

A police officer in a dark uniform with four stars on his collar and a badge on his chest is looking towards the right. He is in a control room with several computer monitors displaying various data, maps, and video feeds. Another person is visible in the background working at a desk with multiple monitors.

QUARTERLY REPORT /
DIGITAL COMMUNITIES

SEPTEMBER 2014

**/ FORCE
MULTIPLIER**

CHIEF SCOTT THOMSON, CAMDEN COUNTY, N.J., POLICE DEPARTMENT

BY TOD NEWCOMBE
SENIOR EDITOR

FROM ANALYTICS TO VIDEO, POLICE LOOK FOR EFFECTIVE WAYS TO USE TECHNOLOGY IN A VERY HUMAN BUSINESS.

When city budgets face tough times, most agencies and departments must make cutbacks, sometimes major ones. But public safety has always been sacred. Belt-tightening, yes. But few police departments have faced layoffs. Until now. Perhaps the poster child for just how severe fiscal problems have become for some cities can be found in Camden, N.J., a poverty-ridden, high-crime city of 77,000, located on the banks of the Delaware River, across from Philadelphia.

Desperate to cut costs, the city disbanded its entire police force. The Camden County Police Department rehired most of the laid-off officers, and hired another 100 at much lower salaries and benefits, to create a consolidated regional police force. The move is considered highly controversial and certainly radical. While police departments in other jurisdictions have merged or consolidated to cut costs, none have gone down the path that Camden has taken.

Underpinning Camden's radical plan is an effort to run a "smarter police" operation, according to Chief Scott Thomson. The concept that he and other police chiefs have adopted is to use technology as a "force multiplier"

to give cops a leg-up on fighting crime. The Camden Police Department has set up a real-time tactical operational information center that pulls together data from an array of cameras, gunshot location devices and automated license plate readers. Real-time data is fed back to the cops on the beat, giving them useful information when they respond to incidents. Even patrol car locations are tracked so officers can be deployed where they are most needed.

The situation in Camden certainly is unique and

it's too early to tell whether the force multiplier approach is making a dent in the crime rate (in the first 12 months of the new department, the city recorded 57 murders, down from 67 in 2012), but in some ways it crystallizes what's happening to police departments across the country. In 2012, 51 percent of the nation's law enforcement agencies experienced budget cutbacks, according to a survey by the Police Executive Research Forum. While much better than the 78 percent that suffered cuts when surveyed in 2010, the numbers reflect ongoing budget pressures for police agencies.

When forced to reduce costs, police departments cut staff (23 percent), implemented hiring freezes (45 percent) and, most significantly, cut back or eliminated plans to acquire new technology (51 percent). The reduction in technology spending doesn't surprise Jim Bueermann, president of the Police Foundation. "When you are cutting people from your workforce, it's hard for police chiefs to justify spending money on new technology," he said.

But there are exceptions, according to Bueermann. "In some places the technology is considered essential, as a way to leverage existing resources,

ABOUT THIS REPORT

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

Look for *Digital Communities* quarterly reports in *Government Technology* magazine in March, June, September and December.

*A fully connected network brings it all together.
Efficiency now and scalability later.*

A converged IP network delivers streamlined operations, cost efficiencies and scalability when you need it. You'll have the flexibility to expand at your own pace, integrating cloud, mobility, and VoIP solutions. To learn more, download the survey findings on Emerging Technology Adoption in Local Government at att.com/localgov



while in other agencies, it's more 'I wish we could do that, but we can't afford it.'"

There are more than 14,000 local law enforcement agencies in the U.S., employing more than 760,000 officers (and an additional 285,000 civilians), according to the latest FBI statistics. The U.S. spends approximately \$100 billion on law enforcement, most of which goes toward paying for officers who are on the front line against crime. But as the recession recedes and budgets begin to slowly increase, cities and counties are starting to see they can achieve effective levels of public safety through the selective use of technology. Robert Davis, director of research at

the Police Executive Research Forum, has a sanguine outlook, believing that cutbacks have reached bottom and police departments are once again boosting technology budgets. It can be something as high-end as gunshot location devices, license plate readers, better computer-aided dispatch, or something as low-end as using social media or mobile apps that allow citizens to self-report crimes.

Other technologies, like personnel management systems and cloud computing, are helping police departments

operate on a more business-like basis. And always there are cutting-edge tools, like next-generation 911, real-time crime centers, and forensic and biometric technologies, which offer police departments tantalizing possibilities in the fight against crime.

This special report highlights trends in policing technology, how

they are helping, and what needs to be done to ensure they are beneficial. That's important because policing is a people business and with half the law enforcement agencies in the country having fewer than 10 officers, deciding whether to add another cop to the beat or purchase the latest tech tool needs to be weighed carefully before making a financial commitment. As Bueermann pointed out, "just because we can do it, doesn't mean we should do it."

WEARABLE CAMERAS: THIS ARREST IS BEING RECORDED

In an era when everyone has a phone that can record video or audio, police have struggled to catch up with this new reality. Phone camera video recordings of officers behaving badly quickly go viral. But now the technology that puts miniaturized video cameras into smartphones also powers body-wearable cameras. And police are finding that to be a good thing.

Small cameras worn on an officer's vest, lapel or eyewear can capture interactions that have ramifications on several levels. First, the cameras can

impact the judicial process. A survey by the National District Attorneys Association and the American Prosecutors Research Institute found that 91 percent of prosecutors have used video evidence captured by a police camera, whether in the car or worn on the body. Video evidence increases the ability to obtain convictions and the ability to obtain guilty pleas prior to trial.

Cops like wearable cameras because they appear to reduce the likelihood of an assault, deterring violence and negative behavior. "People stop acting badly when you tell them they are being recorded," said Las Vegas Sheriff Douglas Gillespie during a 2013 Police Executive Research Forum (PERF) conference. The cameras also can affect professionalism, helping to improve the accountability of police officers as well as reduce complaints of police misconduct, according to a report by the National Institute of Justice.

"There's a considerable level of interest in the technology," said David Roberts, senior program manager for the International Association of Chiefs of Police. "It's helped police departments identify and reduce the number of frivolous lawsuits because it provides levels of documentation."

Just as phone video cameras have become smaller, better, easier and cheaper, body-worn cameras have gone through similar improvements in resolution, frame rate, battery runtime and low-light recording. Even storage — always an issue when it comes to video — has options that now include the cloud.

For cops, one of the biggest issues with wearable cameras is figuring out how to simplify linking a recorded event with an incident call. Should the officer be responsible for uploading the video or should it be handled by a third party to ensure that the video is not tampered with? Then there's cost. The cameras aren't that expensive, depending on the quality required,

/ WEARABLE CAMERAS

PRO

Produce valuable video evidence

Reduce violence

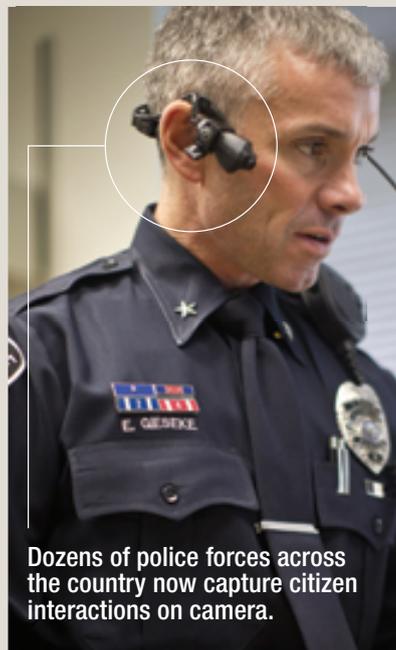
Increase officer professionalism

CON

Incidents must be linked to recordings

Full systems can be expensive

You'll need to develop usage, security and image retention policies



Dozens of police forces across the country now capture citizen interactions on camera.



/ FUTURE TRENDS IN POLICING TECHNOLOGY

What will be the next groundbreaking technology that will help law enforcement improve public safety while winning the war against crime? This year, the Police Executive Research Forum published a survey of its members conducted to find out which emerging tech tools could bring fundamental changes to policing. Social media, license plate readers and video streaming from wearable and in-car cameras stood out as technologies that have either received wide acceptance already or show promise. But several other emerging technologies were also singled out for their potential to change police operations:

1 / The Nationwide Public Safety Broadband Network

Also known as FirstNet, the proposed network was signed into law in 2012 with the mission to build, operate and maintain a nationwide wireless broadband, radio access network for public safety. The goal is to put an end to the interoperability and communications challenges that have occurred during exceptional and complex disasters, such as hurricanes, earthquakes and terrorist attacks. Participants include the federal government, all 50 states, six territories, local governments and approximately 5.4 million first responders. FirstNet estimates the cost for the network at \$7 billion, with funds to be raised by the FCC's spectrum auctions. FirstNet is expected to provide police officers with a technology platform that will help them solve crimes more quickly and efficiently, using a secure and reliable network that could enhance everything from video streaming

to real-time crime centers. But concerns over cost, participants and local control could stand in the way of FirstNet's mission.

2 / Next-Generation 911

One of the biggest shifts in how people communicate is the explosive growth in text messaging. Not surprisingly, the public is now demanding that they be able to text to 911 when there's an emergency. Current 911 technology is extremely limited in terms of options when it comes to receiving emergency text messages. The answer: Next-generation 911 has features based on the latest technology that runs on Internet Protocol standards. NG 911 allows call centers to integrate not just text messages, but photos, video and other types of attachments, as well as scripted responses, so call takers don't have to type out their messages to callers. New systems can also locate where the text message was sent from (dispatchers will still need to get a street address to verify the person's location). But NG 911 isn't cheap. The FCC estimates the cost

of upgrading every call center in the country at nearly \$3 billion.

3 / Real-Time Crime Centers

Facilities that can gather vast amounts of crime-related data, such as arrest records, mug shots and warrant information, and then push it out to officers and investigators in the field, are expected to have an impact on crime investigations in the future, according to PERF. New York City and Houston have pioneered the concept of real-time crime centers. Analysts in the Houston Police Department's crime center monitor social media during major incidents, sifting through feeds and sending relevant information to officers on their way to a crime in progress. Satellite imaging and mapping technology also can enhance the real-time data used in these crime centers.

4 / Cybercrime

While not a tool for the police, cybercrime has grown significantly in recent years. But many local law enforcement agencies are unsure of their role, in part because of jurisdictional issues. According to PERF, cybercrime is vastly underreported. Local police also have been slow to take on the challenge of cybercrime, which continues to grow in scope and sophistication. Police departments need to develop cybercrime expertise, as well as develop partnerships with other local, state and federal law enforcement agencies to expand their understanding of the crime. At the same time, police departments need training to understand how to respond to victims and to provide others with information on how to protect themselves.



Harnessing the Power of the Cloud

Government agencies are striving to do more with less. Shifting from the “own-it-and-run-it-yourself” model to cloud computing significantly reduces infrastructure, equipment, software and staff resourcing requirements, while maintaining safe and secure government systems.

Accela makes it easy for government to efficiently and cost-effectively serve its citizens. By streamlining agency functions like land and asset management, licensing, legislative management, resource and recreation management and public health and safety, we’re bridging the gap between agencies and citizens to help build great communities.

 **Accela** At Accela, we believe that engagement makes all the difference.

Learn how agencies are harnessing the power of the cloud: visit www.accela.com/cloudebook

PREDICTIVE POLICING: A SILVER BULLET?

According to a 2013 RAND report, predictive policing has been so hyped that unrealistic expectations have created problems around its use. Some of the biggest myths include:



1 The computer actually knows the future.

Computers can simplify the search for patterns, but all of these techniques are extrapolations from the past, making “predictions only as good as the underlying data used to make them.”

2 The computer will do everything for you.

Although some predictive policing solutions appear quite comprehensive, humans still must collect relevant data, preprocess the information so it's suitable for analysis, and then review and interpret it in response to ever-changing crime conditions.



3 Police need a high-powered (expensive) solution to get the job done.

In fact, productivity tools, such as Microsoft Office and a geographic information system, can support many predictive methods. RAND says increases in predictive power tend to show diminishing returns.

4 Accurate predictions automatically lead to major crime reductions.

Studies show that when the focus is on the analyses and software, the results tend to obscure the fact that predictions are just that: predictions. Actual decreases in crime require taking action on those predictions.

of predictions, and overlooking civil and privacy rights when using the software to label areas and people as at-risk.

Bueermann said predictive policing shows promise, but that more research needs to be conducted on its effectiveness. “The idea that you can forecast where the highest probability of crime will occur — it’s never going to be an exact prediction, only a target for a future hot spot, that’s all.”

One technology tool that, on first glance, may seem to have nothing to do with predictive policing has become increasingly effective at just that. Automated license plate readers have been around since the 1990s, when the British government used cameras and readers to track vehicles used by the Provisional Irish Republican Army. More than 20 years later, the technology is extremely popular, primarily for detecting stolen vehicles.

But now some police departments are mining the data captured by the

readers to identify vehicles near a crime scene. Records of license plate scans are stored in a database for as long as two years, so officers can use the information to solve crimes. Plate readers also provide geographic and time information, making the technology useful for cities that are battling drugs, homicides, burglaries and gang activities, according to RAND.

When matched with hotlists of vehicles with outstanding citations or expired registrations, license plate readers also can boost municipal revenue. But the technology isn’t cheap. Cameras can cost as much as \$25,000 per unit. Readers at fixed sites can cost even more — as much as \$100,000 — although they can operate 24 hours a day in places where traffic choke points occur, such as bridges or busy intersections. New York City has used readers since 2006 and has increased arrests for grand larceny by 31 percent and recovered more

than 3,600 vehicles. Sacramento, Calif., said the technology helped it drop from 6 to 13 in a national ranking for per capita auto thefts.

Many cities acquired readers with federal or state grants. But grants don’t cover ongoing maintenance and data storage costs, which add up over time. Other issues like accuracy in reading plates and the frequency with which hotlist databases are refreshed (the more frequently the better) also can impact the benefit of plate readers.

But as more police departments adopt license plate reading technology, privacy concerns are mounting. Because the systems retain information about every license plate read, privacy advocates say law enforcement agencies could use the information to track the movement of individuals, even if they’re not suspects in a crime.

In 2013, the ACLU reported that long data retention periods and more information-sharing among law enforcement agencies could degrade personal privacy. Law enforcement agencies need to set policies around the data’s retention period and who controls the data. Done correctly, license plate readers can be an effective tool for crime analysis as well as generating revenue. But if the policies behind the technology are flawed, community response can become swiftly negative, say the experts.

CLOUD COMPUTING: (NEARLY) READY FOR PRIME-TIME POLICING

As local law enforcement agencies continue to pursue smarter policing, one huge potential benefit on the horizon is cloud computing. Three-quarters of the nation’s 14,000 local law enforcement agencies have 25 or fewer sworn officers and nearly half have fewer than 10 officers. Cloud computing, which can minimize up-front investment and ongoing costs for IT systems and applications, makes sense in this era of fiscal austerity.

WHEN SECONDS MEAN EVERYTHING

The APX™ 7000 is specifically designed for law enforcement to help keep them safe when in harms way. Controls are easy to use in stressful situations and APX radios offer the loudest, clearest audio available. The rugged design can withstand extreme heat, cold and water.



APX 7000

LEARN MORE TODAY:

motorolasolutions.com/apx →

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners.
© 2014 Motorola Solutions, Inc. All rights reserved.



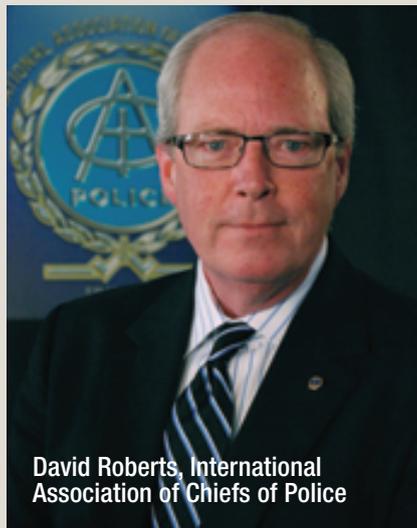
The International Association of Chiefs of Police surveyed its members and found that nearly half were either using cloud computing or were considering it. “That ran counter to what we thought was a broad reluctance about the cloud,” said IACP’s Roberts. “Our survey found 16 percent were already using it and 38 percent were planning to use cloud computing within the next two years.”

Like other government agencies, police hope they can save some money and get rid of legacy hardware and software by using the cloud. Email is the most popular cloud application, followed by storage, access to the FBI’s Criminal Justice Information System (CJIS) and crime reporting, according to the survey. But cops also see the cloud helping with disaster recovery and backup, crime analysis and records management. “The cloud opens

up sophisticated technology tools and services to smaller agencies that don’t have the funds to purchase an entire application on their own,” said Roberts.

Most experts would agree. Cloud computing has given a leg up to small businesses looking to be the next success story. It would follow that small police departments also could move quickly as far as using the latest digital productivity tools without big up-front costs. But the IACP survey found that large police agencies, with hundreds of officers, were likelier than small-town departments to use the cloud.

What’s holding back many police departments — large and small — are security concerns. In fact, for some time, police were virtually shut out of the cloud computing market thanks to the fact that cloud providers couldn’t meet



David Roberts, International Association of Chiefs of Police

the FBI’s stringent security standards for data sharing on the Criminal Justice Information System (CJIS) network. In 2009, Los Angeles announced plans to migrate city workers to a suite of cloud-based productivity tools, including email. But the LAPD balked at the idea, citing the fact that the service did not meet the FBI’s security and privacy requirements.

The sticking point was that anyone who has access to CJIS records must pass a criminal background check, including people who work for cloud providers. But cloud computing, by its very nature, is a borderless technology with servers and workers scattered across the globe. Given the architecture of cloud computing, storing emails with CJIS information in the cloud was nearly impossible.

But a 2013 FBI update to the CJIS security policy gave cloud providers a little more wiggle room to store criminal justice information, but with some limitations, including the insistence that law enforcement agencies retain data ownership and that cloud providers not conduct any metadata analysis to ensure the privacy and security of the information. Other limitations pertain to data portability, integrity and confidentiality. As a result, some cloud providers have made moves to meet the new criteria so they

can provide cloud services to the law enforcement community.

At the same time, there’s growing interest in so-called community clouds, where a group of law enforcement agencies build their own cloud solution for infrastructure, platform or services, Roberts said. “Because of the CJIS requirements, some agencies think the better solution is in having multiple justice agencies coming together and fashioning their own solution,” he said.

SOCIAL MEDIA: BIG LESSONS FROM THE MARATHON BOMBING

At 2:49 p.m. on April 15, 2013, at the height of Boston’s annual Marathon, two bombs exploded near the finish line, killing three people and injuring more than 260 others. What followed was an extraordinary manhunt, which included a shelter-in-place request from the governor that virtually shut down the city, along with the use of social media by law enforcement as a key communications tool to keep the media and frightened citizens accurately informed about what was going on.

Within 10 minutes of the bombing, Boston Police Department (BPD) Commissioner Edward Davis told his department to start using social media and to let people know what had occurred. The importance of social media as a policing tool, in particular Twitter and Facebook, soon became apparent. Misinformation, spread by professional media outlets and social media itself, was quickly corrected by the BPD. It didn’t take long for the media to realize that the most accurate information about the bombing was coming from the official BPD Twitter account.

“The Boston Police Department was outstanding and it was so simple and effective,” said Lt. Zachary Perron, public information officer for the Palo Alto, Calif., Police Department. “They became the news source during the crisis. It was a watershed moment for law enforcement and social media.”

/ CLOUD COMPUTING

PRO

Can lower up-front and maintenance costs

Puts technology in reach of smaller agencies

Security regulations are becoming more cloud friendly

CON

Security concerns persist



CAN CIVIC APPS HELP FIGHT CRIME?

It's a remarkable sight. Pay a visit to the city of Chicago's data portal, open up the latest crime data map and you can see a year's worth of crime information displayed geographically, down to the block. It's an amazing example of what can be done with open data. In 2011, shortly after he was inaugurated, Mayor Rahm Emanuel released a treasure trove of city data for public consumption, some of it geo-based information, including up-to-date crime incident data, which used to be available in hard-to-access aggregated formats that came out just once a month.

The city's open data strategy has given civic hackers a substantial boost, helping put a spotlight on the possibilities of merging open data with law enforcement. These kinds of cross fertilizations between civic data enthusiasts and police departments are still in their embryonic stages, but the few examples out there are tantalizing in terms of bringing together the needs of safe communities with law enforcement's efforts to fight crime and improve public safety.

In 2013, Chicago city officials sponsored a "safe communities" hackathon using the police

department's latest application programming interface called ClearMap. Participants had a crack at using new methods to query crimes, wanted lists and mug shots, as well as graffiti problems, vacant building code violations and even police beat boundaries. The result has been a wave of apps that Chicagoans can use to track crime and improve public safety, according to Smart Chicago, an online civic organization that uses technology to improve life in the Windy City.

The success of Chicago's crime hackathon has spawned others, including one run by the U.S. Department of Homeland Security in May, and sponsored by AT&T, Google, Intel and Apperian. One of the winners was a mobile app created by Theo Rushin Jr., who developed Beacon, which lets an injured or lost person in an emergency situation send out a preconfigured distressed notice to anyone designated as a recipient. A second companion app sends out continuous updates on the location of the individual in trouble.

In Redlands, Calif., city officials have worked with software firm Cityworks to incorporate a mobile civic engagement app called CitySourced that can act as

service request tool for residents. The city sees CitySourced as a rapid first step toward an eventual 311 call center that would allow residents to report problems and complaints. The app could also be leveraged by the Redlands Police Department as a tool for monitoring illegally parked cars.

In Philadelphia, the city's 2012 Code for America fellowship led to the creation of Textizen, another type of mobile

burglaries to reliable reporting and communication during someone's parole. "Too often that communication happens through manual channels that don't fit today's busy lives," Lee said.

Not all public safety and crime apps are created by hackers. Last year, the Virginia State Police launched a crime reporting app. Called See Something, Send Something, it's known as a suspicious activity reporting tool

THE BEACON MOBILE APP LETS AN INJURED OR LOST PERSON IN AN EMERGENCY SITUATION SEND OUT A PRE-CONFIGURED DISTRESSED NOTICE TO ANYONE DESIGNATED AS A RECIPIENT.

messaging platform for public safety, law enforcement and criminal justice agencies that helps them access, analyze and track difficult-to-reach population groups. "The running theme is that communications makes or breaks a program," said Textizen co-founder Michelle Lee. Examples of how Textizen supports public safety range from letting neighbors know to double-check doors if their block is getting targeted for

and was created by My Mobile Witness to connect individuals, law enforcement agencies and regional fusion centers, which collect and analyze intelligence on criminals and terrorists. So what does the Virginia State Police want citizens to report? "Suspicious photography, vehicles or people in places that just look out of place," Maj. Rick Jenkins told Fox5 News in Woodbridge, Va.

Releasing crime data via the Chicago open data portal and a holding a "safe communities" hackathon have yielded several apps aimed at improving public safety.

 I have been in touch with the President, Mayor Menino and our public safety leaders. Our focus is on making sure that the area around Copley is secure.

 Boston Police looking for video of the finish line #tweetfromthebeat via @CherylFiandaca

 This is genuinely heartbreaking. :(#prayforboston #bostonmarathon

 Area around crime scene will be closed for the foreseeable future #tweetfromthebeat via @CherylFiandaca



/ SOCIAL MEDIA

PRO

Delivers message to large user base in real time

Often provides evidence for investigators

Strengthens relationship between citizens and police



CON

Two-way communication demands a culture shift

Messages can be distorted

Use policies must be developed

Perron should know. He is in charge of the department's social media program in a Silicon Valley city where just about everybody uses social media and news is covered by four daily newspapers. What began as part-time work is now a full-time position for Perron. His job, as well as for other police officers in charge of

social media, is to direct public relations through the various channels — Twitter, Facebook, YouTube — but to do it in a real-time manner and with a much broader constituency. No longer do press releases just go out to the established media; they are available to anyone in the community who follows the Palo Alto police via social media.

Social media has three sets of characteristics with key implications for law enforcement, according to a Harvard Kennedy School research report, *Social Media and Police Leadership*.

The first is the **scope** of social media, which continues to grow.

Perron said his department's social media outlets have thousands of followers compared to the handful of traditional media outlets that were interested in press releases issued by the Palo Alto PD.

The second characteristic is **structure**.

Social media lets police have two-way conversations with the community. Palo Alto routinely receives messages from citizens via social media, including anonymous tips. Perron also conducts "virtual ride-alongs," live-tweeting during an entire shift from an officer's patrol car. "It gives the public a great view of what we do and a better understanding of what's going on." Ultimately social media provides law enforcement a level of transparency it couldn't attain otherwise. When done correctly, the benefits are immeasurable, said Perron.

The third characteristic is **tone**.

When the police use social media,

 Copley Square is safe and secured. I am asking everyone to stay away from Copley Square and let the first responders do their jobs."

they are having a conversation with their community; it's informal and quite distinct from traditional press releases. "We try to use a voice and tone that is cultivated and professional, but also human and sometimes humorous," Perron said. Corporate marketing campaigns have struggled to adopt that kind of human and humorous tone. But beat cops have a lot of practice talking directly to the community in an informal manner. For that reason, they have probably been more successful than other government agencies at engaging the public via social media.

Besides using social media as a two-way communications tool with the public and media, police also use Twitter and Facebook in investigations. Four out of five law enforcement agencies say they use social media for investigations, according to a 2012 survey by LexisNexis Risk Solutions.

The most common uses include: evidence collection — people are more than willing to brag about their actions on social media sites; location of suspects — one investigator "friended" a suspect and was able to track his location; criminal network investigation — again, people are prone to talking about their actions on social media sites, giving the police a window into their activities. The New York City Police Department found that 72 percent of its social networking use was by its detective bureau, investigating crime patterns and suspects, according to a 2013 report by the Police Executive Research Forum and the U.S. Department of Justice's COPS program.

But using social media has its challenges too. There's the cultural shift from a one-way form of communication with the public and media to one that is clearly two way now. Social media also can amplify, even distort information as it gets passed

GOVERNMENT

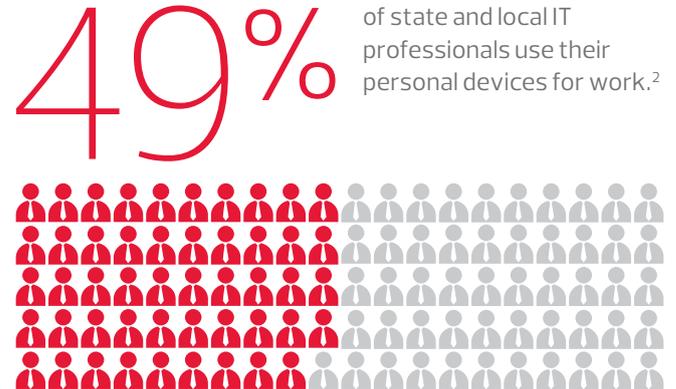
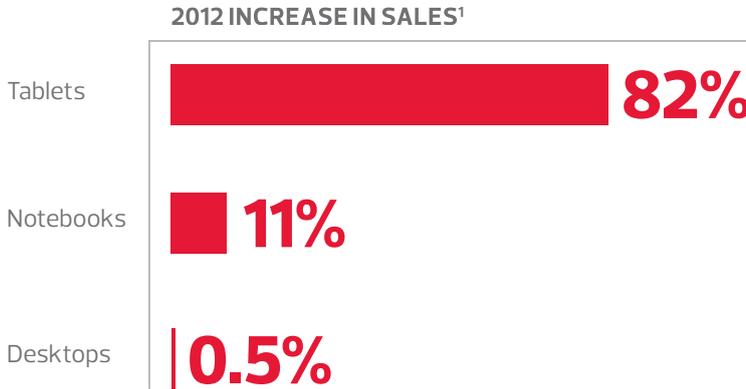


An ever-increasing amount of your staff is using mobile devices for work. But without a complete mobile solution in place, your infrastructure can be overtaxed and sensitive data may be at risk.

ON THE GO. ▶▶

THE PEOPLE DEMAND MOBILITY >>

AND IT'S CHANGING THE WAY YOUR AGENCY WORKS. >>



BUT WITHOUT A PLAN TO SUPPORT MOBILITY, YOUR NETWORK CAN BE LEFT EXPOSED.



WE GET IT.

WE DESIGN IT. WE CONFIGURE IT. WE IMPLEMENT IT. WE SUPPORT IT.

Whether you're looking to issue devices or to set up a policy for BYOD, we have years of experience implementing mobility solutions for agencies just like yours. We bring the experts and the expertise to make it all work seamlessly.



STRATEGY – We can help you design data and device policies, a network strategy and more.



CENTRALIZED MANAGEMENT – Our custom MDM and Expense Management solutions help put you in control of your organization's devices.



DEVICES – With a wide range of devices, we can help you select and deploy the right ones for your organization.



MORE – Plus, we can help with end-user support, application development and management, and networking.

For more information on mobility solutions for state and local governments, download our white paper at CDWG.com/byodfocus



¹IC Insights, IC Insights Raises Forecasts for Tablets, Notebooks and Total PC Shipments ²Center for Digital Government, "Mobility and Security Research" September, 2012
©2013 CDW Government, LLC. CDW®, CDW-G® and PEOPLE WHO GET IT™ are trademarks of CDW, LLC.

along. In addition, police departments must set policies as to who controls the information. In Palo Alto, Boston and elsewhere, social media content is centralized. But other agencies let individual police officers communicate through their own Twitter accounts.

For someone like Perron, who knows how hard it can be to manage social media, the problem is one of who monitors social media accounts when an officer is off duty? “Twitter is going 24 by 7. What happens if there’s an emergency and no one responds?” he asked.

FORECASTING THE FUTURE FOR TECHNOLOGY AND POLICING

In 2010, just as the recession’s wave of fiscal calamity was peaking, George Bascom and Todd Foglesong, from Harvard’s Kennedy School of Government, published a report, *Making Policing More Affordable*. They pointed out that public expenditures on policing had more than quadrupled between 1982 and 2006. But with city budget shortfalls opening up across the country, police departments and their chiefs, once used to ever-growing budgets, were now facing a new reality of cutbacks, layoffs and even outright mergers and consolidations of entire police departments with others. With federal subsidies disappearing (federal support for criminal justice assistance grant programs shrank by 43 percent between 2011 and 2013), thanks to a frugal Congress, police had few options.

With funding spigots turning off, law enforcement agencies must find ways to operate more affordably, according to Bascom and Foglesong. One obvious way is to use technology in more efficient ways. Being more efficient with technology also means being smarter.

Since 2010, police around the country have been paying attention to ways that make fighting crime a more affordable proposition for cash-strapped cities. And as budgets have started returning to

normal, and police departments increase their investments in technology, the results are beginning to show. Davis, of the Police Executive Research Forum, said officers are becoming more professional in how they operate and that includes how they apply technology. “They are getting better at procuring technology that can deliver capabilities they didn’t have before,” he said.

Technologies like cameras, social media, DNA forensics, expanded use of GIS and predictive policing are gaining widespread acceptance. Others are emerging, but could pave the way for smarter policing down the road. They include the nation’s first public safety broadband network, known as FirstNet; next-generation 911 that will be capable of receiving text messages, photos and videos; robotic tools, such as unmanned aerial vehicles, otherwise known as drones; and real-time command centers that can gather vast amounts of information on crimes for officers to use. There’s even civic hacking, which has proven innovative when it comes to using big data to create new services that can be beneficial for public safety purposes.

As always, funding continues to be an issue. In May, the major law enforcement agencies sent a letter to the House and Senate Homeland

Security Committee asking that the National Preparedness Grant Program reconsider a series of proposed changes that would reduce funding for terrorism prevention. A 2013 survey by the Institute of Justice found that 78 percent of law enforcement agencies had their grant funding cut since 2010 and 43 percent reported cuts of between 11 and 25 percent.

With new technologies emerging all the time and a new normal when it comes to funding, how should the police proceed? New technologies must be benchmarked, with metrics that forecast just what their impact will be on operations before they are fully implemented. Second, police departments need to set policies, especially around tools that gather data about individuals, such as video, to ensure that the civil liberties and privacy of law-abiding citizens is not compromised.

Ultimately, however, police can’t forget the fact that they are in the people business. The quality of policing depends on the experience and common sense of every officer. “It’s a very subjective business in many ways,” Bueermann said. “There has to be a balance between the technology and the cop. If you lose the human side to policing, then you lose the compassion that’s part of the job.” ■



A 2013 survey by the Institute of Justice found that 78 percent of law enforcement agencies had their grant funding cut since 2010 and 43 percent reported cuts of between 11 and 25 percent.

DAVID KIDD



The future of
technology is
more secure
than ever.

Intel® Security combines the expertise of McAfee® with the performance and trust of Intel to deliver secure computing to consumers and businesses worldwide. We believe that as technology becomes more deeply integrated into life, security must be more deeply integrated into technology. Because when everyone has the confidence to use technology to its full potential they can achieve their full potential. Visit intelsecurity.com.



McAfee is now part of Intel Security.

2014 © McAfee Inc. McAfee and the M-shield are trademarks or registered trademarks of McAfee, Inc. The Intel logo is the trademark of Intel Corporation in the U.S. and/or other countries.



ELIMINATING PASSWORD HEADACHES

City government streamlines and secures application access with Dell Software's identity and access management solutions.

SHUTTERSTOCK

When a government entity has thousands of employees and the need for strong security, the convergence of the two can sometimes mean a headache for IT. The city of Houston has 21,000 employees — 15,000 of which can access core services online. After implementation of a policy requiring employees to change their passwords every 90 days, the result was a deluge of customer service calls asking for password reset help.

Password resets hurt productivity and lead to security risks.

The city's IT team began tracking calls to the customer service desk and found about 40 percent of them were related to password resets — requiring the equivalent of three full-time employees working solely on this task. The team also discovered the process of resetting passwords often caused passwords for the company's multiple systems to get out of sync, leading staff to write their passwords down on visible sticky notes — not the best security practice.

The city explored technologies to help them stabilize the situation. Charles Thompson, CIO for Houston, says the team conducted a pilot with one product for over a year before determining the federated nature of multiple forests from a Microsoft Active Directory perspective was problematic. The team then needed a new solution.

"We took a look at the Dell One Identity suite of products and quickly determined it was the solution set we needed," Thompson

says. "For us, it was the extra stuff under the hood: The Dell One Identity solutions allow us to deal with the multiple forests and the hosted apps, and to consolidate passwords based on a single ID from a single authoritative source." He adds that legacy applications may not be able to adhere to stringent government password policies, so taking advantage of virtual directory services for those was also critical.

Password self-service: empowering users pays solid dividends

Dell One Identity Manager simplifies access management by automating management of user identities and privileges across the enterprise. It unburdens IT staff and gives them easy oversight of the environment, while providing employees with just the necessary access to perform their jobs. Workflows are based on business or policy needs, and user accounts are automatically provisioned or de-provisioned based on a feed from SAP. When new hires are recorded in HR, they

DELL SOFTWARE SOLUTIONS

Dell One Identity and other Dell Software identity and access management solutions enable state and local governments to enhance security and increase organizational agility through comprehensive access governance, access management and privileged account management.

Learn more at software.dell.com/solutions/identity-and-access-management.

receive email and login information and access to applications.

The city of Houston began by rolling out the password self-service solution to about 500 people — and the number of password-reset calls to the service desk quickly fell by 5 percent. Based on that experience, IT staff expects a dramatic reduction in calls when the self-service capability is fully implemented.

The result will be a significant increase in productivity for both end users and service desk staff. After full deployment, Thompson calculates the city can recapture the 30 minutes each employee used to spend resetting passwords every 90 days. With 15,000 employees, that's 30,000 hours of productive staff time regained each year, which will enable staff to better serve constituents.

Meanwhile, password resets will no longer consume so much service desk time. "As soon as we're fully deployed for all the core on-premises and hosted applications, those IT staff hours dedicated to password resets can be redeployed for more complex support," says Thompson. "From our perspective, being able to take three employees and have them do something of greater value for the overall operation of the city is critical. This is a key benefit for us."

Single sign-on — streamlined and secure

Dell One Identity Cloud Access Manager offers browser-based access to internal and cloud-based web applications. Delivering single sign-on (SSO), just-in-time cloud

"As soon as we're fully deployed for all the core on-premises and hosted applications, those IT staff hours dedicated to password resets can be redeployed for more complex support."

Charles Thompson, CIO, City of Houston

provisioning, identity federation, access control and auditing for a wide array of web application access scenarios, Cloud Access Manager facilitates consistent, rule-based security across different applications and access scenarios, including on-premises, remote and software as a service (SaaS).

The city of Houston's IT team has chosen a reduced sign-on, rather than a traditional single sign-on approach, but users still gain the benefits of streamlined access via cloud application password unification. Before, users were required to have a separate user name and login for SAP, Kronos, Saba training and other applications — a time-consuming and sometimes challenging process. Now the user, location and application are all unified under the same governance and security.

As rollout continues, the city of Houston is poised for success. "We now have a standard that says your user ID is your ID for all systems, whether they're on-premises or hosted," Thompson says. "We believe that the Dell One Identity solutions will not only provide on-premises and application integration, but also serve us well as we

look at moving some of our critical applications to the cloud."

Choosing the right vendor

Thompson advises anyone looking at identity and access management solutions to completely map out their desired outcomes. He suggests taking the extra time to put the products through their paces, and using the vendor competitiveness required by the public sector to craft a relationship responsive to your needs.

"It's also critical to have professional consultative services from a third party that's certified by the product you select," Thompson says. "In our case, the consultants that came with the Dell One Identity solutions were professional, and they challenged the status quo when we tried to fall back into bad habits. You must have a partner that challenges the status quo."

He harkens back to his city's bottom line. "The operational efficiencies we have gained from the Dell One Identity solutions will lead to intangible cost shifts and better customer service — important components of the mayor's program."

Dell Software: Delivering complete and connected solutions

Dell Software empowers organizations of all sizes to experience Dell's "power to do more" by delivering scalable yet simple-to-use solutions that can increase productivity, responsiveness and efficiency. Dell Software is uniquely positioned to address today's most pressing business and IT challenges with holistic, connected software offerings across five core solution areas, encompassing data center and cloud management, information management, mobile workforce management, security and data protection. This software, when combined with Dell hardware and services, helps customers simplify IT, mitigate risk and accelerate business results.

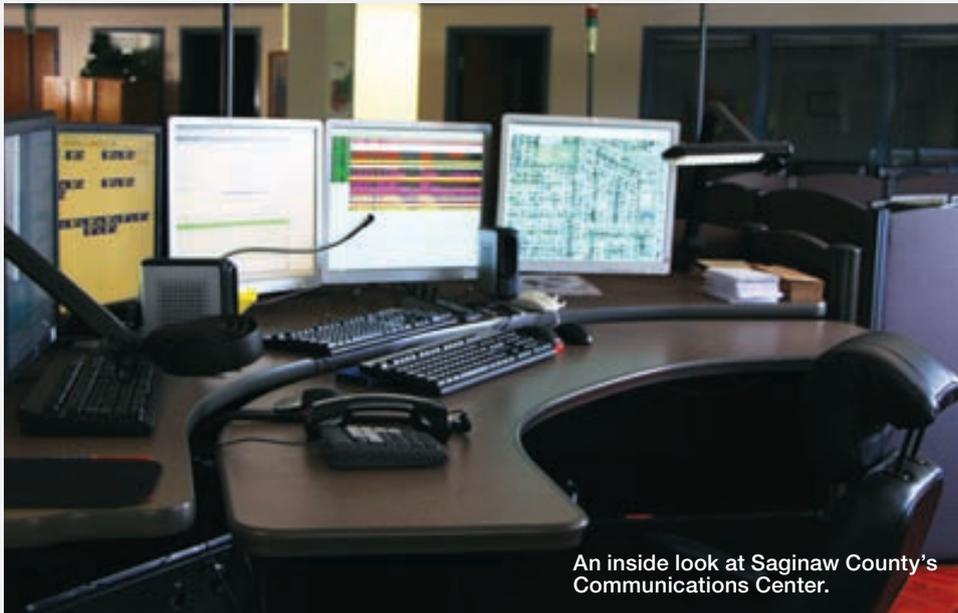
www.dellsoftware.com

Sponsored by:



Software

CASE STUDY / MOTOROLA



An inside look at Saginaw County's Communications Center.

ENHANCING SAFETY AND PREPAREDNESS

Clear, interoperable digital communications improve emergency response in Saginaw County.

A police officer must pick up a prisoner in another county, traveling beyond the reach of her mobile radio. A fire rages in an industrial warehouse, requiring a coordinated response of neighboring agencies. A suspect in an armed robbery leads law enforcement on a chase over city and county borders and back again — confusing jurisdictional responsibility for his capture.

These situations once proved challenging for Saginaw County first responders — until the adoption of Motorola's digital ASTRO 25® voice and data network and PremierOne™ Computer-Aided Dispatch (CAD) solutions. Now, police officers have nearly unlimited radio connectivity, greatly boosting safety. Pre-loaded box alarm cards can be triggered remotely to summon extra personnel and equipment when large fires strike. And interoperable channels keep public safety and dispatch agencies

apprised of changing events in real time, allowing for a swift, targeted response.

From Dead Zones to a Reliable Digital Platform

Saginaw County sits near the thumb of the “catcher's mitt” that forms the shape of Michigan. The Central Dispatch Center is responsible for fielding all emergency calls and dispatching public safety personnel for every emergency in the county. Law enforcement, fire, emergency medical services and the road commission all play an integral part in the fluid call and response that ensures the safety of 200,000 county residents. To achieve that, clear and instant communication is vital — but it hasn't always been easy.

Tom McIntyre is the executive director of Saginaw County Central Dispatch, which handles about 370,000 calls each year. With just 30 dispatchers, the

department must be highly productive in very stressful situations. What heightened that stress in the past was inadequate radio coverage and poor audio clarity when responders and dispatch tried to communicate during emergencies.

“Before the mid-1990s, we didn't have a unified radio dispatch,” McIntyre says. “People went out and bought their own radios, using their own frequencies.”

Don Pussehl, Jr., Saginaw Township's chief of police, remembers having just four radio channels in his vehicle as a young officer. Those transmissions, using the county's old analog system, were often garbled and impossible to understand, with many “dead zones” in hospitals, malls or rural areas. “If an officer had to leave the county to participate in an investigation, he'd get maybe 30 to 40 miles outside Saginaw County and lose all radio communication,” he says.

In the early 1990s, the county implemented a Motorola analog 800 MHz system — a big advancement at the time. But the real difference came in 2008, when the county upgraded its emergency communications system, which included a Motorola 800 MHz digital radio system, MCC7500 IP dispatch console, 1,300 portable radios, a PremierOne™ CAD service platform and two additional towers for expanded radio coverage.

The county's new digital system was integrated with the state of Michigan's digital platform, which permits communication among different agencies throughout the state and offers the benefit of maintenance and support services by the state. The Motorola/state collaboration was a winning combination.

“With digital technology, I now have a portable radio that can communicate anywhere in the state of Michigan,” Pussehl says. “I can switch to thousands of talk-groups. I can even communicate with the state police in an area if I come across something that requires my assistance. The system doesn't go down. We don't have dropped calls. We have clear communication, the ability for wider radio coverage

“With digital technology, I now have a portable radio that can communicate anywhere in the state of Michigan. The system doesn’t go down. We don’t have dropped calls. We have clear communication, the ability for wider radio coverage and total reliability.”

Don Pussehl, Jr., Chief of Police, Saginaw Township

and total reliability.” He adds that they’ve exceeded the life expectancy of their equipment by years, saving taxpayer money.

Interoperable Communication and Collaboration

Appreciation of the system’s reliability is echoed by Bridgeport Township Fire Chief Pat Nelson, who is one of 21 fire chiefs that respond to an average of 11,000 calls and nearly 500 structure fires annually. He also manages the township’s information systems — a combination of duties he is qualified for as a former executive in information systems management.

To test the system’s capabilities, Motorola sent an engineer to ride along with law enforcement and fire representatives. “Teams checked every square mile of the county,” Nelson says. “The teams also went to buildings and areas where problems and dead zones were known to exist. The coverage was outstanding, with very few coverage issues.”

Fire personnel don’t just fight fires — they’re often called out to other types of emergencies such as car crashes, which can require the intervention of law enforcement, fire and emergency medical services (EMS). As situations evolve, these teams have the ability to seamlessly interoperate with each other.

“Very quickly, within a minute or two of an incident, we can all update each other on a common channel,” Nelson says. “But if I need to talk to law enforcement and EMS and they’re too busy to get on our channel, I can ask central dispatch to patch our three talkgroups together with the click of a mouse. That guarantees communication.”

The new system also means the county’s CAD system is now more robust, with the ability for pre-loaded box alarm cards that can be created for any type of response or location. When triggered remotely by dispatch, the card automatically generates a request for mutual aid support from neighboring municipalities. “This enhances our response times and our ability to better protect life and property,” Nelson says.

Successful System, Next-Generation Public Safety

Saginaw was one of the first counties in the country to implement PremierOne CAD, adding capabilities such as providing officers in the field with real-time situational information, allowing dispatch to send photographs of wanted suspects to officers’ mobile computers and storing multimedia files from an incident record for future reference. That progressive attitude is a thread that runs throughout Saginaw County’s entire emergency response

network. Police and fire chief subcommittees meet weekly, looking at new technologies that could benefit public safety personnel, and cross-pollinate new ideas among agencies. They take interoperability far beyond simply sharing radio channels.

“We work well together,” Pussehl says. “I think that helps as we all agree upon and look to new technology, especially with Motorola as a partner. We’re able to implement new technology that maybe other areas of the country have not.”

“We have that cooperative spirit in every discipline here,” Nelson says. “We understand how new technologies will benefit our organizations and how to get it implemented.” At the recommendation of the subcommittees, the county is budgeting now for another system upgrade in 2017, including the purchase of APX P25 digital radios.

The chiefs and directors in Saginaw County tasked with thinking about tomorrow’s technology know that text-to-911, integrated social media and the ability to communicate nationwide is coming down the road, fast. Plans are afoot to recreate what has worked so well in Saginaw on a statewide level. McIntyre, who has seen the system operate from every angle, isn’t surprised. “The reliability of the system is the backbone of this success,” he says.

For more information, visit www.motorolasolutions.com/MAP

© 2014 e.Republic. All rights reserved.

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license.

Sponsored by:



BUILDING 21ST-CENTURY COMMUNITIES

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.



Software

