests in the city.



SEPTEMBER

Stanford University research points to growing popularity of **crowdfunding** to pay for civic projects like parks and green spaces.

RETHINKING PROCUREMENT

GROWING TENSION between innovation and rigid government purchasing rules triggered a series of interesting moves in 2014, including the **September** release of model contracting language designed to help agencies buy hosted software, infrastructure and platform services.

The technology industry has shifted rapidly toward cloud-based solutions, but governments have struggled to acquire these new offerings because their procurement rules and processes often are designed to buy products instead of services. Led by New Jersey CIO Steve Emanuel and e.Republic's Center for Digital Government, a dozen state and local governments worked with 14 of the technology industry's biggest service providers

to release model contract terms designed to put buyers and sellers on the same page.

"If this guide is embraced nationally by state and local government entities, as well as our industry providers, we will see government solutions begin to keep pace with what our citizens expect," Emanuel said.

Other jurisdictions launched programs aimed at helping departments work more closely with civic technology startups.

As the year began, 10 startup companies were participating in the launch of Philadelphia's FastFWD initiative, an attempt to rethink how the city purchases technology and pull innovative new suppliers into the system. The first class of companies worked with the city for 12 weeks on a set of public safety

INVESTORS DISCOVER CIVIC TECH

September's launch of a \$23 million venture fund for government-focused tech startups may signal a turning point for a public-sector IT market dominated by large legacy firms. Civic hackers and innovative new companies have chipped away at the status quo for a few years, but California entrepreneur Ron Bouganim's new GovTech Fund put some serious cash behind the movement.

Bouganim announced initial investments in four government-focused startups, and anticipated backing 15 to 20 new companies with average investments of about \$500,000. He called the fund an effort to improve government while capitalizing on the multi-billion dollar market's shift toward innovative and affordable solutions.

And Bouganim isn't the only one who's bullish on civic tech. Jon Sotsky, a director and strategic assessment officer at the Knight Foundation — known for its ample investments in civic technology — predicted that opportunities for government-focused startups would explode once these new players begin to prove themselves in the market.

"Once governments see they're not beholden to these traditional legacy system [vendors], and there are opportunities to experiment with new forms of technology, it will open up the floodgates," Sotsky said.

challenges. Three of the companies ultimately earned city contracts ranging from \$30,000 to \$35,000.

Similar efforts were under way in San Francisco. In July, Mayor Ed Lee unveiled the results of his city's four-month collaboration with six startup companies through a program called Entrepreneurs in Residence. The companies teamed with city departments to develop solutions that might be valuable to San Francisco and other municipalities. The collaboration produced everything from smartphone apps and notification systems to advanced platforms for predictive analysis.

Initiatives like these helped reduce frustration for buyers and sellers, and perhaps charted a course that makes it easier for governments to put innovative technologies to work.



Hawaii, the District of Columbia and Oakland County, Mich., prove their online chops by besting their peers in this year's Best of the Web awards, an annual competition jointly conducted by the Center for Digital Government and Government Technology.



OCTOBER

Fueled by a **Bloomberg Philanthropies grant**, the **New Orleans iTeam** analyzes crime statistics to identify high-risk individuals, criminal social networks and the neighborhoods that foster them.

SHARING ECONOMY GOES LEGIT

IT'S SAFE TO SAY THAT 2014 was the year of the sharing economy. Over the last few years, platforms like Uber, Lyft and Airbnb have given consumers a peer-to-peer option for hitching a ride or reserving a place to stay. While the platforms have become popular among consumers, this year governments wrestled with whether — and how — to regulate sharing economy services. In an example of what future regulations may look like, San Francisco took action in early **October** to legitimize short-term rentals. The Airbnb Law, as it's called, represents the city's effort to broker a regulatory compromise between multiple interests. It's anticipated that this law will shape Airbnb's political agenda as it works to formalize agreements with other governments.

Beyond regulatory issues, the sharing economy was hailed for its potential to help communities recover from disaster. In the wake of 2012's Hurricane Sandy, housing platforms helped displaced survivors locate temporary lodging, which can be a major issue following large-scale emergencies. While the White House has taken the lead in promoting the connection between the sharing economy and disaster response, local jurisdictions are getting on board. Airbnb announced in July that it had partnered with Portland, Ore., and San Francisco to work with the cities on emergency preparedness, pledging to launch disaster-specific URLs for residents to offer and locate housing. After a year full of headlines about uncertainty and regulations, symbiotic relationships like these might rise front and center.

The sharing economy could also be making a mark on government itself. New services bring the idea to local government. Munirent, for instance, lets municipalities rent equipment to one another. As the idea of what the sharing economy can leverage expands, it's a topic that will continue to evolve not only in a regulatory sense but also as new benefits and partnerships emerge.

COMING TOGETHER ON CYBER

IN 2014, THE NATIONAL Institute of Standards and Technology made headway advancing its “cybersecurity framework,” a road map for governments at all levels to better protect valuable cyber-resources. Although state and local agencies are paying attention to cybersecurity, few use the same terms in the same way, making it tough to benchmark cybersecurity against peers. States like Pennsylvania and Virginia now map their cyberprograms to the NIST framework, helping them to identify risks, priorities and gaps, and address them.

“I want to make sure to use this as a way to see how secure our environment is with all the different pieces and parts,” Virginia CISO Mike Watson told *Government Technology* in **October**. “Adopting a standard language is really the first step in being able to do that.”

And there were plenty of reasons for organizations of all types to hone their cybersecurity defenses. Fallout from the 2013 Target breach affecting millions of holiday shoppers spilled into 2014, raising the profile of Payment Card Industry (PCI) compliance and infrastructure protections to secure personally identifiable information. The spring discovery of Heartbleed, a bug targeting online encryption software OpenSSL, had Canada’s Revenue Agency pulling its site offline to safeguard taxpayer data.

Security concerns drove growth of the government chief security officer this year, especially in state government, and somewhat at the local level. And competition for cyber talent had governments across the board getting creative with recruitment and training. Massachusetts hosted a “Cyber Aces” event in May, pitting cybersavvy contestants against each other in a high-stakes digital defense simulation. Winners were invited to a career fair to fill public- and private-sector IT vacancies. Indicative of a growing trend, Delaware boasts a 99 percent completion rate on cybersecurity training for executive branch employees.

Mike Watson

North Carolina moves its **data analytics center** from under the purview of the state controller to the Office of Information Technology Services, a signal that deriving business intelligence from data should be an enterprise-wide effort.



In an attempt to turn innovation into a pervasive cultural value for the city, L.A. Mayor Eric Garcetti announced the creation of a \$1 million **Innovation Fund** to pay for the best ideas generated by city workers.

Presumed 2016 presidential candidate Hillary Clinton advocates for **net neutrality**, while asking tech leaders to pursue social good at the annual **Dreamforce** conference.

A slate of contested governor’s races in the Nov. 4 midterm elections translates into **a lot of expected turnover in state CIO offices**.

NOVEMBER



A revamped public safety app in Fairfax County, Va., gives citizens self-service access to multiple kinds of **crime data**.



Nov. 15 is the start of the three-month **open enrollment period**, during which Americans covered under the ACA can sign up for or make changes to their health insurance, provided that the many issues with state and federal portals have been ironed out.



MIXED MESSAGES ON MOBILE

SOCIETY’S PASSION for mobile devices drove progress on two key technology policy issues — the ability to send text messages to 911 emergency operators and the implementation of “kill switch” software that remotely disables stolen smartphones. Neither were fully resolved, however, by year’s end.

As 2014 drew to a close, wireless carriers faced an end-of-year FCC deadline requiring them to support text-to-911 service. But lack of industry support isn’t what’s stopping most Americans from sending text messages to 911 during emergencies. The four major wireless providers — AT&T, Sprint, T-Mobile and Verizon — voluntarily turned on texting services in May. Unfortunately most county 911 call centers aren’t equipped to receive the messages.

As of mid-year, just three states — Vermont, Iowa and Maine — supported the service in all of their counties. Text-to-911 was available in a few other counties across the nation, but in states like California it wasn’t offered at all. So even though texting rapidly is replacing voice calls for many citizens, implementing text-to-911 service throughout the nation’s 6,000 emergency call centers will take time. Besides requiring new technology and staff training, public safety officials point out that texting will tie up 911 operators longer than a voice call, perhaps driving the need for more call-center personnel.

Wireless carriers were quick to support text-to-911, but they were less enthused with state efforts to mandate kill switches for mobile devices. California Gov. Jerry Brown signed legislation in August requiring that the technology be built into all phones sold in the state. Minnesota enacted a similar law in May.

Proponents say the measures will curb epidemic theft of expensive mobile gadgets, but industry representatives complain that the state-by-state approach creates a patchwork of different requirements that boost consumer prices and hamstring innovation.

Despite their reservations, major manufacturers and carriers agreed to include a user-activated kill switch option on phones sold in the U.S. starting in July 2015. That didn’t quite settle the issue, however, as some kill-switch advocates argued the feature must be mandatory. **GT**

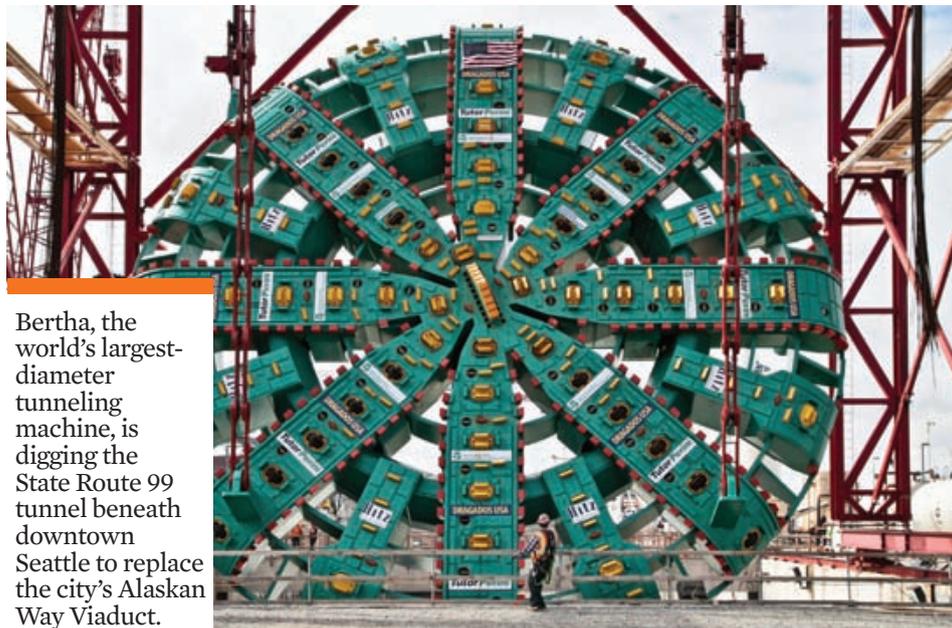
YEAR IN PHOTOS

In 2014 we published more than 50 images showcasing technology for our online Photo of the Week feature. These are some of the best.



DRONESTAGRAM/CARUNGAERO

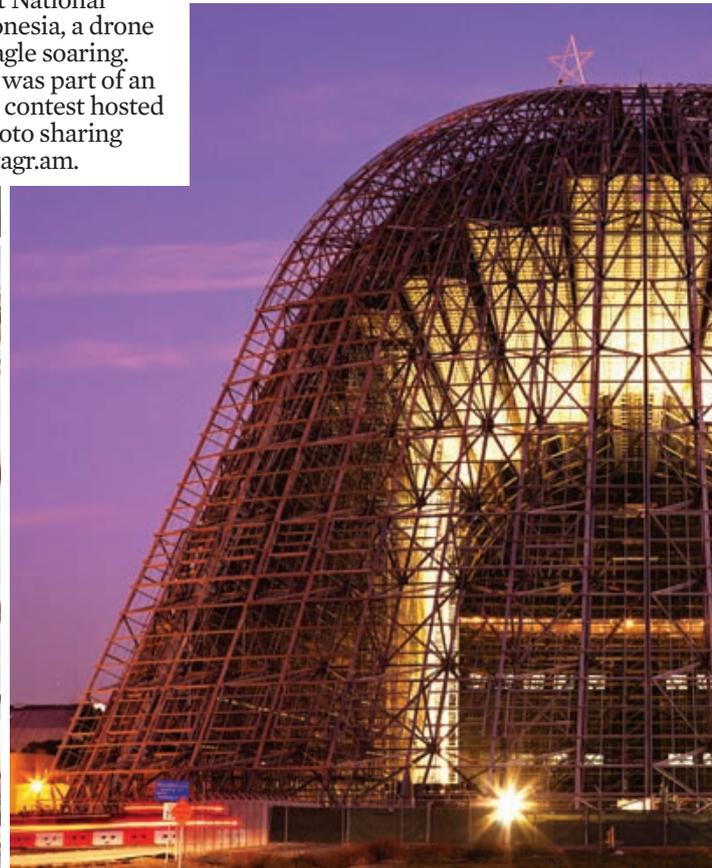
At Bali Barat National Park in Indonesia, a drone caught an eagle soaring. The picture was part of an aerial photo contest hosted by drone photo sharing site Dronestagr.am.



Bertha, the world's largest-diameter tunneling machine, is digging the State Route 99 tunnel beneath downtown Seattle to replace the city's Alaskan Way Viaduct.

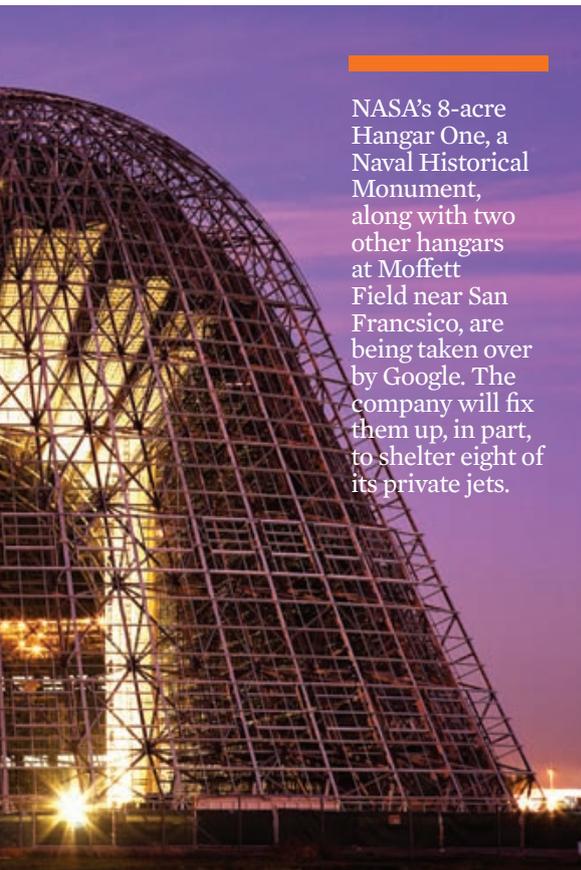
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

More than 36,000 photos make up NASA's #globselfie, with each crowdsourced picture representing one pixel in this finished mosaic image, released a month after Earth Day. People from 113 countries and regions participated via Twitter, Instagram, Facebook, Google Plus and Flickr.





NASA



NASA

NASA's 8-acre Hangar One, a Naval Historical Monument, along with two other hangars at Moffett Field near San Francisco, are being taken over by Google. The company will fix them up, in part, to shelter eight of its private jets.

Dennis Aabo Sorensen of Denmark is the first amputee to feel, in real time, with a sensory-enhanced prosthetic hand that was surgically wired to nerves in his upper arm.



SCIENCE TRANSLATIONAL MEDICINE



JASSEN TODOROV

The vivid colors of the Grand Prismatic Spring in Wyoming's Yellowstone National Park are produced by pigmented bacteria that grow around water. The rim of the spring tends to be orange and red in summer, and dark green in winter.

Located in California's Mojave Desert, the Ivanpah Solar Electric Generating System, which came online in February 2014, is the largest solar project of its kind in the world. Its trio of 450-foot-high towers produce enough electricity to provide 140,000 homes with clean energy.



BUSINESS WIRE

RETHINKING & REDEFINING eGOVERNMENT

eGOVERNMENT HAS EVOLVED from websites to delivering early “core” online services like driver’s license renewals to now breaking new ground in transactional services, social media, mobility and security. It has morphed into something broader, more pervasive and far more flexible than the original concept — and it continues to evolve based on rapidly changing citizen and business needs.

eGovernment today is fundamentally about delivering citizen and business services securely — to any mobile device — and making these services more accessible to the people who need them. There are many “behind the scenes” dimensions that make eGovernment operate efficiently and successfully — but it all starts with the three foundational elements of security, mobility and transactional services.

Understanding these three key tenets of eGovernment will form a powerful and robust framework to lead government agencies confidently into the future.

IT STARTED HERE:

Basic information online and some core online services such as driver’s license renewals.



TODAY:

Innovative transactional services, mobile apps, social media, and interactive and responsive websites.

SECURITY

Protecting the information, identities and payment transactions of users — while maintaining compliance with payment card industry standards.



MOBILITY

Delivering efficient government services that work seamlessly on any device.



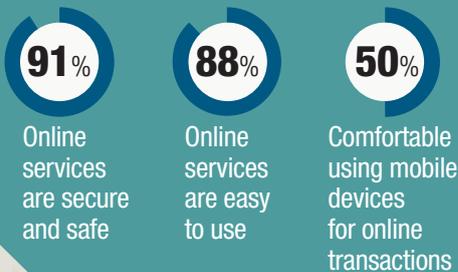
eGOVERNMENT FOUNDATION

TRANSACTIONAL SERVICES

Completing end-to-end transactions with government through self-service platforms and providing a variety of secure payment options.

CITIZENS

Unanimous sentiment: Prefer to interact with state government online.



BUSINESSES

Unanimous sentiment: Prefer online as the primary communications channel.



GOVERNMENT EXECUTIVES

Unanimous sentiment: eGovernment needs to be expanded.

Mission-critical components:

1. Mobile
2. Security
3. Multichannel customer service



THE KEY COMPONENTS

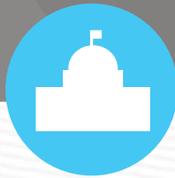
Essential Elements of Successful eGovernment

- > Maintenance/Enhancements
- > Technical Infrastructure
- > Content Management
- > User Engagement
- > Design
- > Customer Service
- > Sustainable Funding
- > Staffing
- > Promotion
- > Market Research
- > Training/Education
- > Governance

THE DRIVERS



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QUARTERLY REPORT /
DIGITAL COMMUNITIES

DECEMBER 2014

**/ OPEN DATA
IS OPEN FOR
BUSINESS**



BY TOD NEWCOMBE
SENIOR EDITOR

ONCE VIEWED AS A PATH TO GREATER TRANSPARENCY, GOVERNMENTS ARE NOW LOOKING FOR ECONOMIC BENEFITS FROM OPEN DATA.

Zillow, the fast-growing online real estate marketplace, couldn't exist without public data. More specifically, it probably couldn't exist without online public data relating to real estate sales information. The nation has more than 3,000 counties, each with its own registry of deeds where routine but vital data on every transaction involving the sale of homes, businesses and land are recorded. Until recently, much of that information resided in paper documents stored in filing cabinets. But as that information has moved online, its value has increased, making it possible for firms like Zillow to use the data in new ways, creating its popular "zestimate" forecast on home values.

Zillow is a prime example of how open data creates economic value. The Seattle-based company has grown rapidly since its launch in 2006, generating more than \$78 million in revenue in its last financial quarter and employing more than 500 workers. But real estate firms aren't the only businesses benefiting from data collected and published by government.

GovLab, a research laboratory run by New York University, publishes the Open Data 500, a list of companies that benefit from open data produced by the federal government. The list contains more than

15 categories of businesses, ranging from health care and education to energy, finance, legal and the environment. And the data flows from all the major agencies, including NASA, Defense, Transportation, Homeland Security and Labor.

Firms listed in the Open Data 500 just scratch the surface in terms of economic benefit. In April, the consulting firm McKinsey estimated open data's economic potential at more than \$3 trillion in additional value in the global economy. At the front of that economic windfall is government, which is "ideally positioned to extract value from open data and help others do the same," according to McKinsey. "We believe government can spur value creation at all levels of society."

In order for that to happen, government has a multi-part role to play — becoming a provider of open data; a catalyst to the users, coders and developers; a user of its own data; and policymaker, keeping risks in check while ensuring that all levels of society and business have an opportunity to use open data, according to McKinsey. All of these parts require government to do things it has managed to do with just mixed results so far. For example, providing data requires governments to not just disseminate, but to also

ABOUT THIS REPORT

The Digital Communities Special Report, which appears quarterly in *Government Technology* magazine, offers in-depth coverage for local government leaders and technology professionals. It is part of the Digital Communities program, a network of public- and private-sector IT professionals working to improve local governments' delivery of public service through the use of digital technology. The program — a partnership between *Government Technology* and e.Republic's Center for Digital Government — consists of task forces that meet online and in person to exchange information on important issues facing local government leaders and technologists.

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update and standardize it. Government must also decide which data to publish. Not all data is necessarily high-value information, and besides, it's costly to produce. So governments must decide which data sets provide the most value — not an easy undertaking.

Zillow's road to success underscores the challenges that lie ahead if local government is going to grab its share of open data's economic bonanza. One of the company's biggest hurdles was to create a system that could integrate government data from thousands of databases in county government. "There's no standard format, which is very frustrating," Stan Humphries, Zillow's chief economist, told *Computerworld.com*. "It's up to us to figure out 3,000 different ways to ingest data and make sense of it."

TRANSPARENT BEGINNING

The term "open data" first appeared in 1995, but the idea can be traced back further to when states like California, with its Public Records Act, which passed in 1968, required municipalities to disclose government records to the public. Fast-forward to the turn of the 21st century and the open source movement, with its emphasis on openness, participation and collaboration, began to spread to the public sector. The idea of having a public platform for software code began to catch on as a way to lower the cost of doing the business of government.

A handful of public IT leaders like former Massachusetts CIO Peter Quinn led the sometimes lonely charge to get government and industry to accept this more open concept. But as Simon Chignard explained in the *ParisTech Review*, the idea of opening data and sharing it publicly didn't gain traction until people like Tim O'Reilly with his Government 2.0 initiative, and Lawrence Lessig, the founder of Creative Commons licenses, popularized the ideas based on the

"WE'RE MOVING FROM A DISCUSSION ABOUT OPEN DATA FOR GOVERNMENT TRANSPARENCY TO OPEN DATA HAVING ECONOMIC AND SOCIAL BENEFIT."

free dissemination of knowledge.

Once these principles — free software coupled with collaborative sources of public information — began to circulate more widely and were linked with the idea of greater transparency in government, the open data movement began to take root.

In 2009, President Obama's administration launched *Data.gov*, under the direction of then-CIO Vivek Kundra. Transparency was a key reason behind *Data.gov*, but so too was the idea of freeing up government data so that businesses and other organizations could exploit it for economic and social benefit. With the federal government paving the way, it wasn't long before states and localities began unlocking data for the public.

"We're moving from a discussion about open data for government transparency to open data having

economic and social benefit," said Daniel Castro, director of the Center for Data Innovation, a Washington-based think tank. Policies are also shifting as the discussion changes, according to Castro. Policies designed for government transparency have become policies for economic development. "The question now becomes: How do we modernize for that new goal?"

Modernizing means taking an innovative approach to open data. "That's different from saying we're responsive to customer requests," said Castro. "Government has to ask itself, 'Is it not just making data available, but is it in useful formats that businesses can get value from?'"

Right now, many local governments are in the early stages of the open data movement. Transparency is the concept that drives many initiatives, and hackathons are the medium for public consumption of open data. But to get to the next level, where open data carries economic value, requires a more rigorous set of expectations. According to Castro and others, local governments have to provide reliable data over the long term.

"Companies need to know they can trust government to deliver the data and that it will be there five years from now," he said. "If there's a budget shortfall, businesses need to know that the data won't be shut off."

Governments that have succeeded in turning open data into an economic benefit are not only reliable, but also achieve a series of benchmarks that set them apart from others. These are the trend setters, a term used in a report published by Capgemini Consulting, which analyzed the open data policies and practices in 23 countries (including



Daniel Castro

/ ALL IN: WHICH LOCAL GOVERNMENTS HAVE FORMAL OPEN DATA POLICIES?

ACCORDING TO 2014 SURVEYS FROM THE CENTER FOR DIGITAL GOVERNMENT, open government, transparency and open data rank high on the priority lists of public-sector CIOs — No. 1 for cities and No. 7 for counties.

Toward that end, many jurisdictions have established open data portals over the past few years. The cities and counties below have formalized their commitment with an official open data policy.

Amherst, N.Y.	Montgomery County, Md.
Austin, Texas	Nashville and Davidson County, Tenn.
Bloomington, Ill.	New York City
Boston	Oakland, Calif.
Chattanooga, Tenn.	Philadelphia
Chicago	Pittsburgh
Cincinnati	Portland, Ore.
Cook County, Ill.	Providence, R.I.
Hartford, Conn.	Raleigh, N.C.
Honolulu	Sacramento, Calif.
Houston	Salt Lake City
Howard County, Md.	San Francisco
Jackson, Miss.	San Mateo County, Calif.
Kansas City, Mo.	South Bend, Ind.
Lexington-Fayette County, Ky.	Tulsa, Okla.
Los Angeles	Washington, D.C.
Louisville/Jefferson County, Ky.	West Sacramento, Calif.
Madison, Wis.	Williamsville, N.Y.
Memphis, Tenn.	<i>Source: Sunlight Foundation</i>
Minneapolis	

the U.S.) and found that the best results came from governments — the United Kingdom, France, Canada, Australia, the U.S. — that were in it for the long term, rather than for short-term political gain.

Dinand Tinholt, a vice president at Capgemini and author of the report, *Open Data Economy*, agreed with Castro that reliable, frequently updated data is crucial to becoming an open data trend setter. “The single biggest complaint we hear from users of open data is that government doesn’t update its data sets,” he said. To avoid that problem, Tinholt said governments must think of themselves as a “reliable supply chain partner” for businesses.

Besides reliability and a long-term commitment, trend-setting governments share the following traits when it comes to open data:

- ✓ Release extensive amounts of data sets (“but they should be the best data sets,” said Tinholt);
- ✓ Have significant capabilities to make information easier to source and to generate dialogs;
- ✓ Publish data with significant breadth and granularity;
- ✓ Have a high level of user participation; and
- ✓ Share quality data with users, ensuring increased uptake and an active user community.

With only 22 percent of the countries analyzed by Capgemini categorized as trend setters, however, much more work needs to be done by governments if they want to unleash the economic potential of open data. “Government is not good at seeing where the value lies in the data,” Tinholt said. “Their perspective is often based on politics or law.”

But that perspective is shifting as more governments discover different uses for open data, measure the results to find out who is actually benefiting and become reliable data providers. For the private sector, the economic benefits of open data could be enormous: new



Dinand Tinholt

“GOVERNMENT IS NOT GOOD AT SEEING WHERE THE VALUE LIES IN THE DATA. THEIR PERSPECTIVE IS OFTEN BASED ON POLITICS OR LAW.”

business opportunities; reduced costs by not having to invest in the conversion of raw government data; better decision-making based on more accurate information; and a more skilled workforce.

For government, the benefits of open data can be just as rewarding. According to Capgemini, they include: more tax revenue through expanded economic activity, higher revenue through the sale of high-value information to specific companies, reduced transactional costs and increased service efficiency through linked data.

McKinsey, which released a report on the economic benefits of open data in April 2014, found similar benefits as well as others, like the ability to spur on private-sector innovation; create thriving “ecosystems” of data users, coders and developers; and overcome internal barriers to using data from other parts of government.

McKinsey took a detailed look at the impact of open data in three key economic sectors that heavily involve

government and found that open data already is making substantial improvements to education, transportation and health care. For example, in Boston, open data changed the methodology for public school assignments, improving what had been a contentious issue for parents, neighborhoods and schools. In Europe, open data helped school administrators forecast when certain supplies and services will be required, driving down costs by as much as 24 percent.

In Duluth, Minn., open data helped city residents decide if the local bus offers a better alternative to driving. The result: Bus ridership is up 12 percent, traffic congestion is down and the cost of transportation has dropped for many passengers. In 2012, San Francisco opened up access to real-time transit data, resulting in 22 percent fewer 311 calls, saving the city \$1 million.

In health care, open data has been shown to help patients manage their own health and avoid illness, as well as get better treatment.

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Open data also has been linked to reductions in lifestyle illnesses, such as hypertension and diabetes.

THE BUMPY ROAD TO ECONOMIC VALUE

Every local government would love to have double-digit increases in bus ridership, lower service costs, improved wellness in the community and fast-growing firms like Zillow in their backyard. So far, a handful of mostly large cities have made an investment of resources to open broad sets of data for public use and are setting some best practices, if not outright economic improvement. The short list includes Baltimore, Boston, Chicago, Los Angeles, New York, Philadelphia, San Francisco and Seattle. On the county side, Alameda County, Calif., and Montgomery County, Md., stand out as open data innovators. (For more details on local government open data, visit the city and county section of Data.gov and the U.S. City Open Data Census.)

“IF THERE’S A BUDGET SHORTFALL, BUSINESSES NEED TO KNOW THAT THE DATA WON’T BE SHUT OFF.”

As the open data movement spreads to smaller jurisdictions, the opportunities and challenges to extracting economic value become more pronounced. Riverside, Calif., with a population of 316,619, is on the cusp between a mid-sized and large city. It has been active in opening data sets and engaging potential users. Lea Deesing, the city’s chief innovation officer who admits to being an open data evangelist, has done all the right things to push open data. Internally she meets regularly with agency heads to discuss

/ SHOULD ALL GOVERNMENT DATA BE FREE?

Ask any open data advocate what the most important criteria governments need to follow when launching an open data initiative, and invariably the phrase “free access to data” is mentioned. On the surface, it makes total sense if an entire community of citizens, developers, organizations and businesses are going to collaborate, share and unlock value from public data. After all, the data was collected using taxpayer dollars, so why shouldn’t it be free?

Most governments around the world provide free access to data, allowing citizens to view the information, but not necessarily download it, according to a report by Capgemini Consulting. “Government data is a public resource and should be free or available at minimum cost,” said Stefaan Verhulst, co-founder of GovLab at New York University.

But views change if the open data is to be used for commercial

purposes. If government collects data that is of high value to a particular industry or company, should it still be free? “If that’s the case, then it doesn’t always make sense that everybody else should be subsidizing that,” said Daniel Castro, director of the Center for Data Innovation.

Castro suggests that governments need some leeway to “innovate on the business model in terms of cost recovery, because over the long term, open data needs to be sustainable.”

Research organizations and consulting firms recommend that governments consider cost recovery models for commercial uses of open data, but that the charges be kept minimal. Lower costs can increase usage, while also generating the revenue necessary to sustain a government’s open data initiative. Capgemini reported that the Austrian government agency in charge of geographic information lowered its fees by 97 percent, which resulted in a 7,000 percent growth in demand for certain products, increasing overall revenue by 46 percent in fees paid to the government.

Stefaan Verhulst



DANIEL BAYER



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what data sets have value and should be opened to the public. Meanwhile, the city has hosted a range of events, from hackathons, coding forums and start-up weekends to get out the word about Riverside's open data. "We have a high-tech ecosystem in Riverside and it seems to be growing," she said.

What's not so clear is the economic impact of Riverside's open data. "It's not easy to calculate the formula for economic development for open data at this point. It's really difficult," said Deesing.

"WE NEED MORE EXECUTIVE UNDERSTANDING IN GOVERNMENT AND IN INDUSTRY ABOUT THIS."

Two high-value data sets include permitting and geospatial data. Deesing said both have economic value that could come in the form of lower costs (through shared permitting information between contractors and subcontractors) and new business potential (GIS data for developers). Although Riverside doesn't have a formal policy on open data, it will become part of the city's next IT strategic plan and it has the support of city leaders. At the operational level, published data sets are kept fresh and actively updated.

But the concept is still new and Deesing said she keeps up a constant drumbeat of talks and presentations to help sustain the momentum. "We need more executive understanding in government and in industry about this," she said.

Even big cities, with plenty of resources and experience with open data, are finding that reaching the level of "trend setter" isn't always easy.

In 2012, New York City passed what was considered a ground-breaking open data law designed to give the public free access to data that was once locked up. But by 2014, things were not going well. Open data advocates and city officials complained the data sets were "proving to be messy,

incomplete and in some cases useless in the format in which it is presented," reported *The New York Times*.

Data from the New York Police Department has been the most popular, but also the most complicated to use when it first came out. Much of the statistics on crime and crashes



/ ARE HACKATHONS REALLY NECESSARY?

They have become the most demonstrable way of showing that a city or county has opened its data. Hackathons have done more to create a buzz and excitement about open data than just about anything else out there. The media covers the events regularly, highlighting how coders come into a room and by the end of the day there are apps (or prototypes) available that use government data in a new and innovative way for the benefit of the community. The best apps win prizes and government has a new service tool at minimal cost.

But when it comes to extracting long-term, economic and social value from open data, hackathons might not be the best way to go. Stefaan Verhulst, co-founder of GovLab, sees three problems with hackathons. "First, there's a lot of duplication going on with hackathons, with lots of them solving the same problem over and over. Second, their implementation process focuses on showcasing possible ways of using data without the follow-through needed. Third, they go after problems at the margins. Cities and counties have some very big problems, but most hackathons don't focus on them," he said.

Waldo Jaquith, director of the U.S. Open Data Institute, said hackathons can be useful in building up community, connecting people and testing how they can use data in a lab-like setting. "But beyond that, they are almost always a waste of time," he said. His particular peeve is that the vast majority of people who show up at hackathons are coders and app developers, not experts in a particular program from which the data has come from. "Those are the people you want involved in deciding the smartest way to use open data, not coders."

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/ IS YOUR GOVERNMENT AN OPEN DATA TREND SETTER?

Governments that are successful at extracting value from open data and triggering economic potential share the following characteristics:

The open data has both breadth and granularity.

The data sets are updated regularly.

There is a strong user community, which is engaged with government on a sustained basis.

The open data effort has strong political support.

They become a “reliable supply chain partner” for business.

SOURCE: CAPGEMINI CONSULTING

was in PDF and Excel formats; technically in compliance of the new law but not in a computer-readable format, complained some critics.

Today, however, the situation has changed for the better, said Gale Brewer, Manhattan Borough president and a longtime advocate for open data in the city. With 1,300 data sets now accessible, Mayor Bill de Blasio’s administration, including the police department, has made major strides in opening up city information, according to Brewer.

“DATA BECOMES MORE VALUABLE WHEN YOU CAN LINK IT WITH OTHER DATA SETS.”

So far, most of the progress in the city has been focused on improving civic life. Brewer cited a recent hackathon that led to the creation of an app that helps city residents accurately measure their heat and water usage. She is also setting up a training program so the volunteers who run Manhattan’s more than 600 community boards can

learn how to use the open data sets to make better decisions that affect a range of issues, from the disabled and children to health care and schools.

Nevertheless, the economic impact of open data on New York City remains anecdotal, as it does in other cities and counties. While McKinsey and Capgemini have tried to measure the value at the national level, little is known at the local level. “There’s a growing awareness, but lots needs to be done in terms of measuring how much progress has been made,” said GovLab’s Stefaan Verhulst.

Part of the problem is that what constitutes economic value is so diffuse. There are the firms that use the data directly, such as Zillow, and create new lines of business, new revenue and new jobs. But there’s also the value that is created indirectly. A person who uses a transit app that’s driven by a city’s open data and switches from driving a car to riding a bus, could end up saving time and money. How do you capture that value and put a price tag on it? While it can be done, it’s not easy and government has other competing priorities for its limited resources.



Transit apps like GoPass, serving Dallas area public transit users, are a common byproduct of local open data efforts.



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“THERE MAY BE A SHAKEOUT WITH SOME DATA THAT ISN’T USEFUL. OPEN DATA COULD LOSE ITS BUZZ.”

IS MOMENTUM GROWING OR STALLING?

But finding a way to show where the value lies in open data is critical to its success. If the value isn’t identified and measured, government officials who decide how to spend tax dollars will be less willing to make a long-term investment toward sustaining open data. As Verhulst explained, evidence is needed to show that open data is worth the effort. “If that’s not done, it is going to get harder to keep the movement accelerating,” he said.

Already, there’s been some discussion of an open data bubble, with too many sets published without the use and participation that would warrant long-term investment. “I don’t think open data is in danger of disappearing, but I have seen data portals set up and then certain functions being turned off,” said Wendy Carrara, a senior policy adviser with Capgemini.

Her colleague, Dinand Tinholt, spoke of a tipping point: “There may be a shakeout with some data that isn’t useful,” he said. “Open data could lose its buzz.”

To avoid losing the buzz, local governments have to get smarter about open data. “Cities need to focus on the best data sets. Less is more when it comes to putting value into open data,” said Tinholt. That should make it a bit easier to find the evidence that is needed to not only show open data initiatives

can work, but which data sets have value and what that value is worth. When government learns how to prioritize what data to release, it can maximize the potential. “That’s important because prioritized data sets can get some traction going economically,” he added.



/ THE ECONOMIC BENEFITS OF OPEN DATA

For businesses:

- ✓ New business opportunities
- ✓ Reduced costs by not having to convert raw government data
- ✓ Better decision-making based on more accurate information
- ✓ More skilled workforce

For government:

- ✓ Increased tax revenue through expanded economic activity
- ✓ Greater revenue through the sale of high-value information
- ✓ Reduced transactional costs
- ✓ Increased service efficiency through linked data

SOURCE: CAPGEMINI CONSULTING

In addition to keeping the data fresh, machine-readable and available to a wide group of potential users, there are several other, more elusive goals to making open data economically viable. One is to set standards to ensure data is interoperable. Right now, there are thousands of standards out there, making open data interoperability problematic. Most experts agree that the number of standards needs to be reduced so that it becomes easier to connect different types of data around a common criteria, such as geolocation, for example. “Data becomes more valuable when you can link it with other data sets,” said Verhulst. “It can result in insights you wouldn’t have had before.”

Local governments also need to be active users of their own data. Not just to gain the benefits that come from an expansive view of how data can improve services and operations, but to understand how data works and to use that knowledge with companies and organizations that could benefit from it. Verhulst calls that “data literacy” and said local governments need to be more data literate so they can make the data more user-friendly. It’s the process that the NYPD went through — instead of posting data in PDF format, it learned how to make police information more accessible. Today, NYPD data is among the most popular data sets in New York.

Finally, local governments need to start thinking about data in a more collaborative, rather than competitive way. Data sharing shouldn’t stop at jurisdictional borders, said Daniel Castro. He points to transit and housing information as good examples of data sets that have more value when used in a collaborative fashion. The payback is in more business opportunities for the Zillows out there. “Local governments will have to accept the challenge of working through the fact that some of this stuff will be outside their control,” he said. ■

GOVERNMENT

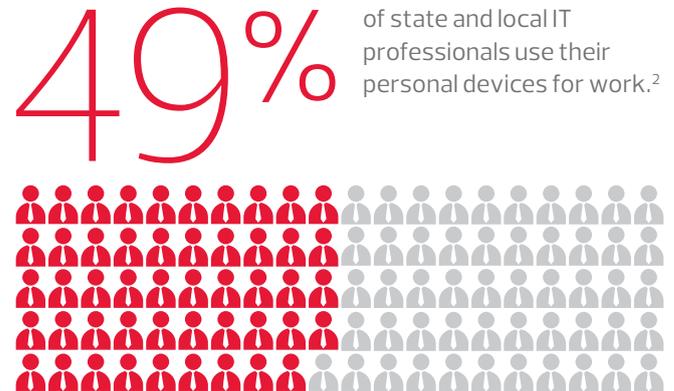
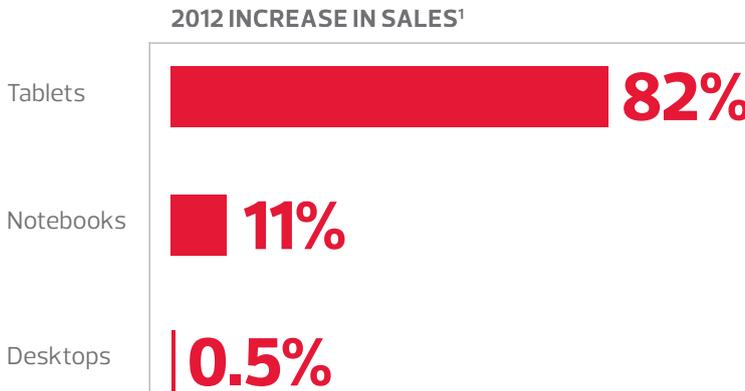


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DAVID KIDD

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To create efficiencies and engage citizens, government agencies are developing interactive websites, launching social media programs, introducing mobile applications and automating key processes. Enterprise IT infrastructure is the backbone of these applications and services. However, maintaining and upgrading government IT infrastructure can come with some distinct challenges. This Special Report introduces a framework for organizing your IT infrastructure and examines the impact of faulty or aging technologies. Featuring case studies that reveal solutions and tools, this Special Report emphasizes the importance of an updated and efficient IT infrastructure.

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THE YEAR IN PEOPLE

2014 saw a lot of movement in public-sector technology leadership. At the state level, much of it seemed to be influenced by the November elections, as new governors were elected in 11 states, poised to usher in their own set of cabinet-level leaders. Others were ripple effects caused by one departure, cascading into many others. A significant number, though, represent brand-new positions in the chain of command — data officers, IT security roles and innovation-related posts, to name a few. Here's our recap of some of this year's major career moves affecting state and local government IT.

JANUARY

After serving as CIO of the U.S. General Services Administration since 2007, **Casey Coleman** took a job as new client executive vice president at AT&T.

Longtime Boston CIO **Bill Oates** took his open and collaborative style to a new position, overseeing technology for the whole of Massachusetts. He took on several ongoing projects started by former state CIO John Letchford



Bill Oates

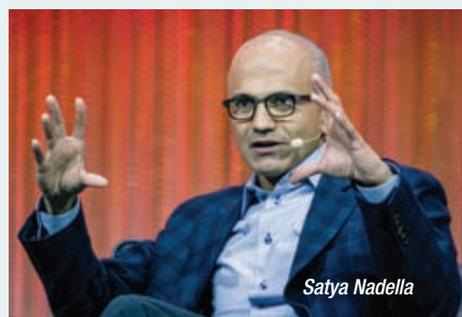
and planned to focus on IT workforce modernization and procurement, along with mobility, social media, cloud computing and big data. Oates has long partnered with other technology chiefs, namely through the G7 group of big-city CIOs. Oates also embraced that theme in August with

the Government Innovation Competition, a \$50,000 contest launched with startup accelerator MassChallenge designed to get startups working on public-sector problems. Oates' tenure could be cut short, however, given the victory of Republican Charlie Baker over Democratic Gov. Deval Patrick, who tapped Oates to fill the CIO role.

FEBRUARY

Peter Marx was appointed Los Angeles' first chief innovation technology officer, charged with improving the MyLA311 service, upgrading city websites and applying data sharing and analysis to increase government performance.

The third CEO in Microsoft's 40-year history has been described as a "cloud



Satya Nadella

man." Before taking the reins of the company, **Satya Nadella** headed Microsoft's cloud computing division and business enterprise units, which quietly earned a stellar reputation from big customers, including government CIOs. An internal memo from July showed he was spreading cloud thinking companywide: Nadella wrote that Microsoft's core is evolving from devices and services to be a productivity and platform company in a mobile-first and cloud-first world.

Detroit is arguably in poor shape, but CIO **Beth Niblock** said she was ready for the challenge when she moved from overseeing



Beth Niblock

IT for Kentucky's Louisville-Jefferson County Metro Government to the Motor City on Feb. 24. Niblock visited Detroit while still working for Louisville along with

a group of civic leaders, entrepreneurs and government officials put together by the White House. During that visit, something clicked for her, Niblock said — all those talented people who wanted to solve a big problem reminded her of why she got involved with government in the first place. Niblock is starting with the basics so she and her team can support Mayor Mike Duggan's Plan of Adjustment, a 440-page blueprint detailing how the city will move forward.

Michigan Budget Director **John Nixon**, who was widely considered one of the nation's tech-savviest state budget officers, stepped down in February to take a top position at the University of Utah. Appointed in January 2011 by Michigan Gov. Rick Snyder, Nixon had an immediate impact. Within six months, he had rebalanced the state budget and helped Snyder fashion a sweeping tax-reform package that became law. He also formed a strong and productive



John Nixon

partnership with state CIO **David Behen**, which led to the approval of nearly \$50 million in ongoing funding in Michigan's budget for technology upgrades. Behen succeeded Nixon as director of the state's Department of Technology, Management and Budget and retained his CIO duties. Snyder's deputy chief of staff, **John Roberts**, became Michigan's new budget director.

Joy Bonaguro was named San Francisco's first chief data officer (via a Twitter post) in February with the goal of unifying data standards across the city and propelling open data efforts wherever and whenever possible. To accomplish that task, Bonaguro calls upon her experience as a policy expert with the Lawrence Berkeley National Laboratory and U.S. Department of Energy. She authored the city's new Strategic Open Data Plan, which plots goals along a three-year timeframe, with top priority placed on enriching the city's open data by making DataSF more than just a repository for government transparency.



Joy Bonaguro

MARCH

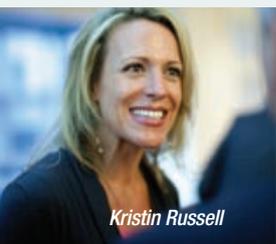
On March 18, the Hawaii Senate confirmed **Keone Kali** as the state's CIO, replacing **Sonny Bhagowalia**, who later became the deputy assistant secretary and CIO of the U.S. Department of the Treasury. Incoming Gov. David Ige could bring in a new IT leader, however, as Ige has been critical of technology progress under the previous administration.

APRIL

FirstNet, the grand vision for a nationwide network enabling first responder interoperability, hired a CIO and CTO in April. Both new hires brought significant networking experience acquired in the private sector. CIO **Jim Gwinn** held posts at both Verizon Business and MCI before joining FirstNet, where he will be

responsible for internal communications and support. Network architecture will take shape under the direction of CTO **Ali Afrashteh**, who will “plan, develop, monitor and coordinate the implementation of all network activities within FirstNet,” according to an agency press release.

Following a late March announcement that he was stepping down as Philadelphia’s chief data officer, **Mark Headd** went public in April with his new gig as technical evangelist for Accela.



Colorado CIO **Kristin Russell** shared the news that she would leave the state to lead a government cloud practice for Deloitte.

MAY

New York City Mayor Bill de Blasio chose a new CIO in May. **Anne Roest**, formerly the CIO over multiple public safety agencies in New York state, was named city CIO and commissioner of the New York City Department of Information Technology and Telecommunications.

Department of Defense CIO **Teri Takai**, previously the CIO of both California and Michigan, stepped down from her post in May, although she retains her spot on the FirstNet board of directors.

Following a brief stint as the state’s chief technology officer, **Suma Nallapati** was named the CIO of Colorado at the end of



May, following the departure of Kristin Russell. Nallapati holds degrees in electronics and nuclear physics, and comes from Catholic Health Initiatives, where she oversaw network operations, data centers and end-user computing. In Colorado, she is charged with directing IT services and innovation for executive branch agencies, and working with economic development officials to encourage tech industry growth in the state.

JUNE

In the midst of a months-long investigation over alleged contracting improprieties, Baltimore CIO **Chris Tonjes** resigned, maintaining his innocence of any wrongdoing.

Seattle’s new CTO, **Michael Mattmiller**, took the helm in late June, bringing experience as an IT consultant, most recently as a cloud strategist for Microsoft.

San Francisco CIO **Marc Touitou** left the city after more than a year to serve as CIO for the World Health Organization.

Mayor Marty Walsh brought in a new face to lead Boston’s IT efforts in **Jascha Franklin-Hodge**. Having advised the then-fledgling Code for America in 2009, Franklin-Hodge was also a software developer at AOL and a founder of online fundraising and CRM platform Blue State Digital. Among Blue State Digital’s 500 clients were foreign presidents, the NAACP, the Democratic National Committee and President Barack Obama. “We want to make sure that the whole city benefits from the things that make us an innovation hub,” Franklin-Hodge said in a YouTube video posted by the city as he assumed the role of CIO.

JULY

Tim Wisniewski, former director of civic technology for Philadelphia, was named the city’s chief data officer. Atlanta Mayor Kasim Reed appointed **Samir**

Saini as city IT commissioner. Saini was CIO of the city Housing Authority. Michigan Chief Security Officer **Dan Lohrmann** ended a 17-year state government career in July to join Security Mentor, a California-based security training firm.



Lohrmann joined Michigan government in 1997, as the state was preparing its computer systems for Y2K, and he ultimately became one of the public sector’s most influential security leaders. *Government Technology* named Lohrmann one of its Top 25 Doers, Dreamers and Drivers in 2009, and he was a *Governing* magazine Public Official of the Year in 2008. After his initial stint as chief information security officer, Lohrmann spent two years as Michigan’s CTO. He returned to an expanded chief security officer position in 2011, where he was responsible for physical and cyber security for the state.

AUGUST

After five years as Delaware CIO, **Jim Sills** headed back to the banking industry in mid-August. In October,



James Collins, director of Delaware’s Division of Professional Regulation, was confirmed as the state’s CIO.

The White House tapped Google exec **Mikey Dickerson** to lead the U.S. Digital Service, a new internal consulting group launched in August to find and fix troubled federal projects. Dickerson, Google’s former site reliability manager, came to the job with experience — he helped the White House with repairs to HealthCare.gov after its

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tortured launch in 2013. Dickerson and his small team went to work on a handful of struggling agency projects. Ultimately he hopes to influence how federal agencies perceive project risk and nudge them toward agile development methods. “What convinced me to change and come to the public sector — at least for a little while here — is just the potential to affect people’s lives in a much more profound way than what I had been doing in the past.”



Abhi Nemani

Mayor Eric Garcetti made a bold move to jump-start open data efforts in Los Angeles by naming Code for America co-director **Abhi Nemani** the city’s first chief data officer. Nemani, who left the civic hacking

group earlier in the year, said he intended to make city data more accessible to external

civic technologists and more useful to internal city decision-makers. Among other things, Nemani took ownership of a recently launched open-data portal already stocked with several hundred city data sets. “The question for us moving forward is how we derive more impact out of this data,” he said.

With a decade of experience leading technical teams in health care, Colorado’s new CTO — **David McCurdy** — will try his hand at public service. McCurdy took the job in late August.

Kevin Counihan, director of the Connecticut Health Insurance Exchange, was named the first CEO of the federal HealthCare.gov exchange, a position many demanded after the disastrous rollout of the marketplace.

SEPTEMBER

September saw wholesale turnover of top IT leaders in the White House. CTO



Steven VanRoekel

Todd Park stepped down to become a Silicon Valley-based technology adviser for the Obama administration, charged with recruiting new talent for federal positions. A few weeks later, federal CIO **Steven VanRoekel** announced he was joining the United States Agency for International Development as its chief innovation officer to help coordinate federal efforts to fight the Ebola virus in West Africa. To fill the vacancy left by Park, the White House imported more talent from Google, naming company exec **Megan Smith** the

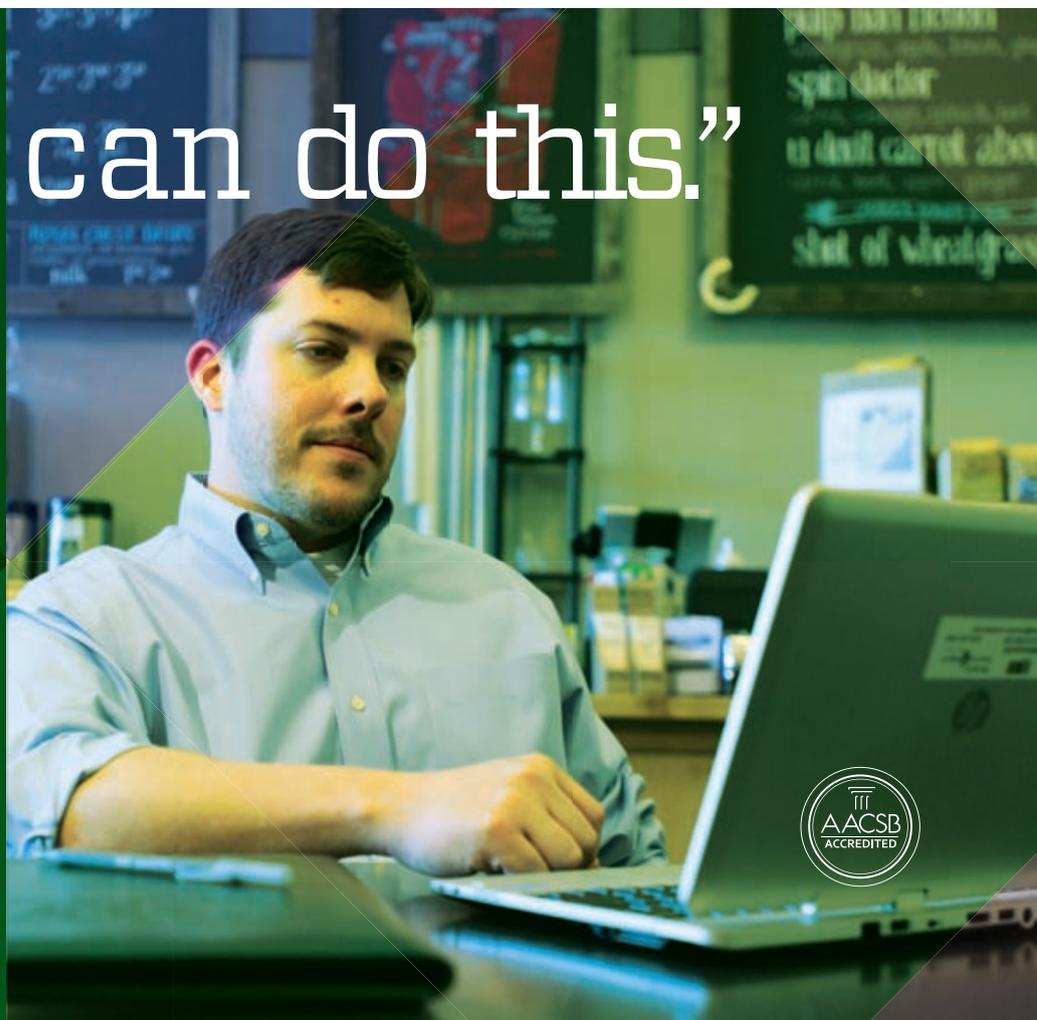
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nation's new chief technology officer. **Lisa Schlosser**, a deputy administrator, filled in as interim CIO while the administration considered VanRoekel's replacement. **Erik Ross**, director of the North Carolina Innovation Center, was promoted to chief digital officer, a first for the state.

Minerva Tantoco, CTO of Swiss financial services firm UBS, was named New York City's first chief technology officer.

OCTOBER

Within days of each other, two of the nation's longest-tenured women state CIOs announced their departure. Texas CIO **Karen Robinson** announced her retirement after five years as the state's top technology official, and Arkansas CIO **Claire Bailey** stepped down after eight years of leading IT efforts in her state. Robinson, former director of Administration and Technology

to Texas Gov. Rick Perry, was named state CIO in 2009 and immediately faced the task of restructuring a faltering plan to consolidate and outsource state data centers. Ultimately Robinson ended the \$863 million deal with IBM and awarded a handful of restructured data center contracts to a new group of vendors. She also led efforts to modernize the state government portal and catalog legacy state computer systems. Bailey was appointed in 2006 to lead Arkansas' cabinet-level IT agency. She oversaw deployment of the Arkansas Wireless Information Network, a statewide interoperable radio system for first responders. Bailey also brokered an agreement with Facebook allowing for broader use of the social platform by state governments. She was named one of *Government Technology's* Top 25 Doers, Dreamers and Drivers in 2011.

Anthony Schlinsog, chief information technology officer of Kansas, resigned after three years in the role.

NOVEMBER

The mid-term elections could lead to a **shakeup of state CIOs**. Voters in 36 states cast ballots for governor in the election, and at least 11 states (Vermont's governor will be decided by the legislature in January) will have a new elected executive in 2015. The recently elected governors will probably enter the office with new faces and policy changes — both of which could change priorities for IT leaders and the current roster of state CIOs.

At press time, startup veteran and Harvard Business School alum **Lauren Lockwood** was named Boston's inaugural chief data officer. **GT**

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States Rise to the Top

Idaho and Connecticut take home “most improved” honors, while others are singled out for technology success in specific program areas.

By Steve Towns and Noelle Knell

E.Republic’s Center for Digital Government recently released its 2014 Digital States Survey, which gives states an overall grade based on how well they are using digital technology. On the whole, the results were encouraging, with 21 states improving their grades since the last survey in 2012. The center also examined specific program areas to see which states set the standard for using technology to deliver vital services. The result is seven states that were named 2014 Best Practice Leaders, along with two states that showed the biggest improvement since the last survey.



CATEGORY: Adaptive Leadership
WINNER: Connecticut

Runners up: Ohio, Delaware, New Jersey and Minnesota

The Adaptive Leadership category measures how well state technology initiatives match the governor’s policy priorities. Connecticut came out on top for supporting Gov. Dan Malloy’s efforts to close the state budget deficit and shore up neglected IT infrastructure. The Office of Policy and Management enhanced efficiency statewide using Lean management principles. Business process changes are supported by new technologies like an enterprise identity and access management platform. As of late 2013, these efforts reduced operating costs by more than \$4 billion, the state reported. Connecticut also created a \$50 million Enterprise IT Investment Fund for shared services projects that align with business objectives. A committee of seven agency commissioners governs the fund, and 24 projects have received funding so far.



CATEGORY: Enterprise ICT
WINNER: Utah

Runners up: Missouri, Virginia, Michigan and Kentucky

Besides earning one of the few A grades in the survey, Utah topped the Information and Communications Technology (ICT) category, which measures performance of state enterprise technology agencies. The Department of Technology Services (DTS) moved all executive branch agencies to Google Apps for Government in 2012, halving the cost of running email and productivity apps. Virtual desktop services have been widely adopted and a new enterprise client support platform inventories all software installed on 23,000 state agency desktops. The DTS is also implementing a software-defined data center, and its transition from mainframe computing to a virtual systems open computing environment is nearly complete. Just one mainframe app will remain once Utah finishes deploying a Medicaid management information system.



CATEGORY: Finance and Administration
WINNER: Washington

Runners up: Indiana, Idaho, Virginia and Pennsylvania

Washington’s open data portal is transforming how the state reports on the performance of its projects. For instance, a bi-annual salmon recovery report used to cost \$50,000 to produce, not including staff time, but now updates automatically using information from the state open data portal. In addition, more than a dozen projects are under way to support a 2013 procurement reform law intended to centralize oversight, encourage small business participation and increase accountability. Washington’s Department of Revenue upgraded its e-filing system, and launched several initiatives to improve tax collection using location technology. A new mobile app uses GPS to look up tax rates. In addition, the department uses GIS to automate and validate property data collection from utility companies, which is used to assess property taxes.



CATEGORY: Public Safety
WINNER: Indiana

Runners up: Vermont, Kansas, Alabama and North Dakota

Indiana public safety agencies underwent a massive digitization effort, making more than 1 million records searchable online, including gun permits, criminal history records and fingerprint cards. The effort eliminated 20,000 square feet from their physical footprint. Other manual systems were streamlined electronically, including tax warrant processing and the vehicle citation system. The state also made great strides in public safety information-sharing. State courts are now interoperable with one another, and the executive branch, achieving significant cost savings. A new electronic system grants access to better data on mental health concerns that could influence firearm permitting decisions, while a new Protection Order Registry better coordinates communication between law enforcement agencies and victims.



CATEGORY: Transportation
WINNER: Virginia

Runners up: Colorado, Missouri, Wisconsin and Maine

The Virginia DMV helps the state guard against fraud and abuse with a new customer service system that verifies information supplied by social service applicants against their DMV record. The Commonwealth Authentication System, honored by *Government Technology* earlier this year, gets 4,000 logins per day. The DMV's MySelect app replaces a legacy Unix-based application with a modern interface for customers. Service improvements include 162 new transaction options, automated service alerts and integration with the DMV queueing system. Transitioning from the old servers saves nearly \$1 million annually. The upgrade also allows real-time verification of birth certificate data, permitting the agency to issue birth certificates at all locations as well as fulfill certain testing needs of other state agencies.



CATEGORY: Most Improved
WINNER: Idaho

Idaho's jump from a D in 2012 to a B in this year's survey is explained in part by a 2013 law establishing the Idaho Technology Authority, a legislative committee that replaced the Information Technology Resource Management Council. The new governing body sets IT policy and has approval authority for large-scale technology projects in the state. Changes align with Gov. Butch Otter's desire for more efficient, collaborative IT programs. Idaho is moving to the cloud in a major way, supported by 2013 legislation that exempts cloud services from state sales tax. The state's official strategy includes plans to transition several key services to hosted platforms, including licensing, permitting, GIS, email and ERP systems.



CATEGORY: Health and Human Services
WINNER: Kentucky

Runners up: Connecticut, California, Pennsylvania and Georgia

Lauded for the successful implementation of the Kentucky Health Benefit Exchange, the multi-agency collaboration involved a phased rollout of its eligibility and enrollment, and plan maintenance and billing systems, in accordance with ACA deadlines. Analysts credit the state's head start for its success — it began work after the law was passed in 2010 rather than waiting for the Supreme Court decision in 2012 — and no-frills usability as key reasons. Kentucky also built an integrated case management portal on top of its exchange, and incorporated fraud detection capabilities. The statewide KARES portal is a background check program that integrates with FBI data to make sure employees of long-term care facilities aren't concealing crimes committed out of state.



CATEGORY: Citizen Engagement
WINNER: Utah

Runners up: Mississippi, Hawaii, Arkansas and California

The first state out of the gate with an open data portal in 2009, Utah offers full visibility into its financial matters, and all meetings where the public's business is discussed. Its next portal update will include a statewide public records request system and an online repository of legislative emails. Nearly 1,100 online services await citizens at Utah.gov, saving \$13.20 for every online transaction completed, which added up to more than \$831 million in 2012-13. Utah's mobile strategy, published in 2013, aims to make state services available regardless of user platform. Utah added a wearable app to its portfolio earlier this year with a public transit app for Google Glass. The state also boasts significant social media engagement, using a searchable master data index to integrate social content with the rest of its online presence.



CATEGORY: Most Improved
WINNER: Connecticut

Connecticut posted one of the biggest improvements in this year's survey, jumping from a C in 2012 to an A- in 2014. The state benefited from a strong commitment to modernization by Gov. Dan P. Malloy, who inherited neglected IT infrastructure upon taking office in 2011. Savvy decision-making by state agency leaders aligned technology deployments with Malloy's policy agenda. A statewide Lean management initiative is improving state business processes — and saving billions, according to the state — while a new Enterprise IT Investment Fund is funneling millions of dollars into upgraded systems that support multiple state agencies. Furthermore, the state's highly regarded Access Health CT health insurance exchange exceeded goals for enrollment in its first year of operation, and Connecticut has worked with a number of other states to share best practices from its exchange. **GT**



Neighborhoods Are Social Networks Too

Why the Nextdoor hyper-local social network is exciting for public agencies.

There is one viral video that makes me tear up every time. “Look Up,” a YouTube video poetically narrated by writer/director Gary Turk, was designed to draw attention to people’s obsession with social media and technology at the expense of real contact with the people around them. With nearly 50 million views since it was published in spring 2014, the video made an impression by showing the offline interaction that people miss out on.

One social network, Nextdoor.com, aims to balance the digital and the unplugged worlds. The idea is that technology can be used as a way to bring back a sense of community to neighborhoods. It proposes that online social interactions can lead to increased interactions in the physical world.

Nextdoor launched to the public in October 2011, and today it has swelled to more than 40,000 neighborhoods across America. Citizens use their private neighborhood network to communicate about topics like safety concerns, local events and other issues.

Co-founder Sarah Leary recently told me in an interview, “When we started Nextdoor, I actually only knew one neighbor on my block and I had lived there for four and a half years. Thanks to Nextdoor, I now know over a dozen people who live on my block.”

Nextdoor for Public Agencies

A few months ago, Nextdoor for Public Agencies was unveiled. The program allows U.S. cities and public safety entities to tap into the networks created by citizens. Before you start thinking about Big Brother, understand that agencies are not actually able to see the private conversations that happen in the networks. Rather, they are able to communicate with citizens more like an invited guest.

Why is this a big deal? The important buzzword here is: hyper-local. Because participants are verified residents of particular neighborhoods, public entities can send highly targeted messages to specific areas of the community. Emergency alerts and crime warnings are much more helpful when they are sent to people in the actual areas affected.

What Happens in Vegas, Stays in a Private Social Network

Just before the launch of Nextdoor for Public Agencies in September, the city of Las Vegas partnered with the company to engage with its citizens.

Public Information Officer Jennifer Davies oversees Las Vegas’ social media program. When I asked about her experience, Davies explained that the biggest value for her is being able to be where the conversation is. “Being part of a site where neighbors are already venting frustrations about city services and trying to make their neighborhoods safer allows us to better serve and assist them.”



Las Vegas maintains a presence of more than a dozen profiles on multiple social networks. But in a city best known for doing things big, the small-scale, highly targeted nature of Nextdoor is welcomed. “Nextdoor also allows us to connect with residents in a more personal way; when specific neighborhoods are impacted by a certain road project, for example,” Davies said. “Nextdoor allows us to scale our message in a way that our other social media channels don’t.”

Looking to 2015

As we enter 2015, I am particularly interested in the evolution of Nextdoor in the government social media space. The use of hyper-local technology by the public sector is not a new thing. Location-based products such as Nixle, Geofeedia, Ping4 and an array of others have been successfully embraced by a number of agencies.

Still, I find myself rooting for any endgame that encourages interactions with those who live closest to you. **GT**

Kristy is known as “GovGirl” in the government technology industry. A former city government Web manager with a passion for social media, technology and the lighter side of government life, Kristy is the CEO of Government Social Media.



Leaning into the Future

What you'll remember from 2014 in five years.

As is my Yuletide tradition, I invoke the name of a fake priest and his made-up institution — Father Guido Sarducci's Five-Minute University — to identify the things from the last 12 months you'll remember five years from now. For an old *SNL* sketch, it is a pretty effective lens for getting at what mattered amid the noise of public service.

1 / New lessons from the final frontier

The year ended with two tough blows for commercial space travel — the launch accidents of Virgin Galactic and Orbital Sciences — followed by a historic success by a public agency when a small 220-pound



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probe stuck its landing on a comet, becoming the first spacecraft to ever do so. The former rocked a nascent industry, forcing the startups, their funders, regulators and customers to confront the high cost of risk that comes with doing something new. The latter is an out-of-this-world big data play in which a refrigerator-sized robot millions of miles from home holds the promise, as *Vox* reported, of “provid[ing] a window into the history of all life on earth.”

2 / Cloud meets the physical world

The promise and strategic risk-taking of space startups have parallels much closer to home. The frothing around business models and regulation of transportation network companies such as Uber and Lyft is merely prologue to what awaits cities (and incumbent players) as they come to terms with the commercial introduction of autonomous cars and drones. For their part, drones may prove useful in a number of applications but will face a disruptive challenge of their own. The dream of drone-based package delivery could become unnecessary as 3-D printing builds finished products — virtually anything that can be made of plastic, steel or composites, including food — when and where they are needed.

3 / Lagging or left behind

Policy lags are nothing new, but the rapidity and depth of change at this moment puts government at risk of being left behind. Fundamentally disruptive ideas and forces — many backed with robust funding and fluid business models — are shaking things up more quickly than government can deal with. It all creates new opportunities for communities and the people who live there even as it puts unprecedented pressure on conventional public service delivery. Aided by large philanthropies and universities, governments are purposefully building their innovation muscles and growing the ranks of civic chief innovation officers. Stand-alone innovation officers are not forever. Neither are many startups and even some incumbents. It all has to scale from experimental to

sustainable when the dust settles from what will be inevitable shakeouts. That may be the ultimate public policy stewardship challenge for the long term.

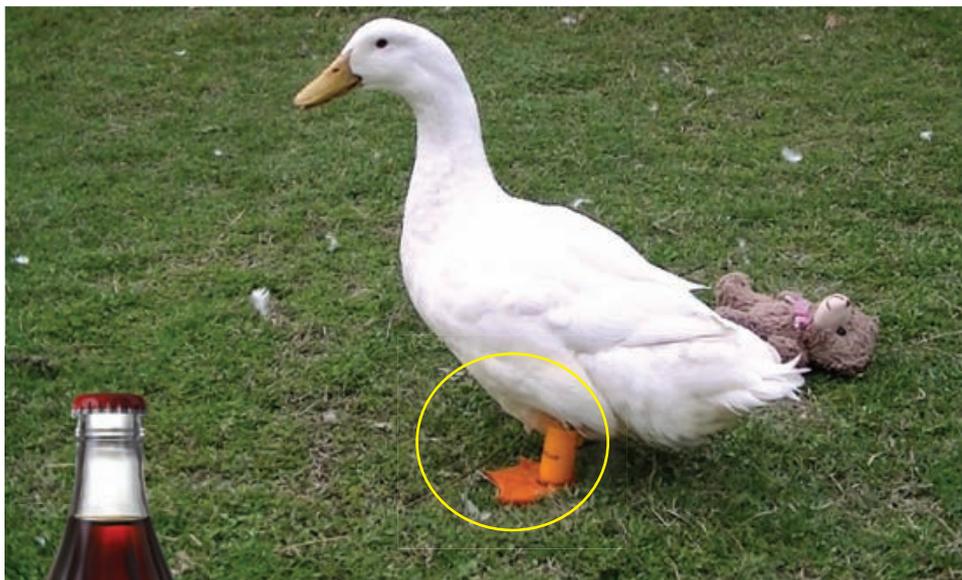
4 / An all-hands proposition in confronting the future

Who will do all this work? History tells us that rugged individuals opened the American West but the future demands an ensemble cast. But we've known that for a long time. At the advent of modern computing, it was pioneering women programmers who brought Eniac, Univac and other early systems to life. The Internet reflects the combined efforts of a global collaboration among people of every ethnicity, gender, age and national origin.

The complexion of the public-sector IT community is increasingly diverse, but there is at least one incomplete conversation that it needs to finish. The generational divide is real — and it cuts both ways. As much of a struggle as it has been to create work environments welcoming to millennials in public service, those who have taken jobs in government are moving into management roles. In discussions with veteran IT workers across the country this year, there is discernable concern about ageism among seasoned employees who complain their young managers assume that their best years are behind them.

Like the American experiment itself, and the laboratories of democracy that are the states, it doesn't have to be that way. **GT**

Paul Taylor is the chief content officer of e.Republic, Government Technology's parent company.



WALKING LIKE A DUCK:

Fluffy duck Buttercup was born with a backward foot, which caused her pain and made it hard to move around like a normal bird. Physical therapy helped, but couldn't fully turn her foot in the proper direction. Caretaker Mike Garey and veterinarian Dr. Shannon McGee teamed up with NovaCopy to make a prosthetic leg out of silicone for Buttercup using 3-D modeling and printing technology. Follow Buttercup's progress at the Feathered Angels Waterfowl Sanctuary in Arlington, Tenn., on her Facebook page: [Facebook.com/ButtercupTheDuck](https://www.facebook.com/ButtercupTheDuck). SOURCE: INHABITAT



TURNING COKE INTO WATER:

Dutch artist Helmut Smits finds irony in the fact that Coca-Cola is easier to come by in some parts of the world than clean drinking water. Working with the University of Amsterdam's Synthetic Organic Chemistry Group,

Smits devised a distillation process to convert the ubiquitous red-bottled soda into water using his creation, The Real Thing. Soda is boiled in the device, creating water vapor, which is funneled into a glass and mixed with

minerals to make it safe to drink. The Real Thing was displayed at the Sense Nonsense exhibition in Eindhoven, Netherlands, during Dutch Design Week.

Smits revealed that the prototype's main purpose is to get people thinking.

"I'm not planning on turning all the Coke in the world back into water; it's more to let people think about how we humans create the world around us and ask questions."

SOURCE: DEZEEN

Nanoparticle Research Boosted by Accident

Google software engineer Tom Stanis' February 2013 bicycle accident near Stanford University left him with a concussion, a neck brace and no recollection of the event. But it also resulted in an unrelated medical discovery that shifted the course of his career. A CT scan after the accident revealed spine fractures and a kidney

mass that turned out to be cancer.

With the cancer removed, and an excellent prognosis, Stanis left his post on the Google Wallet mobile payment team to join Google X, the company's clandestine research arm. Specifically, he's now a part of a Life Sciences group developing nanoparticles to patrol the

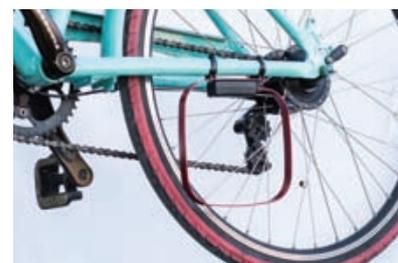
human body to detect evidence of diseases like cancer in their early, most-treatable stages. In fact, Stanis' story was instrumental in securing funding for the endeavor.

"I feel like the work I do is leading to better solutions to these problems. I feel a direct personal connection to this," he said.

SOURCE: WALL STREET JOURNAL

Tripping the Light, Fantastic!

Motorcyclists and subcompact-car drivers have likely sat alone at many red lights, wondering if sensors will ever detect their ride and turn the light green. Bicyclists' plight is worse still, as sensors often can't pick up bikes at all. That's why cyclist Nat Collins designed the Veloloop, a bicycle attachment that uses battery power to trigger sensors. An LED on the device informs the user when it's searching for, and locked on, the sensor. Beta testers report shaving minutes off their commutes.



SOURCE: CITYLAB



Send Spectrum ideas to Managing Editor Noelle Knell, nknell@govtech.com, [twitter@GovTechNoelle](https://twitter.com/GovTechNoelle)

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With the adoption of technologies such as digital textbooks, interactive whiteboards and 3-D printers, one thing is clear: The curriculum of the future has arrived. The most recent Center for Digital Education (CDE) Special Report takes a deep dive into the adoption and implementation of digital curriculum, looking closely at the benefits and potential pitfalls involved in this shift. From innovative content delivery methods to the latest in open educational resources and other trends on the horizon, this report highlights case studies and best practices from education institutions that have already made the transition to digitally delivered learning.



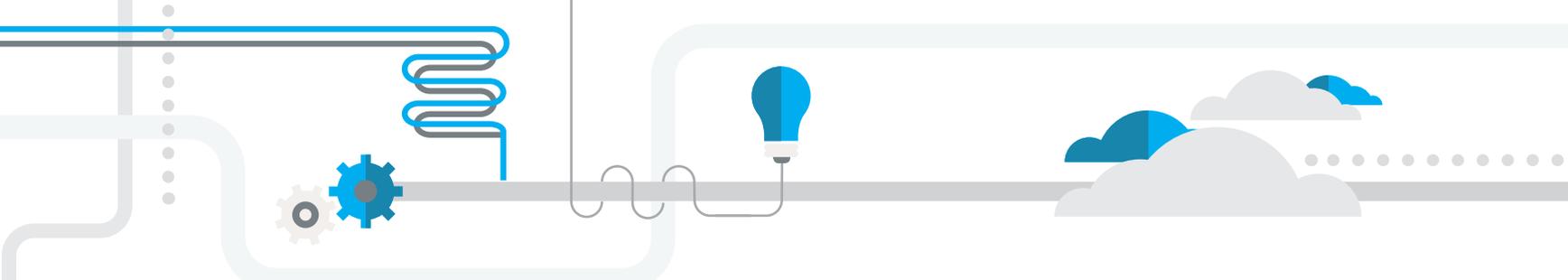
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