A new approach to mobility offers the ease of the Web with the feel of an app.

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When managing security in an all-IP network, it helps to see the big picture.

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31 / CRM isn’t just for big cities anymore. Improvements in technology are putting 311 systems within reach of small to mid-size communities, helping them deliver better service and glean new management insights.

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31 / CRM isn’t just for big cities anymore. Improvements in technology are putting 311 systems within reach of small to mid-size communities, helping them deliver better service and glean new management insights.
Still More Questions than Answers

The FirstNet national first responder network succeeds, it’ll be because federal officials who are planning and deploying the network forged strong partnerships with states and localities. That’s why comments from state CIOs at the NASCIO Midyear Conference in April are troubling.

Although state CIOs generally support the concept of a nationwide interoperable public safety network, they’re clearly frustrated with the lack of details coming from the federal First Responder Network Authority about how the new network will be built and paid for.

“FirstNet is a fantastic idea, but people like me are very skeptical of something where nobody can show me the plan and nobody can show me the cost,” said Alabama CIO Brunson White. “I’ll remain skeptical until somebody does that, and we’ve been asking for a while now.”

Indeed, they have. It’s been three years since the initiative launched, and states still have more questions than answers. In interviews during the conference in Virginia, multiple CIOs struck a common theme: “They’re still waiting to find out how existing networks infrastructure will be leveraged to form the new network, how big the pool of FirstNet users will be, and of course, how much first responders will pay to use it.

Also disturbing were complaints from several CIOs that they’re hearing different messages as FirstNet officials conduct state-by-state consultations in preparation to construct the network. Ohio CIO Sue Davis said he’s collaborating with other states to compare notes on what they’re told by FirstNet officials. “We talk among ourselves to make sure that what they’re hearing in Minnesota is the same as what they’re hearing in Wisconsin or Ohio or Indiana or Michigan.”

Davis added that states also are banding together to increase their clout with the feds during the network design process. “We have more power if we’re collective like that, and we’ve been talking to the other NASCIO members about taking that approach too.” He said. “There’s more power with numbers.”

During the conference, CIOs met with FirstNet officials in Washington, D.C., to press their concerns — including how state-by-state deployment plans will be developed and how the new network will cover operating expenses. Ensuring that everyone’s on the same page with these and other important issues will be vital to the project’s future.

“We need to form a trusted partnership,” said Mitch Herckis, NASCIO’s director of government affairs. “If there’s significant intergovernmental disagreement, this network is just not going to get built.”

Trust appears strained right now. For the nation’s sake, it needs to be strengthened as this ambitious initiative moves forward.
Halting 911 Overuse

For Long Beach, Calif., the challenge of emergency management is clear: A small number of people are making too many 911 calls for medical assistance. To deal with the problem, city officials partnered with the civic tech group Code for America to create AddressIQ, a Web app that combines fire, police and business licensing data to reduce calls from 911 super-users. The tool connects addresses to both the number and type of emergency dispatches. The information enables emergency workers to collaborate on high-usage locations and assist callers through education, social outreach or, in worst cases, enforcement measures.
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A Well-Lit Path

In Louisville, Ky., 1,472 LED lights illuminate the Big Four Pedestrian/Bicycle Bridge on the city’s waterfront, adding color and covering the steel structure with kinetic light. Since February, every evening from sunset until 1 a.m., onlookers are treated to programming featuring rainbow effects and other color combinations that dance and move across the bridge.

Private donations covered three-quarters of the project’s $2.1 million price tag. The lighting system, which runs year-round, consists of LED fixtures by Philips Lighting that are estimated to last 10 years. Spirited displays will coincide with certain holidays, like shades of red and pink for Valentine’s Day; green for St. Patrick’s Day; and red, white and blue for the Fourth of July.
BECOMING DATA SMART

By Stephen Goldsmith

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.

Opening Up Innovation

How cloud-based mobility is delivering value to small cities.

I used to be that powerful computing resources were the exclusive domain of large cities with big budgets. However, the growing availability of affordable, cloud-accessible IT solutions is bringing the advantages of mobility to small and medium-sized municipalities. The result of this technical ubiquity: More and more U.S. citizens are reaping the benefits of innovative technology that allows local government fieldworkers to do their jobs more quickly and efficiently.

I’m seeing this happen right now in Westfield, Ind., a small city just north of Indianapolis. Westfield has only about 200 government workers and a budget of $33 million to serve its 33,000 residents, but the city is making those resources count with a new Web portal called WeConnect.

Released in February, the tool allows residents to apply for permits, pay bills, report potholes and submit other service requests. The real game changer for Westfield is what happens when citizens submit a service request, either by calling into City Hall or using WeConnect. Where previously service requests would sit unopened in email inboxes, the new system instantly notifies city workers out in the field by generating work orders on their tablets.

This combination of new cloud-accessible, easily implemented customer relationship management (CRM) technology coupled with mobility has already enabled meaningful results. Westfield’s chief of staff, Todd Burtron, told me about a recent pothole report that came in from a driver who had sustained vehicular damage from the crater. Thanks to the system’s instant notification system for city fieldworkers, the pothole was filled “within a matter of minutes”— so fast, in fact, that the road was already fixed by the time the driver returned to photograph the site.

All of this is made possible by a sophisticated suite of services. WeConnect is powered in part by Microsoft Dynamics CRM, a cloud-accessible tool. In choosing the technology, Burtron and his team sought to emulate two innovative big-city models— Boston’s Citizens Connect app and Toronto’s 311 app—but customized the solution to fit their needs and budget.

The decision to invest in an efficiency-enhancing tool was right in line with Westfield Mayor Andy Cook’s philosophy in the current tough fiscal climate. “In our environment in Indiana, we’ve got to become more innovative,” the mayor told me. “We have to do more with less, which is the right thing to do.”

That’s an approach that more small cities would be wise to duplicate. As Burtron said: “There are many more City of Westfields across the fruited plain than there are the big metropolitan hubs, and I think we can prove that smaller cities and towns could and should be doing this.”

The success that Westfield and other peers have seen with mobility is evidence that the technology can deliver real results for cities of any size. The cloud allows the best services in the world to be relatively quickly delivered to local government, eliminating the need for expensive enterprise licenses, cumbersome legacy infrastructure and human talent that can integrate it all together. Just because your city’s budget is small doesn’t mean cloud mobility is out of reach.
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How are you using the cloud now?
We've created a private state-owned cloud to host a lot of state applications. It's basically a lights-out data center. We don't need to have people there. We can monitor it remotely from mobile devices.

We've also had agencies move to commercial cloud platforms. Recently our Department of Labor moved one of its mainframe applications to a cloud provider. That's caused us to look at our entire mainframe environment. Right now we're looking at an RFP to find ways to do more with less — can we do it better by moving to a cloud service? We also just went through a financial analysis of whether we should move email to Microsoft Office 365. A decision will come soon on that.

Are there challenges to adopting cloud services?
Part of our problem in Alaska has been connectivity. We have fiber connecting us to Washington and Oregon. But it's been kind of restrictive to put cloud services so far away. Obviously we've met the challenge in several instances and we're doing it. There are some things on the horizon that could have us hooked to a bigger fiber ring in the next five to six years, and I think cloud in the future will be a lot more viable.

What's driving cloud adoption in your state?
We're faced with economic challenges. Falling oil revenue really hurt us this year. That will have us looking at buy vs. build and what services should be commoditized and outsourced. No one likes to hear that because it impacts state jobs. But our governor is leading a challenge to shrink the size of government so it's sustainable on our oil revenues, and cloud services probably will be a big part of that.

What does the future of cloud computing look like?
Our private cloud is only about 3 years old. We made quite an investment in that, so we'll probably be leveraging that infrastructure for quite some time. I see it being viable for at least another five years. At the same time, we have to think about where we'll be in 10 years. Will we still be in that business? The idea is to start looking at data and apps in the cloud and figure out how we'll get there from here.

— Steve Towns, Editor
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David Puntenney, IT director of Westminster, Colo., calls hybrid apps a “tempting proposition.”
As governments scramble to please mobile users, hybrid apps might be a winning option.
In Sacramento County, Calif., E-government Chief Kristin Echols calls mobility inevitable. In January 2012, only 3 percent of traffic to the county portal was via a mobile device. In January 2014, that number had jumped to 13 percent and by July of that year it had risen to 20 percent. Clearly the populace wants mobile access to county information.

Echols is wrestling with the same question as others in government circles. How can they use technology to make information more readily available to the public? Should civic entities build downloadable apps for smartphones and tablets, or use responsive design to create mobile-friendly websites?

Her short answer is responsive design, with 85 percent of the county’s sites already converted to this mobile-friendly infrastructure and more under construction. But this hardly resolves the debate. Sacramento County also has downloadable apps to deliver polling place data, 311 functions, food facility inspections and crime reports. It’s a fairly typical scenario. Following the initial excitement surrounding downloadable apps, city, county and state governments are pulling back. They are turning more often to improved tools for responsive design, while still adding some native app functionality. They also are implementing hybrid constructions as a compromise, structures that allow for more mobile access while reducing the risks that come with smartphone apps.

RESPONSIVE SOLUTIONS

Not so long ago, apps seemed to be the answer to mobility, a way to get data to the masses in a clean, easily accessible format. Now improvements in the tools of responsive design have swung the pendulum the other way. Responsive design relies on a combination of flexible grids, adaptable layouts and scalable images. As users access a site using any of the various devices available today, the website adapts automatically to allow for appropriate resolution, image size and scripting, thus making for easy viewing on any device. “When mobile apps were new, there was a rush to have an app just because it could be done,” said West Virginia CTO Gale Given. “Today we see browser-based technologies catching up and being able to provide much of the same functionality as native apps.”

Through the state’s digital government program, Given’s office has designed 32 mobile-friendly applications on West Virginia’s portal. These include Financial Disclosure Filing, a State Phone Directory, Driver’s License Reinstatement Fee, Nursing Advanced Practice Application and a host of others.

Sometimes a website is simply easier to access than an app. Users tap into a dot-gov portal and click through, no download necessary. “The more information we can get to our constituents when they start that search, the better it is for everyone,” Given said. “A responsive Web application is just going to reach more people on the first shot.”

Such virtues are one half of the equation pushing responsive design. At the same time, many planners are driven to responsive design by what they see as the potential drawbacks of a native app. Apps clutter a phone. “Everybody wants a presence on your home screen. Target wants to be there; Walmart wants to be there. If you use Facebook every day, you want that on your home screen, but...
if you pay your taxes once a year, then you aren't going to want that,” said Danny Straessle, the assistant public information officer at the Arkansas State Highway and Transportation Department.

If people aren't going to use it, why go through the expense — and the complexity — of building it? And it can be awfully complex. “When you look at all the different operating systems, all the different devices with their different screen sizes, that's a lot of testing that you have to do whenever a new software version comes out,” said Ian McQuinn of West Virginia Interactive, an NH company that operates the West Virginia state portal.

It's a point that comes up all the time among civic IT planners. Devices come in so many sizes, systems and flavors, the prospect of keeping native up to date is just plain daunting, as apps must accommodate all these variables on an ongoing basis. This looming multi-platform threat is perhaps the strongest argument in favor of responsive Web pages.

It's a technology challenge and also a personnel burden. Since 2008 the Los Angeles Information Technology Agency (ITAS) team has lost 40 percent of its staff due to budget cuts, making rolling updates to smartphone apps a real challenge: “We don't have the luxury to maintain all of this, so we have to be very smart about how we do this,” said Ted Ross, assistant general manager of ITAS’s Technology Solutions Bureau, an office with 175 people and a $32 million annual budget.

So the argument for responsive design is strong — but that doesn't mean apps are dead.

THE CASE FOR APPS

While app developers may be hard to come by, there is a flip side: Many managers have found that talent is similarly lacking to make websites mobile-friendly. In Westminster, Colo., Information Technology Director David Pantenney promoted an internal IT expert into the mobile guru spot after an unsuccessful search for a mobility pro. “We posted that job announcement once at the end of last year and once at the beginning of this year,” he said. “And we were not successful in finding a candidate that had the qualifications we were looking for.”

In Los Angeles, Ross still sees a place for smartphone apps in the civic cosmos. The city offers citizens the MyLA311 app on Apple and Android. The app provides information on a range of city services and is in the midst of an upgrade, with planners installing a function that will notify citizens when a problem is solved.

Why go native? Ross and others note that some apps may rely heavily on a phone's functionality, for example by making use of the camera or the geocoding capability.

A phone app also can be tailored for personal use. “Suppose you enter a library and the app could push a message that says this library has an event on Saturday,” Ross said. “Then suppose you can change the settings within your app to reflect who you are and what you want to get out of the service.”

Apps can help, too, when a user needs to access data even when out of signal range. In Arkansas, the emergency management department runs an app check full of critical response data. Should rescuers lose their connection to the network, they’ll find that information in a mini website embedded in the app. “If there is a major disaster and the cell network is down, how else are you going to get to this information?” Straessle said.

Apps also have an air of legitimacy. It sounds a little bit counterintuitive: Certainly a government website ought to be a trusted source of information, and even more so if it responds smoothly in a mobile environment. But there’s something about the user experience that makes an app feel more solid. Imagine poking around your bank’s website looking for the login somewhere on that front page, versus firing up an app that opens at the login page and goes right to the three or four basic functions you need. User familiarity counts, and users have become accustomed to the app experience.

MIDDLE GROUND

While there are pros and cons on both sides, it's not hard to tell which way the wind is blowing. Winston-Salem, N.C.'s 311 smartphone app launched in January 2013. Arkansas' driver information tool began downloading in summer 2013. L.A.'s citizen info application launched in early 2013 and Sacramento County put its 311 app into play in October 2013.

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Apps are so two years ago. That doesn’t mean that responsive is the only solution, however. In fact, many technology planners are turning toward a third option, the “hybrid” app, as a way to enable mobility with the fullest possible access for all.

As the name suggests, hybrid apps combine advantages from both the Web-based and native app environments. A hybrid app may be thought of as a core of Web information, wrapped inside a smartphone shell. It looks like a downloadable app and delivers like a responsive website.

The hybrid proposition is intriguing on a number of fronts. First, these apps can be downloaded from an app store. They look and behave with a familiar app cadence, something designers are eager to deliver to end users.

At the same time, hybrid apps can be built with familiar tools like HTML, CSS and JavaScript. This makes them easily discoverable by users. In 2013 Gartner predicted that by 2016 more than half of all mobile apps deployed would be hybrid. Puntenney calls this a tempting proposition. His office has received requests for 70 functions from various departments, and it’s likely that a fair number of those will be fulfilled, not by mobile-ready Web pages or downloadable apps, but rather by some hybrid solution.

“It would allow us to develop and manage an application in an HTML5 environment,” he said. “So it would be easier for us to keep that up to date, while we would still be able to take advantage of the capabilities of the device.”

So far Puntenney has identified a few possible candidates for a hybrid solution, and he’s looking for more. Another example comes from iDrive Arkansas, an app that lists road closures and traffic conditions. It also offers maps and gives drivers a way to report problems. Users download the app onto their phones, but it isn’t really there.

“It basically puts the icon on your home page, and then when you click on it, it launches the site. Then when you do launch the site in mobile, it looks and feels like an app,” Straessle said. The ease of an app-like interface matters in this case since those using iDrive will likely be… driving. The more they keep their eyes on the road, the better.

“We know it is easier for someone to go to the App Store or the Google Play store and just download the app, as opposed to typing in a URL. ‘Idrivearkansas.com’ is a lot of text that runs together,” Straessle said. With the hybrid solution, users get ease of access, without all the surfing and clicking.

iDrive has seen 73,000 downloads, making it the state’s second most popular app after a game-and-fish tool.

Hybrid could eventually solve the kinds of technological complications Given faces in West Virginia. For example, she’d like a way to add something as simple as a new highway rest stop to a directory without having to do a full re-release of an app. A hybrid’s site-within-an-app arrangement might facilitate that.

“It may well be that hybrid is the wave of the future in government mobility, but until that wave crests, IT planners say the bigger arrangement might facilitate that.”

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Innovation vs. Control

Why public CIOs are attempting to move ‘shadow IT’ to ‘shallow IT.’

By David Raths / Contributing Writer
Easy availability of free cloud-based file sharing services worries officials like Michael Dent, CISO of Fairfax County, Va. Michael Dent, chief information security officer of Fairfax County, Va., recalls meeting with representatives of a cloud file-sharing services vendor who wanted to do business with the county. As part of their pitch, the reps showed Dent that county employees already were putting data on the company’s site. That did not go over well with Dent. “It wasn’t sensitive data, but it was from employees who were trying to circumvent our telework policy, which requires employees to go through a secure virtual private network and enter credentials. They didn’t want to deal with all that, so they put their work in one of those file-sharing sites. We had to work with the public cloud company to get that data back.”

Dent is not alone in being concerned about employees using commercial software as a service without approval from the central IT organization. CIOs have dealt with rogue hardware and software deployments for years. But lately, the term “shadow IT” has grown to include the unsanctioned use of public cloud infrastructure for collaboration or file sharing.

“Shadow IT is not something we would encourage because you are wasting resources or causing your organization to have redundant support agreements,” said Carmen Sandu, managing deputy CIO in the Department of Innovation and Technology for the city of Chicago. “Obviously anytime you have duplicative resources and functionality, that is not a good thing.”
Another concern is leakage of sensitive data. Dent notes that the End User License Agreements or Terms and Conditions that most free cloud vendors offer are not something an employee can legally agree to on behalf of the county. Most employees don’t realize that if they click yes to those, they are essentially personally accepting the risk if there ever were an incident, he said. “These ‘free’ services all come with an ‘indemnification clause’ that absolves the vendor of any responsibility if a compromise or loss of data were to occur,” he said. “Some even state that you agree to file any legal action only in the state or country their corporate offices are located.”

The truth is that most IT organizations still don’t have a good handle on how many instances of shadow IT they are dealing with. In a recent survey sponsored by the nonprofit Cloud Security Alliance, 72 percent of respondents admitted that they did not know the number of shadow IT apps within their organization, but certainly wanted to. “We found it is a real struggle to be aware of all the cloud services being consumed by organizations,” said Jim Reavis, CEO of the Cloud Security Alliance. “In our survey, only 28 percent of organizations really understood the scope of shadow IT in their organizations, and when they measure it, it is often a factor of five to 10 times more cloud usage than they expected.”

“Any organization that tells you they don’t have shadow IT is either misguided or not really serious about securing their environment,” Dent said. “I know that we do everything in our power to stop it, but with the Internet of Things, it almost becomes impossible. As a security and IT organization, we go to extreme lengths to ensure we have monitoring tools and capabilities.” Fairfax County is implementing data loss prevention (DLP), so anything that goes out through its Internet connection will be scanned based on policies set in the DLP tool. The county also has just rolled out a solution that will allow employees who must share data with other local jurisdictions or businesses to do so in a securely stored file that the county controls access to.

When Panama City, Fla., started using Google Apps for Government several years ago, IT Manager Richard Ferrick turned to a product called CloudLock to gain visibility into what users were doing in the cloud. “As an IT organization, we needed to see which employees were sharing files and whom they were sharing with,” he said. “If you are supporting something like this and you can’t see into it, it is a crazy move.” Panama City has 600 Google Apps users. With CloudLock, Ferrick gets a report every morning showing which types of files are being shared and with whom. “I pay attention if it is human resources or law enforcement,” he said, adding that he wants to make sure no Social Security numbers end up in the public cloud. “We have been pretty lucky so far. Nothing has come back to bite us.”

Panama City also uses a service called Websense for content filtering on an enterprise scale. Ferrick noticed employees were using Dropbox frequently and decided to block it. “Simply from a security standpoint, we don’t know what they are doing there or why they are doing it,” he said. “They already have a file-sharing tool at their disposal so we chose not to authorize use of Dropbox.”

But not every IT executive sees blocking public cloud services as the best approach. “We have heard of agencies using network monitoring tools to see who is using services such as Dropbox and limiting or disallowing them,” said Steve Nichols, chief technology officer for the Georgia Technology Authority (GTA). “We do not do that today. Spending the money and effort on technology solutions probably makes people feel good, like they are fighting the fight of the just, but it may not be the most effective way to reduce their risk.”

Philosophically it is a little difficult to try to lock all the windows and doors, he...
added. "If you have an employee responsible for a $10 million budget, do you want to start sapping them anytime you see a nine-digit number in their email? That is one way to roll," he said. "We would rather emphasize education and awareness, and provide alternatives. If they are getting value from Dropbox consumer grade, let's stand up Microsoft Business Class OneDrive and use that instead."

In fact, Nichols and Tom Fruman, director of GTA's Enterprise Governance and Planning Division, have taken an approach to shadow IT they call "Catch and Release." "We don't want to be the agency that just says no to everything," Nichols explained. "That's just inviting people to ignore us and go around us, and they have legitimate reasons to use these cloud services. Honestly, our time is better spent on the subset of systems that really are critical to the state and that have high-impact data. What Catch and Release means to us is, we're not going to say no. We just want to know about it. When someone asks us how many systems we have in the cloud, we will know the answer."

GTA's policies align with the federal government's FISMA (Federal Information Security Management Act) controls. Instead of asking Georgia's agencies what their regulatory requirements are, GTA asks them to determine if the use case is low-, moderate- or high-impact. "We have said if you are going to go to the cloud and it is a FISMA low-impact system from a confidentiality, integrity and vulnerability point of view," Nichols said, "you can go directly to the cloud and just give us a heads-up on where the data is."

In fact, the Catch and Release model feeds into what some IT leaders refer to as "shadow IT." The term "shadow IT" may be a more sophisticated version of the term "pace layering" coined by Gartner. Nichols said the idea is that you've got core systems that are stable and more closely governed, with clearly defined change management processes. But something that is new and not critical yet, you can have a much looser set of processes, using agile methodology, DevOps and consumer-grade IT. With those you do not have as many checks and balances. So GTA is moving some IT projects from shadow to shallow. "We have started down a path called tiering, dividing up projects into three tiers, with large complex systems at the top and smaller, noncritical projects at the bottom," Fruman said. "They don't need the same number of processes. With some, you just say go forth, good luck, and do the best you can."

Chicago's Sandu says the shallow IT concept is fairly new. Her definition of the term involves enabling the business or department outside the central technology group to experiment and test technology and see how it can be of value in areas that might not initially have been thought of. For example, Chicago opened the application programming interfaces to its 311 system to enable the building of mobile apps and Web apps on top of the core technology. "There have been cases where functions developed outside the central IT department have been folded back in because they have brought added value," she said.

To Sandu, shallow IT also means bringing new technology to groups that wouldn't necessarily have envisioned utilizing it and allowing them to test it out to see if there is some applicability for them. "That is more common in the academic world. When I worked at the University of Chicago, we found that the most innovative and creative approaches were when people from different areas of study and IT people built a project together because they could think outside the box and see applicability for things outside the norm."

Shadow IT is a big part of an organization's digital persona, and getting a better picture of it helps executives understand how IT is really used, said Cloud Security Alliance's Reavis. Cloud discovery tools offer a more nuanced way to move people to the best cloud services or securing the services they have. "The purpose is not to block, which is unfortunately what some
people take out of the research we do, but it is actually to guide organizations toward the better options within any category of cloud, because there are some that are more secure than others," he said. Or it may involve just turning on the right features and functionality in the cloud services that have been selected, because there are some default settings that don't encrypt properly or set up proper access control permissions.”

Alex Cullen, a research director for Forrester Research, said there is always tension between CIOs wanting to control as much as possible and the fact that employees have good reasons for using these cloud services and it is very easy to do so.

Cullen recommends taking a portfolio approach, and not just detailing which services you will allow. "It has to be laying out what situations you allow people greater latitude and flexibility, because there's less risk to the organization," he said. "You do that so that you can make a reasonable case for compliance. You tell people you recognize they have legitimate business reasons for wanting to go outside. You are simply telling them what the gradations of risk are."

"You want to allow shallow IT, but not shadow IT," Cullen added. How do you do that? You have to establish zones. A zone could be some function people want to do, or some common need, or a core capability of the agency. And for each zone, describe the rules of the road based on the risk level. For those deemed least risky, you can use shallow IT—a cloud-based service that is free and consumer-oriented. IT could allow employees to contract on their own for a service as long it meets specific criteria, and IT also could work with employees to evaluate it.

“If you want to get people to move away from shadow IT to shallow IT, then you have to make clear your intentions in advance and what your rules are,” Cullen said. "Develop a framework that signals your intent and tailor it to your own organization.”

Jay Heiser, a Gartner research vice president, understands that IT leaders are concerned about shadow IT in their organizations. What he doesn't understand is why more of them aren't doing something to measure the scope of the issue. "There is a set of tools we call cloud application discovery that an enterprise can put in place and find out what is happening," he said.

"If I were CIO, I would want to know." Heiser said some of these vendors not only give you information on which employees are going out to what sites, but they also provide various levels of risk prioritization for those sites. Here are brief descriptions of just a few of the vendors in the cloud application discovery market:

**PERSPECYS** cloud data protection solutions replace data with tokens or encrypted values before it leaves the enterprise for processing and storage in the cloud. Perspecsys gives organizations the ability to anonymize information before it leaves the network and understand how employees are using cloud applications throughout the enterprise.

**SKYHIGH NETWORKS’** solution lets users gain visibility into all cloud services in use and their associated risk; analyze cloud usage to identify security breaches, compromised accounts and insider threats; and enforce security policies with encryption, data loss prevention, contextual access control and activity monitoring.

**CIPHERCLOUD** offers searchable strong encryption, advanced tokenization and data loss prevention. The company says its platform has evolved to include incorporated data classification, cloud detection, data discovery and anomaly monitoring to give organizations the insights they need to apply security policies and tools to protect their sensitive information in the cloud.

**CLOUDLOCK** offers a suite of solutions presented in a unified cloud data security dashboard that covers major software-as-a-service applications. The company says its CloudLock Policy Engine enables government organizations to adopt public cloud solutions such as Google Apps and Salesforce.

**NETSKOPE** allows IT teams to set cloud app policies and minimize risk by offering a comprehensive overview of an organization’s cloud app ecosystem. Its solution gives IT the ability to find, understand, and secure sanctioned and unsanctioned cloud apps on any device, including native apps on mobile devices, whether on-premises or remote.
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: [Name]
Address: [Address]
Phone: [Phone Number]
Email: [Email Address]

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.

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Fighting Fire with Data

Analytics help New York City firefighters track potential hot spots.

By Brian Heaton / Senior Writer

Complex, analytics-driven programs have created a whirlwind of “smart” technologies to help modernize manual tasks and make jobs more efficient. In most industries, smart tools have been developed that try to predict the future so decision-makers can better use resources and personnel.

Predictive policing, for example, helps law enforcement pinpoint where a crime is likely to occur on a given day, using a number of factors about a certain location. The technology can help alter daily beats, hopefully putting officers in the right place at the right time to prevent crimes.

But police aren’t the only emergency responders benefiting from smart technology — it’s helping firefighters in New York City get a jump on battling blazes too.

The New York City Fire Department (FDNY) has been using the Risk-Based Inspection System (RBIS), an Oracle-based program with data-mining capabilities, to better anticipate where fires may spark. The centerpiece of the tool is FireCast, an analytics-driven complex, analytics-driven system that automates information. RBIS then accesses that hub for more information. RBIS then accesses that hub for more information. RBIS then accesses that hub for more information.

The result is a system that automates the FDNY's entire inspection workflow, collecting statistics from the inspections and helping management supervise inspections and meet internal goals.

System Evolution

FireCast is the risk-scoring engine driving RBIS. In its first iteration launched in 2010, the algorithm was rather rudimentary, said Ditaranto. It only looked at about six items. RBIS is currently powered by FireCast 2.0, which has 10 times the power of its predecessor. Each data element is given a weight to appropriately calculate fire risk.

Inspectors enter data into RBIS once they finish that day's scheduled inspections. They then input information into the system about the building so RBIS can recalculate the risk score. The system generates new risk profiles daily.

While RBIS runs smoothly and efficiently, development wasn’t easy. Ditaranto said he and the other architects of RBIS and FireCast — Assistant Chief Edward J. Baggott and Battalion Chief Joel C. Gerardi (retired) — faced much red tape in trying to collect data from other agencies. Complicating matters was the fact that each agency had its own classification system for buildings. So a universal identifier was established so all agency systems could speak to one another.

Ditaranto and the development team had to foster a relationship with the city Department of Buildings. He called the department “the most significant player” in building inspections, as the building code largely prescribes a structure's design requirements.

More meetings took place with the departments of Health, Finance and Environmental Protection, among others. The players agreed to create a central data hub where all city agencies could feed information. RBIS then accesses that hub for the data needed to evaluate fire risk.

The information is where Ryan Zirngibl comes in. As the head data scientist for the FireCast algorithm, he designs, maintains and updates the process by which all those streams are interpreted and the fire risk for each building is calculated.

Although RBIS and FireCast are proprietary, FDNY has presented about 30 presentations on its system to fire departments nationwide. Ditaranto noted that while FDNY is one of...
the world’s largest and busiest fire departments, public safety concerns are the same regardless of jurisdiction. The technology can be scaled to any size and scope. “RBIS could be tailored to any particular agency,” he said. “It might not require all the business rules NYC has, but certainly the risk algorithm and the theory behind that could be brought to anybody. But it would really take an agency being willing to invest some time in the development.”

Looking Forward

Despite its success in modernizing how fire risk is calculated and building inspections are done, the FDNY isn’t resting on its laurels. FireCast 3.0 is under development and could be a game-changer in the city. The third-generation algorithm will examine 7,500 factors across 17 city agency data streams. Ditaranto revealed that the new FireCast will also feature an element of artificial intelligence to track trends citywide. Zirngibl said there are multiple challenges associated with leveraging such a large amount of information. Computational resources and how the FDNY stores that data is at the top of the list. Zirngibl called it the proverbial needle in a haystack in sifting the useful data from the clutter. Ditaranto envisions a machine that would notice trash violations in the South Bronx, and then if there were a fire in the same building within 90 days, the program would learn and give trash violations in that area a higher risk rate when computing the area’s fire threat level. But the artificial intelligence must also recognize differing timeframes and predict issues based on numerous measuring tools. In other words, the AI can’t “cry wolf” every time an incident occurs. FireCast 2.0 looks at constant factors about a building. But if successful, its successor will examine behavioral characteristics that could raise the bar on FDNY’s ability to compute a more accurate risk assessment. “It will be a very sophisticated algorithm when it’s implemented,” Ditaranto said. “We feel it is the right way to go because risk is dynamic and so are the variables. We can’t have one side be static. They both have to be dynamic, and the machine has to be constantly analyzing that.”

FireCast 3.0 was originally slated to be online and running RBIS this year. But Ditaranto said staffing challenges have pushed back the project’s completion and testing schedule. Zirngibl confirmed that the team working on FireCast 3.0 is short-staffed, which has slowed development. Tasks like simulations to test accuracy aren’t happening as quickly as first planned, for example. “This type of analytics requires that the analytical team work closely with the IT team in charge of instituting these changes to the current system — so that what is implemented is what was designed and tested,” Zirngibl said. “Without the staff to ensure this oversight, or to vet this model, progress has slowed immensely.” Ditaranto added, however, that he’s optimistic FireCast 3.0 will be complete by the end of 2015.
High-performance network connections are a critical foundation for government services. Connectivity not only creates more efficient processes within and between governments, but it spurs economic activity, improves access to education and healthcare, and creates better, safer communities for citizens.

**WHAT DOES CONNECTIVITY DO FOR YOUR COMMUNITY?**

**Improves Government Productivity and Citizen Services**
Network connections enable city and county governments to provide a variety of services to citizens, increase government efficiency and create connected communities.

**Agencies can quickly process transactions such as business licenses and permits or driver’s license renewals.**

**Keeps People and Infrastructure Safe and Secure**
Citizens rely on city and county governments to keep the people and places in their communities safe and secure. Network connectivity enables public safety agencies to use video surveillance cameras to deter crime and police officers, firefighters and other first responders rely on networks to communicate in real time.

**PROVIDING A FOUNDATION FOR CONNECTIONS**

**HIGH-CAPACITY WANS**
High-capacity WANs allow government agencies within a city or county to connect to each other.

**HIGH-PERFORMANCE INTERNET CONNECTIONS**
Citizens need high-performance Internet connections to conduct self-service transactions with government online or access online education resources, among other things.

**HIGH-SPEED FIBER**
High-speed fiber empowers citizens and businesses within a community with ultra-fast connections.
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Telemedicine is increasingly important to ensure citizens have access to the best healthcare resources, particularly in small or rural communities. Telemedicine is dependent on high-performance networks.

Builds Vibrant Communities
Maintaining a high quality of life is important for any city or county. Residents want access to libraries, parks and recreation complexes. Citizens increasingly expect robust network connectivity within these environments.

Improves Access to Off-Site Resources
Reliable network connectivity allows government agencies to access information stored in data centers 24/7 and share information across departments.

Enables 21st-Century Education
Providing education is a critical aspect of government work. Connectivity is crucial for K-12 school districts, community colleges, universities, and career and technology centers that want to ensure students are successful and prepared for the 21st-century and beyond.

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Government agencies are increasingly putting applications such as email and business software into the cloud. They need direct network connections to access these resources.

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To download a FREE copy, visit: www.centerdigitaled.com/reports/q1-2015
CALL CENTERS AND CRM TECHNOLOGY AREN'T JUST FOR BIG CITIES ANYMORE.

Listening to Tanya Ange, deputy city manager of Mankato, Minn., you might forget she's a public servant. Instead, she sounds more like the manager of a private organization or company focused on keeping its customers satisfied and loyal. “Our core mission is customer service,” she said, describing the city’s 311 system, which has been operating since 2010.

Mankato has a population of about 41,000, but in the six years since the introduction of 311, the hotline and the technology behind it have become an essential part of city operations. It’s the same in Evanston, Ill. A suburb just north of Chicago, the city has used 311 for four years and receives about 150,000 calls annually, double its population of 75,000.

Like Mankato, Evanston’s 311 has become the umbrella term for customer service that can take place via a phone call, an email or even a live chat. Its impact has been widespread and deep. “In the four years we have had 311, it has dramatically changed how everyone interacts with the city,” said Erika Storlie, Evanston’s deputy city manager. “You name it, 311 has completely changed accountability and how functions are performed around the city.”

For years, 311 was a tech-driven hotline service that only the largest cities could afford. But as costs have dropped, the technology, known as customer relationship management (CRM), has become more affordable. It has also become more versatile, providing mobile access, live chat features and social media support, as well as versions that operate in the cloud and offer advanced data analytics.

As 311 technology gets cheaper and better, it’s giving smaller jurisdictions the means to provide customer service that sometimes matches what is offered by private-sector companies. At the same time, 311 takes some of the pressure off certain service departments within cities, answering calls and managing requests that would have been handled by public works, permitting and utilities, for example. For small jurisdictions that can’t afford to add more staff, the time that a 311 call center and its online channels can free up can be highly valuable, not to mention a great help to the public looking for quick answers to questions.

BETTER TECHNOLOGY, LOWER COSTS

Columbia, Mo., launched its 311 call center just a year ago. Actually, it’s not 311. “We still have a seven-digit number, and we’re not quite ready to go fully public with it,” said Carol Rhodes, assistant city manager. Still, the city of 115,000 already has received 26,000 calls, which are handled by the three-person staff that answers questions and manages service requests from 7:30 a.m. to 5 p.m., Monday through Friday.
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Like other jurisdictions both large and small, Columbia jumped into 311 when its city manager felt it necessary that citizens have a single point of contact when connecting with the city. Columbia uses a CRM software program called Tyler Incident Management. With such a limited number of call takers, or customer service representatives as some cities call them, Columbia has undertaken a soft launch of its service, mostly handling calls that would have gone to public works regarding trash pickups. Columbia’s move to CRM and 311 may be new, but it’s part of an emerging trend among smaller-sized local governments. “There’s a recognition by small local governments that service is now 24/7,” said Cory Fleming, 311/CRM program director for the International City/County Management Association. “Residents also expect the level of customer service in their city or town to match what they get in the private sector.”

That view is reflected in a survey conducted in 2013 by GovDelivery that listed customer service as the leading trend in local government, more so than mobile technology or cloud computing. Chattanooga, Tenn., has used 311 for 12 years now. But like Columbia, it started the service modestly, letting it grow slowly over time. Today the call center handles 238,000 calls annually, about 4,000 per week. A staff of 12 operates the center Monday through Friday, from 8 a.m. to 6 p.m., and is now the point of contact for utility billing, recycling, traffic violations, code enforcement for residential and commercial properties, zoning queries, and reservations for parks and recreation programs and events.

Chattanooga’s call volume has doubled over the years and continues to grow. To handle growing demand, the city’s website has a 311 page for service requests and is about to launch a mobile version of 311. “We expect the mobile app to help reduce the number of phone calls,” said Liz Henley, Chattanooga’s 311 call center coordinator. Advances in CRM technology have made it possible to add more channels, like mobile, Web and live chat, as well as use social media to keep residents informed. In Mankato, which has just eight call takers, the city evaluated all the requests and questions that come in via phone calls and has attempted to put most of the information requested on its website. “Our objective was to keep most of the 85 percent of the information online that we have available to the public,” Ange said. “There’s always going to be 15 percent of information that can’t be online.”

In 2014, Evanston replaced its existing CRM with one called PublicStuff, created by a startup in New York City. The platform has given the city a variety of new channels to engage with citizens and to expand services, according to Susan Pontarelli, Evanston’s 311 and service desk supervisor. The city’s website has a 311 page that offers 200 types of requests for services; residents and businesses can also submit requests and questions via mobile, chat and text, as well as phoning the call center.

MULTICHANNEL CRM: CHALLENGES AND OPPORTUNITIES

One reason to have different channels is to give everyone a choice in how they interact with the city. Long gone are the days when a local government would decide what was going to be the point of contact—a front desk or a phone—and then expect the community to adhere to those limited options. Having more online options also means that fewer calls will come through the call center, which can be limited in staff size. But converting calls into online interactions isn’t as easy as it sounds. Although some jurisdictions have moved as much as 30 percent of their calls to a self-service channel, most 311 services report just a 10 to 20 percent self-serve threshold with mobile apps. Henley said she expects to see some drop in call
OPEN DATA
In 2012, Chicago launched Open311, which allows residents to track service requests. The idea was to reduce the number of redundant requests for the same service by making it possible for users to see and track how a problem such as graffiti, a pothole or a broken streetlight is being handled. Nearly 40 percent of the most common service calls into Chicago’s 311 are either duplicates or residents calling to check on the status of a request. By opening up that portion of 311 data to public viewing, Chicago and other cities have found a way to leverage open data so that it improves customer service while holding down costs. Other jurisdictions, including Palo Alto, Calif., have since added open data to their 311 systems.

OPEN SOURCE
Free software has had a checkered history in government. But the open source movement continues to maintain a presence. So it’s no surprise to see that customer relationship software is available as open source. SugarCRM, an open source version of CRM, is well known in the public sector, but it’s hardly the only one. Capterra.com, which tracks open source software for industry and government, lists 10 fully functional versions of CRM that are open source: SuiteCRM, Capsule, Insightly, Really Simple Systems, Fat Free CRM, Bitrix24, Raynet, vtiger, Zoho CRM and Zurmo.

CLOUD
Software-as-a-service has entered the CRM/311 space, and local governments have taken notice. In 2014, Philadelphia launched a cloud-based 311 service built by Unisys. Evanston, Ill., uses PublicStuff, a cloud CRM software platform. And expect to see more as cloud CRM firms, such as Salesforce.com, ramp up their offerings. In fact, cloud CRM is expected to reach 85 percent of all deployments, according to Gartner, the IT research firm. Most of the shift to the cloud is due to private-sector sales teams wanting the latest and most responsive type of CRM to keep up with customer demands, according to Forbes. But that shift is beginning to make itself felt in government CRM as well.

CITIZEN ENGAGEMENT
Just a few years ago, it was hard to find anyone linking the topic of citizen engagement with 311. Today citizen engagement has become extremely important in local government, thanks to the merging of CRM, social media, mobile technologies and customer service. The International City/County Management Association, which represents thousands of local governments, lists citizen engagement as one of its core topics. Perhaps the best example of the interconnection between engagement and 311 can be found in Boston’s Citizens Connect mobile 311 app, which not only allows users to report problems but also to provide feedback on community issues. Expect to see citizen engagement and 311 become more integral in the years ahead.

MULTIPLE CHANNELS
In the early days, 311 was dubbed a “hotline” and was limited to phone service. But it wasn’t long before early innovators, like New York City and Chicago, added a Web version. With the rise of the smartphone, mobile 311 apps soon appeared. Today, 311 is a brand for multiple channels that also include live chat and texting. Multiple-channel 311 reflects the diversity of people who want to communicate and interact with their city hall in different ways. “There are certain demographics that just want to talk with someone and then there are others who want to use the Web or text,” said Susan Pontarelli, 311/service desk supervisor for Evanston, Ill., which has a full range of 311 channels.

SOCIAL MEDIA
Like many other government operations that have adopted social media, 311 services initially saw Twitter, Facebook and other social platforms as a means to send outbound marketing, promotional and service-related messages. However, as citizens have turned to social media to solve customer service issues, 311 centers have responded and are beginning to use the tools as a way to interact, engage and help constituents.
volume once Chattanooga launches its mobile 311 app, but the shift isn’t likely to make much of a difference. “I’ve talked to other call centers and the sense is that the mobile app frees up space for other calls to get through, so I don’t expect call traffic to decrease tremendously.”

Like any for-profit call center, local governments strive to answer every call that comes in and hopefully resolve the issue without any additional calls back or line transfers. Giving citizens multiple channels can help alleviate potential chokepoints. For calls that come in after normal working hours, some jurisdictions route them to 311 dispatchers, while others turn to their interactive voice response service.

Adding new channels can be a challenge. Not everyone knows how to use them or that they are available. In Evanston, the 311 center has turned to the city’s community engagement team to help roll out these features. The team is adept at knowing where to put engagement features online and how to use them most effectively. “We work with them to market our services by engaging the community through electronic newsletters and press releases,” said Pontarelli. “We even use a car that’s wrapped with messages about the city’s mobile 311 service.”

Evanston’s collaboration with its community engagement team raises another important point. Community or citizen engagement has become an essential aspect of local government operations, and 311 sits squarely in the center of this trend. Traditionally, citizen engagement meant attending town hall meetings. But in today’s busy world, that form of engagement is less effective, especially when there are online ways to accomplish it.

Savannah, Ga., uses its 311 system as a way to engage its citizens. The city sees 311 as its “frontline,” and by allowing citizens to use it to ask for information, request service or even complain, it opens the door to more strategic levels of engagement, according to an International City/County Management Association report.

In Chattanooga, Henley regularly engages with neighborhood leaders to discuss 311 and community issues. “I talk to neighborhood associations and help people understand what we do,” she said.
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said. “I don’t just tell them about 311, but also give them tips on how to keep their blocks safe and clean, and how they can improve their neighborhood. Since we handle the complaints about litter, blight and other problems, we can help raise awareness of what can be done to keep neighborhoods looking nice.”

### 311 REVAMPS INTERNAL OPERATIONS

While 311 and CRM technology enhance how smaller cities serve and engage with their citizens, they also are bringing change to internal operations. Part of the reason why Mankato and other jurisdictions have invested in 311 is to rethink how a city uses its resources. If a city’s public works department is undermanned due to budget cuts, then it makes sense to spend every available minute delivering services, not answering questions about the “85 percent” of information that can be made available to the public, as Ange explained.

“Before we launched 311, we spent a lot of time assessing how our internal processes worked,” she said. The result was a database of information that could be made available publicly and a second database, called the knowledge base, that employees could tap into should they find themselves answering a query.

In other words, make as much information publicly available as possible so that fewer people call individual departments for information and requests for service. But also make it possible that any employee can assist a caller without having to transfer that call. “We use the phrase ‘Anyone can 311’ because we built it that way,” said Ange.

The technology also can provide internal customer service. Evanston used its CRM to create a 311 system for the facilities management department. City staff can submit requests for repairs or to schedule building work. CRM is also used to manage internal help desk requests for IT support.

But the ultimate goal for 311, as far as internal operations are concerned, is to divert calls and queries that normally end up going to individual departments so that workers can focus on service delivery. While some jurisdictions reported initial skepticism that call center representatives could adequately answer specific questions, the views in most departments have swung 180 degrees in support of 311 as the call takers have proven themselves more than capable of answering all but the most complex queries.

Adequate training is the answer to any naysayers, say veteran 311 managers. And one of the best ways to train is with the involvement of department staff. “We have staff brief our agents on changes or enhancements to city services that they need to know about, so they can properly answer questions that come in from the public,” said Ange. For example, when a new civic center was built in Mankato, civil engineers came in and briefed the call takers on such things as the location of handicapped parking. In Evanston, call takers are given periodic tours of the city so they can see where any new facilities — public and private — are located, making it easier to give callers directions and information on parking.

### DATA ANALYTICS STILL A WORK IN PROGRESS

2015 marked the 12th anniversary of the nation’s largest 311 call center. New York City celebrated the date by releasing data showing 2014 to be its busiest year ever, with more than 28 million customer contacts. Having used 311 for so long and having so much information, New York City has developed a sophisticated...
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performance-management operation that delivers reports and analytics on the calls and requests it receives.

For smaller jurisdictions, the desire to measure and manage performance based on data captured by CRM software is just as important as it is in the Big Apple. Mankato’s city managers have been analyzing the types of calls and requests the 311 center receives as they look for opportunities to improve internal processes and customer service. So far, the data has led to the launch of an online park reservation system and centralization of the city’s parking system, including passes and billing. The city also began routing queries about housing assistance, planning, zoning and permitting to its 311 call agents.

What makes 311 so powerful for city managers is that every call involving a service request can be documented, followed up on and reported on, and can include communication of some kind with the person who made the request. “There’s a complete audit trail, and from a management perspective that’s tremendously huge in terms of analyzing data,” said Storlie of Evanston.

That data can tell her where there might be staffing needs, as well as any deficiencies in certain operations. For example, residents will call if their recycling isn’t picked up. The number of calls provides data on what’s known as the “miss rate,” and so far Evanston has done a very good job. “We’re very good at recycling because we know our miss rate is like .0001 percent,” Storlie said.

Evanston has also used 311 data to monitor broken parking meters and evaluate the installation of new ones that come with credit card features. In addition, the data has been used to deal with a common problem in urban areas: rats. Rather than respond reactively to the issue, Storlie said the city has developed a more holistic response, identifying where there are clusters of rat problems and attacking the issue in a more effective way.

How much data analysis takes place depends on the sophistication of the city’s CRM system. For some smaller jurisdictions with older systems, it can be difficult to get quality information out of the software. Most 311 managers are focused on daily call volumes, timeframe to complete a call, status reports, productivity of call takers and so on. Evaluating performance measures that affect services, such as trash pickup and park reservations, is still a work in progress for some cities.

But when it comes to using 311 data to inform how a local government should budget its money, many smaller cities are not quite there yet. “From a budget perspective, I don’t think we’ve really used 311 data to show where the money is going,” said Storlie. Instead, 311 metrics can be used to show the growth in demand for 311, based on requests for service, and can help justify the need for more call center staff.

GROWING PAINS FOR SMALL JURISDICTIONS

With hundreds of cities using 311 and growth continuing, especially among smaller jurisdictions, it’s easy to paint a picture of an IT success story in local government. 311 is clearly helping improve customer service and has revitalized citizen engagement at a time when many people don’t trust government like they used to. The data that flows out of the system can be used by
Sometimes it’s the things you can’t see that make all the difference. When citizens feel safe and secure, big, amazing, powerful things can happen in cities and across businesses. Citizens are free to create, to innovate and to celebrate.

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We are building on Mission Critical Communications to bring you Mission Critical Intelligence, helping you avert, respond to and resolve incidents.

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city managers to measure performance and reallocate resources where they are needed most. There's also plenty of evidence that cities are learning how to better utilize their staff. That’s important, because local government workforces have practically stopped growing. But challenges remain. First is the issue of cost. For large cities, 311 budgets can run in the millions, even tens of millions, of dollars annually. A study by the Pew Charitable Trusts found that it costs cities an average of $3.40 to answer a 311 call. Detroit, which closed its 311 center in 2012, was spending $776 per call, the highest average among large cities.

For smaller jurisdictions, cost is a constant concern. Mankato managed to build its 311 center without any net increase in its budget, according to Ange. “We used existing human resources and didn’t bring in an outside consultant,” she said. The city also received advice from its neighbor to the north, Minneapolis, which has its own 311 center. “We modeled much of our processes on what Minneapolis is doing,” added Ange.

Evanston also has managed to keep its 311 costs under control. The city measures costs based on the entire interaction that takes place, not just the call itself. When done this way, the city says its costs are below the industry average.

Training, another issue for big city 311 centers, seems less of a problem for smaller governments. Cities that have a dozen call takers or fewer describe having tight-knit teams of workers who are cross-trained to handle more complex requests, such as permitting, recycling, housing assistance and other core government services. Rather, the problem is managing the demand and pushing for additional staff as calls and requests grow. Henley sees Chattanooga’s 311 call volume surging. “We are struggling to keep up with the volume with the number of customer service reps we currently have,” she said. “We’re trying to find the money in the budget for more. We need to reduce the wait time.”

Keeping up with technology is a perennial problem. Cities want to offer their citizens multiple channels for communication and interaction; they also want to include social media. That means having the most up-to-date CRM software. For big cities, replacing a CRM platform can be expensive and time-consuming. Some cities have been using the same CRM for years.

But the technology is evolving. Thanks to cloud computing, the number of CRM programs that are available as hosted services has grown significantly. Market research firm Gartner predicts that more than 50 percent of CRM deployments this year will be as software-as-a-service. And while that doesn’t mean 50 percent of 311 centers will operate in the cloud, it is a sign that change is under way. Evanston, which just replaced its CRM, now uses a cloud-based system, according to Pontarelli.

“IT’S AN ESSENTIAL SERVICE”

When a flood hit Mankato a while back, phone calls from concerned citizens started pouring into the city’s 311 system. As day turned into evening, Mankato decided to keep its 311 line operating beyond normal hours so that its 911 system wouldn’t be overloaded with calls. Without the call center, the city’s first responders would have been overwhelmed by the call volume, according to Ange.

Other small jurisdictions also reported offloading spikes in calls by rerouting to 311 during special events and other types of emergencies. It’s another example of how the service and technology enables smaller jurisdictions to cope with limited staff yet still deliver services to their constituents. And it’s a testament to how software, good planning and a small but well trained staff can provide a small local government with the ability to deliver the kind of customer service that one would only expect to find in a larger city. As one city manager put it, “311 has become an essential service for city government.”

Maintaining that essential service will be the challenge going forward. City managers in small governments want to offer more hours and more staff so fewer calls get dropped. But finding the funds to do it remains a problem. And while new channels such as email, mobile, text and chat offer options, the demand keeps growing.

“The citizens of Chattanooga call us with questions about everything,” said Henley. “I think it’s the best thing that’s happened to the city. It’s not a huge investment. You’ve got to have people and equipment, but the return on investment far exceeds the cost.”
Meaningful Engagement Matters.

Five cities enter the City Accelerator to adopt new practices that better engage low-income residents in civic life and public decision-making.

Follow their progress at www.governing.com/cityaccelerator

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.
THE CANDID CAMERA:
Community, Crime-Fighting and the Value of Video

Police and citizens increasingly rely on body-worn cameras and other surveillance and communication technologies for improved police work, safety and community relations.

Utilizing Motorola’s body-worn cameras, in-car video and radios, the police force of Valdosta, Ga., is substantially lowering crime in its community while engendering higher levels of safety, confidence and trust.

Valdosta, Ga., is a thriving hub of activity for those passing through southern Georgia or northern Florida. The city hosts a large seasonal, mobile and permanent population — the latter having grown 30 percent in the last 15 years to approximately 85,000.

Brian Childress has served with the Valdosta Police Department since 2001 — coming from law enforcement in Perry, Ga., with a background in internal affairs, accreditation, and commanding a patrol and detective division — and was named chief of police in 2012. In his many years of scrutinizing claims of police misconduct, he often found that complaints against officers were largely unfounded. “It’s usually just a communication barrier or a difference of opinion,” he says. But unfounded or not, investigations must follow each claim, which can be extremely time consuming.

In 2009, the police department purchased body-worn cameras for a trial among detectives. Childress liked what he saw. In 2014, the department had the opportunity to replace aging in-car cameras for 100 patrol vehicles and portable radios. As chief, Childress insisted that, whichever system was selected, the department’s existing body-worn cameras must also be upgraded — leading to a full-scale implementation of VIEVU LE2, and now LE3, body-worn cameras.

“It speeds up work and protects the officers to have things on camera — and it also gives the courts another piece of the puzzle when they prosecute cases,” Childress says. Ultimately, the department went with Motorola’s MVX1000 In-Car Digital Video System, Real Time Video Intelligence software and APX P25 Portable Radios, and upgraded to the VIEVU LE3 body-worn cameras — all contributing to a comprehensive toolkit that’s making a measurable difference in the community.

Demand for Body-Worn Cameras Reaches Groundswell

A handful of high-profile police-citizen incidents in 2014 added momentum to the clamor for body-worn cameras by the public and police alike.

In December 2014, President Obama proposed a 2-year, $263 million spending package to expand training and increase the use of body-worn cameras, including matching funds for approximately 50,000 cameras. The same month, Los Angeles Mayor Eric Garcetti announced the city’s intention to purchase 7,000 body-worn cameras for its police officers, joining cities such as Oakland, Calif., Austin, Texas, and Minneapolis, Minn.

A report published in fall 2014 by the American Civil Liberties Union (ACLU) studied the value of the technology in 63 U.S. police departments. “Body-worn cameras can help improve the high-quality public service expected of police officers and promote the perceived legitimacy and sense of procedural justice that communities have about their police departments,” the ACLU report asserts.

Cameras are also invaluable tools for recording and verifying the stories of eyewitnesses — both at crime scenes, and later, in the courtroom.

Chief Childress says a crime in his community resulted in testimony from eyewitnesses who happened to have extensive criminal histories. “Not the best witnesses in the world,” he says. “We had them recorded on body-worn cameras out in the field when they told us what had happened. But when they came to court, they lied.” Having had their earlier accounts on video helped achieve a conviction in a murder and arson case.

Better Policing, Improved Community Dynamic

The relative newness of body-worn cameras in law enforcement can sometimes mean initial resistance among officers during the early phases of implementation — and it was no exception for the Valdosta force. But with the support of Motorola, Childress and his patrol commander demonstrated how to use the cameras — the ease of use, time savings and irrefutable evidence they provide...
quickly established a comfort level and enthusiasm among the force.

While body-worn cameras help the community at large feel safer, they can also do much to protect the safety of police officers who carry out one of the most dangerous jobs in society. “I let the officers know we were doing this as much for their protection as anything,’’ Childress says, adding that they also informed the community about their plans for camera adoption ahead of time — a strategy that was widely applauded. “We have a lot of buy-in for this. There’s a lot of confidence for us out there.”

Since the adoption of body-worn cameras, Childress estimates public complaints about police in his town have fallen by half, something echoed anecdotally by his peers across the country and in a recent controlled study by the Police Foundation. Its review of complaints about police in his town have fallen by half, something echoed anecdotally by his peers across the country and in a recent controlled study by the Police Foundation. Its review of complaints about police in his town have fallen by half.

The REAL TIME VIDEO INTELLIGENCE (RTVI) solution delivers high-quality video for immediate, secure information sharing with command centers and more informed decision-making. Adapting to changing wireless mobile environments, RTVI supports police and early warning system users to access cameras from community video sources. Video streams are transcoded to match client device capability, saving bandwidth and power.

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Digital Communities are real places that understand and value the transformative power of broadband connectivity, core computing technologies and interoperable applications to improve the way government conducts business and interacts with citizens. The Digital Communities Program showcases solutions from leading technology companies that are specifically designed for communities and local governments that want to exceed the expectations of their citizens. In addition, the program provides a collaboration forum where community officials discover and share emerging best practices and innovative community technology deployments.
Since 1978, the National Association of State Technology Directors (NASTD) has provided state government IT professionals with timely information, educational programs and networking opportunities to support IT operational excellence in state government.

The 2015 Annual Conference and Technology Showcase will address topics of interest across the wide spectrum of IT strategy and operations, including: present and future challenges, management strategies, best practices and state and federal initiatives.

Conference presenters will include key officials from federal government agencies and initiatives including the Federal Communications Commission and the FirstNet Authority. Private sector thought leaders, state IT professionals and interested association stakeholders will also speak at the event.

Visit www.nastd.org or contact Pam Johnson at 859-244-8184 for more information.
Ones to Watch
The rise of civic tech is helping bring innovation back to
government. Here’s a handful of startups in the mix.

Appallicious
www.appallicious.com
Founder: Yo Yoshida
Open data visualization startup Appallicious is best known for its mobility services in disaster response. In 2014 CEO and Founde Yo Yoshida launched the beta version of the Disaster Assessment and Assistance Dashboard in San Francisco. And now, with the endorsement of FEMA, Yoshida is rolling out the interactive dashboard to cities nationwide. Municipalities can easily map their emergency resources and dangers in real time using the dashboard, while citizens can request assistance, first responders can update first aid locations and local businesses can advertise recovery services. Since its launch, Appallicious has overhauled the app with private and public displays, a back-end database for information, and dozens of features that can be customized within the platform’s new content management system. Long term, the freemium mapping platform is envisioned to move beyond disaster resilience and be powerful enough to chart a mixture of internal and external data.

Capriza
www.capriza.com
Founders: Oren Ariel, Ronnen Armon, Amnon Landa and Yuval Scarlat
Capriza deciphers the Rubik’s Cube of the old government website and transforms it into a user-friendly mobile app. The service is particularly helpful for staff chained to cantankerous data entry and content management dashboards — especially vexing when fitted to a mobile device. Further credit must be awarded for Capriza’s intuition to cut out the coding, API creation and upgrading. Everything is literally drag and drop. Capriza pairs users to a window with its new app — seen in its mobile view — and the agency’s old site. Features are placed with a click, easily readjusted and published to the site in minutes. With resources for mobile tech talent often in short supply, the platform is positioned to be an affordable alternative to a complete mobile redesign.

FileChat
www.filechat.com
Co-founders: Armelle Coquart, Emmanuel Salah and Philippe Salah
For project managers, FileChat might be the app they never knew they needed. Recently funded with $3 million from private investors since its launch in 2013, the New York City startup created an app that allows users to collaborate, comment and vote on files inside popular cloud storage platforms like Dropbox and Google Drive. The creative solution turns file sharing into a social media-like experience, with buttons to “like” files or add comments. Dialog can be live, in the form of a chat, or recorded so team members can read it later. Skeptics of the 2-year-old startup may contend that there are similar features in Dropbox or that collaboration can already be done inside files — for example, within the “Properties” tab on a PC or the “Get Info” tab on a Mac — but FileChat makes the process intuitive and more akin to social apps than the typical storage experience. Still generating its user base, the startup is offering services free for the time being, but plans to create premium options and add other cloud storage providers soon.
Travel Smart

Bluesmart luggage is intended to serve as a convenient carry-on with the ability to charge a smartphone or tablet. It weighs 8.5 pounds and has a built-in digital scale so users can ensure the baggage stays within airline weight limits. The luggage also contains features like a digital lock, location tracking, proximity alerts and a trip data app.

http://bluesmart.com

By Miriam Jones | Chief Copy Editor
Send product review ideas to mjones@govtech.com; twitter@mjonesgovtech

Staying Focused

Steelcase’s Brody line of office/lounge furniture is designed to help its users better focus on their work. The cozy cubicle keeps electrical outlets and workers’ belongings nearby. Each unit measures 42 inches wide and about 60 inches long, but they can be attached to each other and configured in various shapes.

www.steelcase.com

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www.steelcase.com
Why Skills Matter More than Ever

When everyone has access to a Stradivarius, talent takes on paramount importance.

We live in an era of digital abundance. Two technology trends — cloud computing and big data — are transforming how we live and work. The rise of the cloud has reduced computing costs to historic lows, while the emergence of big data has created a world awash in useful information.

These changes are disrupting numerous sectors where businesses used to create competitive advantages for themselves based on access to superior IT or exclusive data. With these advantages slipping away, one of the primary differentiators for organizations in data-intensive sectors will be access to talented, data-literate workers. This is particularly true for government agencies.

To improve public services with data-driven technology, they’ll need to work harder than ever to recruit, hire and retain highly skilled data engineers and managers.

To understand the relative importance of these skills, consider the degree to which cloud architectures have commoditized computing. While Moore’s Law — the observation that the number of transistors on a chip will double roughly every two years — predicted the modern digital era of smartphones, tablets and wearables, the recently proposed Bezos’ Law — the observation that the cost of a unit of computing power in the cloud is reduced by 50 percent every three years — predicts that the cost of computing will eventually be non-limiting for most organizations.

Cloud computing has not only reduced costs, it also has given organizations flexibility to adapt their computing infrastructure to changing needs. This has democratized access to the latest technologies, putting new entrants on the same footing as long-established incumbents. When everyone has access to a Stradivarius, talent matters.

The emergence of big data has had a similar effect. Relatively cheap and plentiful access to massive amounts of information has begun to erode the strategic advantage that organizations with a data monopoly might have counted on in the past. Some of these advantages will remain indefinitely — Netflix, for example, knows more about the viewing habits of its customers than anyone else — but competitors now can mine other data sources to narrow this gap. Therefore, organizations can no longer rely only on proprietary data to stay ahead and must instead compete on talent.

Yet while access to the most talented, data-literate workers increasingly defines which organizations win in the data world, they’re working on — like increasing access to affordable health care, improving the quality of schools, and making cities safer and cleaner — are the types of problems that attract the sharpest minds. While they may not be able to match the pay or benefits of Silicon Valley, they offer the chance to improve the world.

Moreover, government agencies do have an advantage in that many of the problems they’re working on — like increasing access to affordable health care, improving the quality of schools, and making cities safer and cleaner — are the types of problems that attract the sharpest minds. While they may not be able to match the pay or benefits of Silicon Valley, they offer the chance to improve the world.

In the long term, policymakers must fix the workforce pipeline so that skills better match employer needs in the private and public sectors. But in the short term, governments will be in fierce competition with the private sector for the best data scientists. They’ll need to use all available resources to bring in the human capital that can ensure the opportunities from the data revolution don’t pass them by.
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New technologies add to the dilemma of public records management.

Records management has never been the subject of a best-selling book. The corps that dedicates its working life to the discipline just isn’t that large. The subject matter is dense and difficult to explain. It is even harder to do. Expensive too. And it has been long relegated to the category of problem rather than seen as the source of potential solutions for the vexing issues of governing.

Against that background is the hopeful development that is bringing together the disciplines of old-school records managers and the energy of young hipster data scientists, and they have more than thick-rimmed eyeglasses in common. Although they may differ in approach — one acutely aware of the constraints of the current environment, the other leaning into the art of the possible — they both see the challenges of a universe of public records that is rapidly expanding in both volume and complexity.

Their collective mettle is being tested by the rise of big data — or at least its much-hyped imminent advent — commonly characterized by high velocity, high volume and high variety. The scalable, extensible horsepower of cloud computing brings the velocity. While government adds modestly to the volume, its real contribution is that what it does bring is no garden-variety source of data.

Open data, particularly of public records, is now the push for body cameras, in law enforcement and all public agencies. Questions of appropriate use, the creation of public forums, and deciding what and how to archive are being worked out agency by agency, city by city, state by state. The state archivist in Illinois in the midst of comprehensive rule-making for social media archiving. An early practice of capturing screen images of a social mention will no longer do. A tweet maxes out at 140 characters. Behind it lie more than 2,000 characters of metadata containing details such as user identity, time stamps and other contextual information. Under the emerging rules in Illinois and elsewhere, the metadata too would be included in the definition of a public record.

Nontrivial questions about how to properly manage them in huge volumes in a way that meets statutory requirements:

- The introduction of dash cameras, and now the push for body cameras, in law enforcement is overwhelming agencies’ ability to capture, store, secure, index, search and retrieve huge volumes of video in ways that meet legal tests for evidence.

Social media brings with it myriad records issues for law enforcement and all public agencies. Questions of appropriate use, the creation of public forums, and deciding what and how to archive are being worked out agency by agency, city by city, state by state. The state archivist in Illinois is in the midst of comprehensive rule-making for social media archiving. An early practice of capturing screen images of a social mention will no longer do.

For all the progress of showcase initiatives, including Chicago’s SmartData project running on its WindyGrid platform, we remain much closer to the beginning of this journey than the end.

Technological and societal changes are radically expanding the universe of public records. Unstructured data, audio, video and social media are generally acknowledged to fall within the definition of public record. Each brings with it nontrivial questions about how to properly manage them in huge volumes in a way that meets statutory requirements.

- The introduction of dash cameras, and now the push for body cameras, in law enforcement is overwhelming agencies’ ability to capture, store, secure, index, search and retrieve huge volumes of video in ways that meet legal tests for evidence.

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If the shock of the new isn’t enough, long-standing debates around privacy and security have new urgency as the Internet shows us over and over again what happens when the public record is actually public.
LAB-FREE DIAGNOSIS?

Imagine getting the definitive word on what ails you without having to visit a lab for a battery of time-consuming tests. A new field of study unites physics, biomedicine and nanotechnology to form Gene-RADAR, a mobile, chip-based device that can identify genetic diseases — no lab, electricity, technicians or even running water needed. To date, 25 hospitals and clinics have committed to deploying the platform. Developer Dr. Anita Goel is also CEO of Nanobiosym, whose board of directors is now looking at making the platform’s data available in the cloud.

SOURCE: NANOBIOSYM.COM

More Than a Pretty Case

Whether it’s studded with rhinestones or adorned with your alma mater’s logo, your smartphone case says something about you. Moscase thinks it should help keep track of your health too. Available in eight colors, four compact sensors on the case offer a detailed picture of the user’s health by measuring things like heart rate, temperature, stress levels and body fat percentage. Available for the iPhone 6 and 6 Plus, the device links using the Apple Lightning connector.

SOURCE: BOY GENIUS REPORT

If you’ve ever wondered how long it’ll take for certain hyped technologies to make their way into everyday life, the U.S. Patent and Trademark Office holds some valuable clues. MIT researchers pored over patent databases to come up with an equation that predicts which technologies are set to take off. Developers think the tool could help organizations interested in exploring and investing in new technology, including startups, venture capitalists and laboratories. Early findings reveal that wind turbines, combustion engines and batteries seem to be improving slowly, while MRI technology, 3-D printing, and optical and wireless communications are progressing quickly.

SOURCE: PHYS.ORG

SOURCE: GIZMODO
Are Your Social Accounts Verified?

Facebook verification is now available for states, cities and counties. Here’s why you need it.

Facebook recently introduced a path for state and local government agencies to attain the coveted verified status recognized by the white-and-blue checkmark (http://fb.it/govverify). Verification has historically been reserved for celebrities, sports teams and federal government entities like the White House.

Twitter also recently moved away from an esoteric email process to a simple online form (http://bit.ly/govverify) for government agencies looking for verification status. Similar page verification options also exist for other social platforms such as Google Plus and Pinterest.

Dozens of agencies have secured verified status on Facebook in recent weeks and many have proudly shared their new profile look on social media. These new verification options are a win for both the agencies and their citizens.

Verified social accounts are arguably more important than ever. Not only are there now thousands of government agency pages, but impersonation and parody accounts are common in the #SocialGov space.

While Baltimore struggled to contain violence in the streets in the wake of Freddie Gray’s death, the city also struggled on the digital front. The Baltimore Sun reported that as many as 400 fake government accounts sprang up during the riots. Many of these accounts created confusion and may even have contributed to the prolonged period of unrest that gripped the city.

Many of the imposter accounts appear to have originated from so-called hacktivists from countries as far away as Russia and China. These accounts attempted to impersonate the Baltimore police, the mayor, the governor and the Maryland National Guard. The messages often contained photos and images of violence and looting. The problem was, in several cases, the photos weren’t even from Baltimore and some were a few years old.

There were similar issues during Hurricane Sandy in 2012 with impersonation accounts and social media users attempting to create chaos from afar. Government agencies should take advantage of these new easy verification options now so they aren’t scrambling in the aftermath of an incident to get their various accounts authenticated.

Verification also helps residents when they go searching for their governments’ accounts on social platforms. Let’s use Roanoke, Va., as an example. A quick Facebook search for Roanoke offers two prominent results. One is the generic place page frequently seen on other social platforms. The second is the newly verified City of Roanoke page with its blue checkmark, offering a quick way for users to ensure they’ve found the right account.

Verified accounts are also helpful for agencies when they comment on posts. The verified account comments stand out among others in lengthy and sometimes contentious conversation threads. Residents will frequently scan comments, and those with the blue checkmark are more likely to be read, replied to and liked.

While verified accounts are an important step, there’s more work to be done. Twitter CEO Dick Costolo has acknowledged that Twitter needs to do more to combat threats of violence, trolls and online harassment occurring on the platform. For now, government agencies can visit the Twitter Help Center and report an account if they’re experiencing impersonation issues.

Parody accounts, however, are permitted by Twitter and can sometimes be embraced by the politicians they target. Perhaps the most famous government example was a profanity-laced Twitter account named for then-Chicago mayoral candidate Rahm Emanuel. Emanuel took the parody in stride and even donated $5,000 to charity once the anonymous account holder came forward.

Regardless of whether impersonators aim for humor or something more sinister, government agencies should secure verification now to avoid confusion during a critical emergency management incident and improve the overall citizen experience on social media.
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Gov’t Employee Discount:
Avail. for eligible employees of gov’t agencies participating in the discount program (ongoing verification). Discount may be subject to change and is available upon request for monthly svc charges. Discount only applies to Talk 450 and primary line on Talk Share 700; and data svc for Sprint Family Share Pack, Sprint $60 Unlimited Plan, Unlimited. My Way, Unlimited Plus Plan and Sprint Family Share Plus plans. Not avail. with no credit check offers or Mobile Hotspot add-on. Restrictions apply. See store or sprint.com for details. ©2015 Sprint. All rights reserved. Sprint and the logo are trademarks of Sprint. Other marks are the property of their respective owners.

May Req. Act. Fas. $36/line. Credit approval req. Contract Buy Out Offer: Other ends 7/9/15. Consumer, SDP and CL lines purchasing a new device with Sprint Easy Pay, Sprint Lease, iPhone for Life Plan, at Full MSRP, or Certified Pre-Owned and porting the new line on a service plan. Amount based on ETF (early termination fee) charged or remaining balance on install-bill device (excludes prepaid devices). All lines must be ported from an active wireless line at another carrier and remain active and in good standing to receive the American Express Reward Card. Requires you turn in your current competitor phone associated with the installment billing balance or ETF submitted to Sprint. Important: If you do not turn in the correct device in good working order (i.e. phone powers on, screen is intact, no broken, cracked or missing pieces, iPhones must have activation lock disabled), you will be charged up to the amount of the Reward Card provided to you. You must register and submit your final bill showing your ETF or installment balance within 60 days of switching to Sprint. Allow approximately 15 days after registration approval for your Reward Card to arrive. Register at sprint.com/joinsprint after your registration has been approved. Excludes 100+ Corporate-liable, upgrades, replacements and ports made between Sprint entities or providers associated with Sprint (i.e., Virgin Mobile USA, Boost Mobile, and Assurance). Reward Card Terms and conditions apply to Reward Cards. See Cardholder Agreement or visit www.americanexpress.com/sprint for details. Subject to applicable law, a $3.00 monthly service fee applies beginning in the seventh month after Card issuance. Card is issued by American Express Prepaid Card Management Corporation. American Express is not the sponsor of this promotion. Gov’t Employee Discount: Avail. for eligible employees of gov’t agencies participating in the discount program (ongoing verification). Discount may be subject to change and is available upon request for monthly svc charges. Discount only applies to Talk 450 and primary line on Talk Share 700; and data svc for Sprint Family Share Pack, Sprint $60 Unlimited Plan, Unlimited. My Way, Unlimited Plus Plan and Sprint Family Share Plus plans. Not avail. with no credit check offers or Mobile Hotspot add-on. Other Terms: Offers and coverage not available everywhere or for all devices/networks. Restrictions apply. See store or sprint.com for details. ©2015 Sprint. All rights reserved. Sprint and the logo are trademarks of Sprint. Other marks are the property of their respective owners.