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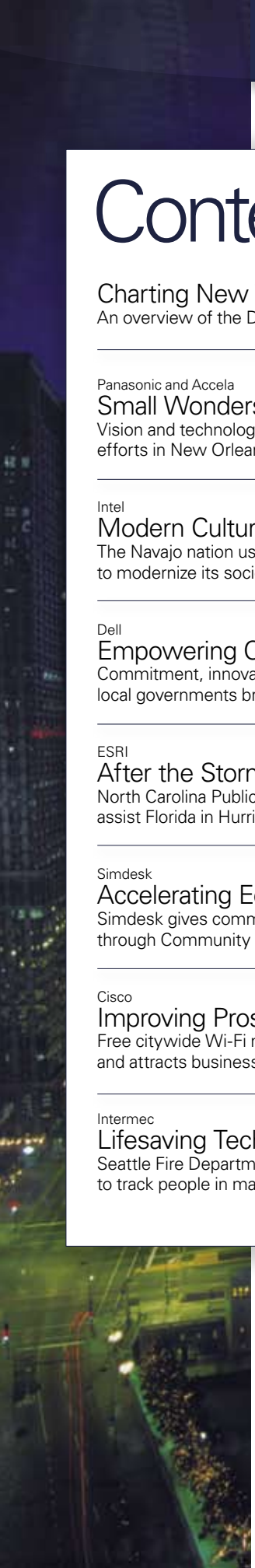

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Dear Reader,

In August 2005, Intel helped launch the Digital Communities Initiative. Innovation driven by public-sector entrepreneurialism is delivering on the expectations of citizens and is enabled by the transformation of government services over broadband wireless technologies such as Wi-Fi and WiMAX. Examples abound, including the U.S. cities of Philadelphia, Corpus Christi and Cleveland as well as Westminster City Council in the UK and Taipei, Taiwan, among many others that are leading the way.

Digital Communities services are not the only beneficiary. Broadband wireless technologies are also enabling governments around the world to provide better education, connect to remote or otherwise alienated citizens and close the digital divide. Working together with the information, communications and technology (ICT) industry, public-sector transformation is driving access to personal computers, the Internet and accelerating national competitiveness. Digital Communities are at the heart.

Since the launch, Intel has worked with *Government Technology* and our fellow industry travelers to promote Digital Communities as a category leader in its own right. We have witnessed interest growing rapidly with thousands of additional visitors every week. It is now arguable that state and local governments that are not researching and piloting the benefits of Digital Communities for their citizens, businesses and their own efficiency are in the minority.

Included in this *Government Technology* publication are industry case studies written to help communicate the opportunities and share the visions from across the U.S. The Digital Communities Initiative is a great example of multi-stakeholder partnerships where you have the support of Intel and our fellow sponsors. I strongly encourage you to take advantage of the information available and work together with us at www.govtech.net/digitalcommunities.

Sincerely,

Allan Rakos
Director, Digital Communities Initiative
Sales and Marketing Group
Intel Corporation

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Charting New Territory

Emerging digital communities mark a new era of service delivery in government.

On November 19, 1863, Abraham Lincoln delivered what is widely regarded as one of the greatest speeches in history: the Gettysburg Address. Lincoln's was a time of great upheaval, thunderous change and the beginning of the modern age. The Industrial Revolution was growing — feasting on steel and steaming across the country on mighty locomotives. Inventions such as the telegraph — and the telephone a few years later — were suddenly bringing people information in hours instead of weeks or months.

Machinery and factories allowed the entrepreneur, the inventor and the laborer to come together and create a host of industries. Employees could find steady work and good wages. And should he so desire, for the first time in history, a man could travel thousands of miles in mere days thanks to the greatest engineering feat of the 19th century: the First Transcontinental Railroad. Only months prior to Lincoln's speech, on January 8, the first tracks were laid in Sacramento, Calif., and in Omaha, Neb. — finally meeting on May 10, 1869 in Promontory Summit, Utah. Thus was born an age of interconnectivity the likes of which the world had never known.

On the cold, bitter day Lincoln gave his address, he closed his celebrated oration with a famous line that was both an expression of hope and a challenge to America: "that government of the people, by the people and for the people shall not perish from the earth."

How delighted then would Lincoln be to know that only a handful of generations later, America would be poised to take another great leap toward the government he envisioned. Here, at the dawn of the 21st century, the frenetic advance of technology is allowing government to deliver services to the citizenry at levels never before imagined — giving rise to the age of digital communities.

But not all is well. America no longer has the pole position in the technology race. Despite a number of commendable efforts under way, the U.S. is falling farther behind in terms of broadband availability and mobile technology — the infrastructure backbone of the digital community. Other nations are surpassing the U.S. by aggressively advancing this mobile, high-speed technology infrastructure.

The U.S. risks losing the competitive technological edge it has owned for 150 years. However, courageous and visionary public officials, who will dare to change the plodding, disconnected IT infrastructure of the past, can once again propel the U.S. into the lead by ensuring technology access to citizens and transforming government into an environment of agile and effective service delivery — truly the government of the people, by the people and for the people that Lincoln envisioned those many years ago.

Guts and Glory

The launch of the Digital Communities Initiative is an important milestone as government seeks to transform itself into a highly efficient service delivery entity. But what is a digital community and how does it better citizens' lives and government's ability to serve?

A digital community deploys advanced technologies that enhance the quality of life for residents and improve government services. It is a community built on strong leadership and vision. It is a community that is

not reliant on technology but instead is enabled by it. A digital community represents the complete transformation of government from the age of siloed, agency-specific infrastructure into an integrated IT framework that delivers any number of innovative, e-government services.

The rise of digital communities begins with municipal government. Mayors, city councils and government CIOs must drive the transformation. Public/private partnerships play a vital role in delivering broadband access to last-mile communities. And communities that embrace Wi-Fi and WiMAX technology will greatly enhance their ability to deploy interoperable systems and communitywide connectivity.

Philadelphia CIO Dianah Neff is among the leaders seeking to create truly connected digital communities. By creating a public/private partnership with EarthLink, Neff and Philadelphia have laid the foundation of a digital community by deploying one of the first large-scale, citywide Wi-Fi networks.

"The whole initiative started because of the mayor's goals for the city," Neff said. "Mayor Street has had neighborhood transformation as the cornerstone of his administration since he came into office. We don't want to leave another generation of families and children behind who don't know how to use the tools necessary for economic knowledge."

Courageous city leaders and advanced technology combined to bring new opportunities for social and economic growth. Building a wireless network that offers access to anyone in the city is critical to economic vitality, said Neff.

"We believe that wireless can help stimulate that, particularly with our small and disadvantaged businesses, of which we have about 26,000," she said. "We want them to become more effective by helping them get up on the Internet where they can place their advertisement, driving people to their businesses. With economic stimulus, we believe that it will create new jobs. We have already seen some of that starting to happen."

For the People

A digital community is first and foremost about people. As such, government leaders must champion digital inclusion. Numerous communities are finding unique and innovative ways to ensure broadband Internet is available to their citizens. In Houston County, Ga., and Allegany County, Md., community leaders devised strategies to provide affordable Internet access to residents and businesses using broadband wireless technology.

In some areas, governments have taken steps to ensure that every citizen, regardless of income, can access the tools they need for education and employment opportunities. Chicago and Houston, Texas, have deployed utility computing solutions that give citizens free access to Internet and computing tools. And San Francisco is laying down plans to deploy a wireless network that will blanket the city with free Internet access.

When everyone has access, communities have a better educated and economically advantaged populace, and people can come together like never before.

"Citizens become more involved," said Neff. "Citizens are more connected with their schools. Citizens are more interested in what is going on in their community, and they can get that information online. It is the simple things. It's the ability to have high-speed access at an affordable price so that the small businesses can compete as well as the mid- and large-size businesses. That is the inclusion part of it. It is bringing the arts, cultural and business communities together with the residence community and having that fluid communication."

Everything about a digital community is focused on the citizen. There must be value in the services government offers. The value is not the broadband access or the WiMAX network — those are tools to enable value. Reversing voter apathy, enabling

"We don't want to leave another generation of families and children behind who don't know how to use the tools necessary for economic knowledge."

— Dianah Neff, CIO, Philadelphia

citizens to access government services easily, that's where the value lies.

"We are trying to address all those issues and make it a holistic program," said Neff. "But those who need that help, those who need to understand what the benefits of being connected are and how that can help them improve their lives are the ones we want to focus on."

The digital divide can be bridged by actively seeking to include citizens who would not otherwise participate.

"Once people have the tools, training and find value and are connected, then you open digital communities," she continued. "The health community is very excited about making telemedicine a reality. Distance learning becomes a reality. Telecommunication becomes a reality. E-government becomes a reality once people are connected and they have the tools and the training. We are creating affordable access, helping to get the tools and training so that we have digitally literate constituents. It then makes it easier to bring people on and do things like e-voting without continuing to have this class divide."

Finding ways to better engage and integrate the public into a digital community are the primary drivers for innovative e-government services. But underpinning those external services are the applications internal to government that cross old, disparate infrastructure, improve information sharing and slash the cost of doing business.

Examples of internal innovation are cropping up across the country and around the world. Very much at the core of a digital community, it is these cost-saving and efficiency-boosting applications that keep the community humming. From Wi-Fi mesh networks in San Mateo, Calif., and Shanghai, China, to Wi-Fi enabled, automated meter-reading in Corpus Christi, Texas, from integrating phone, voice and data on a Wi-Fi/WiMAX network in Ocean City, Md., to a Wi-Fi-enabled public-transit information network in Portsmouth, England, these internal innovations enable the governments of digital communities to remain focused on high-quality service delivery, which in turn acts as an economic stimulus.

Around the world, thanks to widely available broadband access and wireless technology, the digital community is emerging — and the door is open for America, it just needs courageous leaders to take the next step.

Small Wonders

Vision and technology combine to boost recovery efforts in New Orleans.

In the aftermath of Hurricane Katrina, many in the media were quick to report on the shortcomings of government officials. From the local level up to the presidency, mistakes and miscalculations made for easy, blaring headlines. While misfortune has been — and always will be — a reliable way to sell newspapers, sometimes the truly remarkable achievements are overlooked.

In New Orleans, there were many acts of genuine nobility that went underreported. One such act was the result of dedicated city staff. With a disaster pending, New Orleans Chief Technology Officer Greg Meffert, and Safety and Permits Director Mike Centineo formulated a plan to deal with the damage the hurricane would bring and help New Orleans residents get back on their feet.

Like many others, Meffert and Centineo knew the potential for massive, widespread damage existed with the approaching storm. Unfortunately those fears were realized. With assistance from Accela and Panasonic, however, these men and their staffs are helping the city recover more quickly than most would have imagined.

Accelerating Recovery

When forecasts predicted Katrina would strike New Orleans, Meffert and Centineo began evaluating their options. After the storm, city building inspectors would have an enormous job ahead of them. They would be required to inspect and assess potentially tens of thousands of homes damaged by wind and water — many of which would be structurally unstable and potentially dangerous.

"Early on, I contacted Accela," said Centineo. "Accela came back and said, 'We have a great solution we think we can configure for you and get it out there relatively quickly that would assist you in the task of damage assessment.'"

Several days before the storm hit, Centineo and Accela worked together to configure and customize Accela Wireless™, a mobile government application that extends inspection management capabilities to the field. The software would greatly expand building inspectors' capabilities in post-Katrina New Orleans.

To take advantage of the power and effectiveness of the Accela software, inspection staff needed a machine to run the software. In a disaster area such as New Orleans, Centineo and Meffert knew that standard notebook-to-tablet computers would be inadequate. Accela's software was loaded onto Panasonic Toughbook 18s — fully rugged and convertible notebook-to-tablet PCs. The Toughbook 18s were then flown to New Orleans. Once there, an Accela crew hand-delivered the equipment to Centineo and his staff and trained inspectors to use the application.

"The Toughbooks, being ruggedized like they are, with the rubber overlay on the keyboard and the rubber seals on all the ports — they can take them out into the field, dust them off when they come back in, and they're good to go."

— Mike Centineo, director, Department of Safety and Permits

"The Toughbook 18 works very well with applications that require completing forms, and Accela Wireless worked best in that type of hardware device," said Panasonic state and local government area Sales Manager Barbara Taylor. "It is a fully ruggedized laptop computer. It meets military specs for harsh environments. It's the perfect piece of hardware for this type of an emergency."

Surveying the Damage

Once Katrina — and shortly thereafter Rita — had passed, New Orleans' building inspectors went to work on the enormous task of inspecting more than 100,000 buildings, approximately 70,000 of which were residential structures. Under normal circumstances, residential inspections are

handwritten using a neighborhood guidesheet to cross reference addresses. Due to the immensity of the damage wrought by Katrina, however, traditional inspection methods were rendered futile.

"The maps we were working off of were called Sanborn Maps," said Centineo, explaining how inspections used to take place. "These are actually physical maps. Previously we made copies of the maps by pages and gave them to inspectors by groups. That way, they could see an address on the property. We'd also check the address database in our computer system and make sure we were on the right spot in comparing the two."

With floodwaters, mud, dust, dirt and debris everywhere, inspecting 70,000 houses on paper would take many months, and structural instability could pose a danger to city inspectors and others trying to enter the properties. With the durability of the Panasonic Toughbook 18s and Accela's mobile solution, a process that could have substantially delayed recovery is instead being completed in record time.

"The Toughbook was suited for that. It's small and compact, and it also comes with a GPS antenna built in," said Centineo.

"The Toughbooks, being ruggedized like they are, with the rubber overlay on the keyboard and the rubber seals on all the ports — they can take them out into the field, dust them off when they come back in, and they're good to go."

Having Toughbooks loaded with Accela Wireless software, inspection teams that used to complete as many as 30 inspections per day can now complete as many as 100. The software allows inspections of entire neighborhoods in minutes. If one area has 5 feet of floodwaters, inspectors need not enter each address by hand, but instead can enter data for the entire neighborhood into the city database with a few simple clicks.

"We wouldn't be where we are today without the Accela software, I can honestly tell you that," said Centineo. "It's really been a true assistance to us. I think it has sped us up fivefold. We've completed 123,400 inspections. We're actually winding down."

Getting people back into their homes, or in many cases providing people with evidence for their insurance claims, is the driving force for Centineo. The combination of Accela software and Panasonic hardware is helping New Orleans residents start mending their lives in weeks instead of many months.

"So that way, if we didn't have an address and the building was just a pile of rubble, we could go stand inside the lot in front of the building and hit the GPS coordinates, so we could then get a fix on where the property is."

He said the ruggedized devices withstood the changing conditions in New Orleans. With little rain since the hurricane, the once muddy terrain had become subject to dust and wind.

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— Mike Centineo, director, Department of Safety and Permits

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Modern Culture

The Navajo nation uses satellite and wireless technology to modernize its society, while preserving its culture.

In Arizona, the Navajo nation is illuminating its cherished values and sovereignty with the light of modern knowledge — information, communications and technology (ICT).

Satellite and broadband wireless technology enable ICT to flourish in the nation without disturbing sacred ground by digging ditches or burying cable. Before the Navajo nation launched its satellite and wireless technology project a few years ago, only 22 percent of its population had telephones, 15 percent had computers, 10 percent had Internet access and unemployment was at nearly 50 percent.

Now its 110 local governments (chapter houses) deliver free computer and Internet access to the nation's members through its OnSat Native American Service two-way broadband wireless network. Farmers use the connection to price and purchase supplies, and learn about agricultural technologies consistent with Navajo farming traditions. Others use it to export Navajo culture over the Web, selling crafts to a global market — building an employment infrastructure on the reservation.

Before, many Navajo youth felt they had to move to neighboring Phoenix or Winslow, Ariz., for an economic future, according to Paul Godfrey, analyst for the Brigham Young University Center for Economic Self Reliance, an organization evaluating the project.

"People who make Navajo jewelry can use their chapter house Web access to run their own Web sites to sell their crafts in larger markets," Godfrey said. "They can make their own family-run business more viable and employ the rising generation rather than send them off the nation."

A Visible Government

The broadband network has been essential to involving members in the government process. The nation encompasses more than 27,000 square miles from western Arizona to northwestern New Mexico, and into

southern Utah. Every Navajo member can watch legislative decisions being made from their chapter house. A camera is set up in Window Rock, Ariz., the home of the Navajo nation's headquarters and Legislature. And the Internet provides Navajo community members and local governments with a simple way to contact their central government.

"They can webcast meetings of the Legislature to each of those 110 chapter houses throughout the nation — kind of like C-Span," Godfrey said.

Education Infrastructure

The seed of modern knowledge is education, so the Bill and Melinda Gates Foundation teamed with the Navajo nation Division of Community Development to install at least two computers at each chapter house and establish seven regional training labs across the Navajo nation. The labs were networked locally and connected to the Internet by the broadband satellite network.

The chapter houses deliver special applications for the improvement of distance education and e-learning, health services, telemedicine, economic opportunities, e-government, security and safety to members.

The Navajo Nation Department of Head Start is launching several programs to improve services to children, families and communities through online education. The I Care Curriculum aims to involve parents in the classroom as volunteers as well as in the home; the Fatherhood Initiative works to empower the role of fathers in families; STEPS Literacy is a curriculum designed to enhance language and literacy skills and improve teaching performance in the classroom.

Satellite and broadband wireless technology also empowers the Head Start Department to improve teachers' credentials in the Navajo nation. The Department of Head Start's 2000-2001 Program Information Report indicated a total of 167 teachers, 369 teaching assistants and 58 home-based teachers. But only 33 teaching staff had associate's degrees in early childhood education, while 128 staff members had Child Development Associate (CDA) credentials — many others are working toward a CDA or intend to do so. The Head Start distance learning program enables them to improve their qualifications without leaving their children to attend classes that are often more than four hours away.

With the new satellite broadband network, the Navajo nation has the local resources it needs. And as the nation harnesses connectivity, it makes it work for the benefit of its culture and citizens as it travels to the better side of the digital divide.

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Empowering Communities Through Commitment, Innovation and Collaboration

Founded in 1984 with a simple vision to sell customized, built-to-order personal computers directly to customers, Dell Inc. is a global leader in providing technology solutions to businesses, governments, institutions and individuals with worldwide sales in the tens of billions of dollars and a global team of about 50,000.

Under the Digital Communities Initiative, Dell is partnering with Intel to design, develop and deploy comprehensive solutions and services to enhance government efficiency, promote economic growth, foster greater community satisfaction and bridge the digital divide. The applications range from automating mobile workers, such as meter readers and building inspectors, to increasing safety and enhancing resource management for first responders by remotely monitoring vehicle location. Corpus Christi, Texas, and Philadelphia are among the worldwide pilot communities using technology industriously today.

Diminishing the Digital Divide

Dell believes that understanding the Internet and access to information and communication technology is critical for eliminating social and economic barriers to technology proficiency. Internet and technology know-how is becoming more and more important for success in the digital world. Everyone should have the ability to access, use and understand technology and have the skills to make it relevant in their life.

Additional to the commitment to the Digital Communities Initiative, Dell is pleased to have developed a collaboration that shows how private and public partnerships can work to meet community needs. Dell and the San Diego Futures Foundation demonstrate their commitment to this need through a guide called *From Digital Divide to Digital Provide: A step-by-step program to bring Information Technology to your community through successful public/private collaboration.*

The guide provides a clearly defined blueprint on how to establish a community-based program to address an issue of great and growing concern: the digital divide — the gap between those people who do and do not have access to a personal computer or the Internet and who do not have skills necessary to use technology. The approach outlined in this plan is based on the premise that public/private partnerships are critical to the success of a long-term program.

Another effort to educate and empower technology-challenged communities is Dell's TechKnow program. The Dell TechKnow program focuses on developing local partnerships with communities to provide low-income or underserved middle-school students the opportunity to earn a home computer and learn technology skills to better prepare them for opportunities in today's technology-driven world. Students attend an afterschool, 40-hour, self-paced, hands-on course where they work in teams to learn computer basics and are required to demonstrate competencies such as assembly and disassembly of a computer, software load and use, basic hardware problem identification, and proficiency using Microsoft Office. Upon successful completion of the program, students earn a refurbished Dell desktop computer, operating system and software to take home. Since launching nationwide in fall 2002, more than 7,700 students from across the U.S. have completed the program.

These initiatives are strong examples of Dell's ability to develop one-to-one relationships with customers to help ensure that their unique needs are provided for. In fact, it reflects one of Dell's major goals: ensuring that customers are assisted in achieving their business and constituency objectives.

Information When and Where It's Needed

Dell is committed to supporting state and local government customers whose vision is to equip communities for the digital world, including:

- Inclusive technology access and training.
- Building simple, sustainable and repeatable programs.
- Innovative approaches for reaching all underserved communities.
- Ensuring a long-term commitment of time, resources and enthusiasm.

Wireless technology can empower agencies both in the office and in the field. Using notebooks, handhelds and infrastructure solutions, agencies can improve productivity while securely delivering valuable information to citizens. Employees can access critical data through advanced security technologies like data encryption — virtually anytime, anywhere — increasing productivity, communication and collaboration. Processes are streamlined. Information is shared. Crucial decisions can be made and response times can be faster — which can help keep citizens safe and secure.

Integration Without Costly Downtime

State and local agencies don't always have the time or resources to integrate new technologies. That's why wireless solutions are ideal. They are easy to install and deploy, helping to minimize disruption to strategic operations. Wireless networks can be generally less expensive to set up and maintain than traditional wired networks, particularly within historic buildings. A wireless network can help eliminate one of the most expensive parts of setting up and maintaining a network: move, add and change costs.

Dell, together with our technology partners, empowers agencies to help meet the demands for increased productivity, lower total cost of ownership, and most importantly, serve the public more efficiently. To learn more about Dell's commitment to promoting wireless solutions for communities, visit www.dell.com/digitalcommunities.

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One Dell Way
Round Rock, Texas 78682
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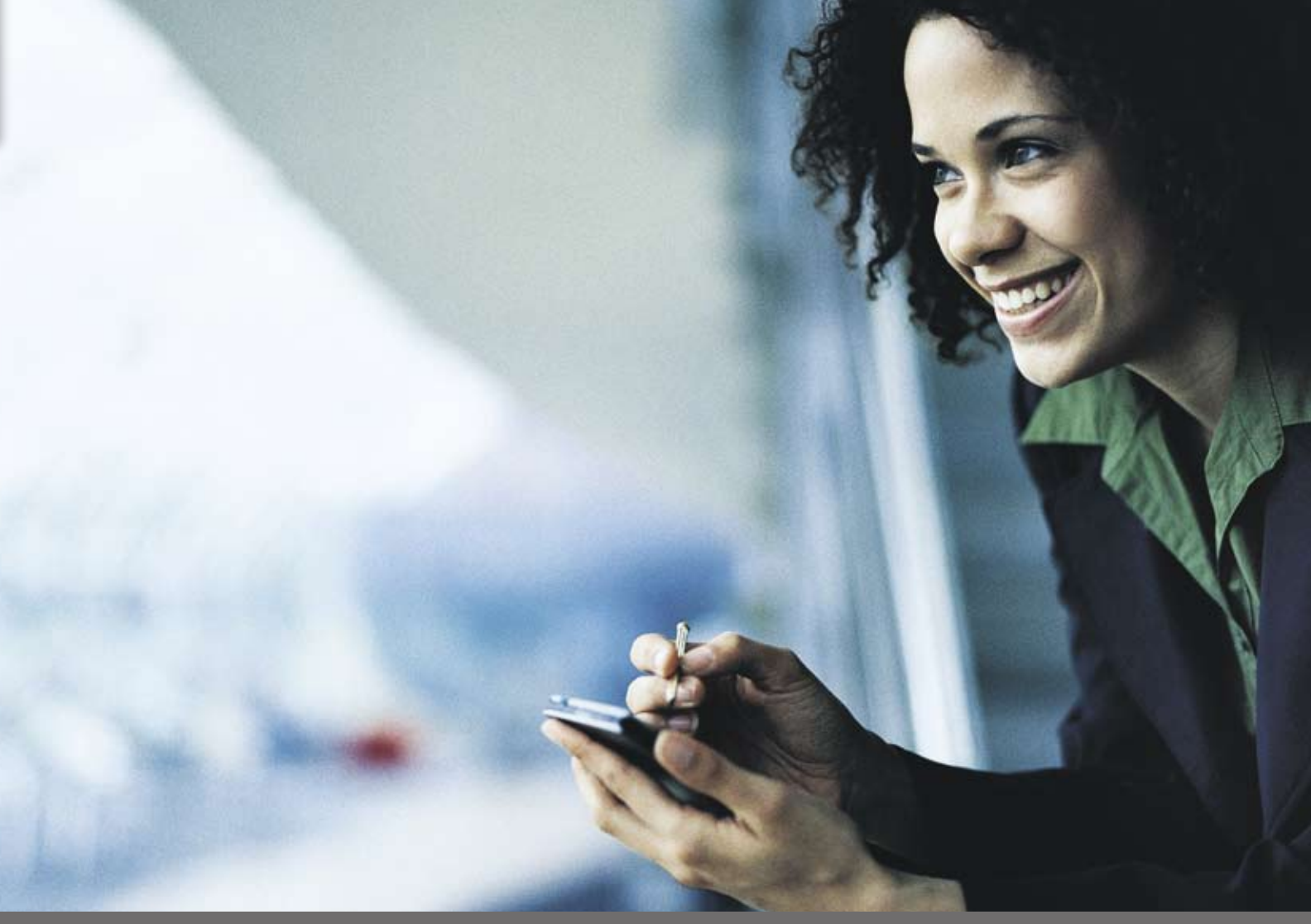
1-800-981-3355



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North Carolina Public Health Uses Mobile GIS to Assist Florida in Hurricane Wilma Aftermath

ArcPad Application Enhances CDC's Rapid Needs Assessment

When members of the North Carolina Office of Public Health Preparedness and Response (PHP&R) received the call from Florida and Centers for Disease Control and Prevention (CDC) officials to conduct a rapid needs assessment (RNA) after Hurricane Wilma cut a swath of destruction across south Florida, they deployed immediately, armed with mobile GIS. RNA is a methodology developed by the CDC and the World Health Organization for collecting health needs field information during disasters. Within 24 hours of deployment, 11 teams were trained and deployed in the field to conduct the first of two public health RNAs in areas most impacted by the storm.

The first RNA took place in northern Broward County. The CDC determined the assessment area by using a scientific cluster sampling of census blocks to assess public health needs. ESRI's ArcView software running on an Intel-powered laptop was used to generate 220 random points in these designated census blocks. These random locations were then loaded onto Dell Axim X50v handheld computers equipped with Globalsat CF GPS cards. The handhelds were installed with ESRI's ArcPad and ArcPad StreetMap software, along with a custom RNA application developed by Bradshaw Consulting Services Inc. (BCS), an ESRI business partner in Aiken, S.C. Field teams would navigate by GPS to each assigned stop using routes generated by ArcPad StreetMap, visually locate the nearest house, capture the GPS location of the house and conduct the questionnaire.

"ESRI's ArcPad software was the perfect solution for conducting rapid needs assessments because GIS base maps are easily loaded and utilized for situational awareness in areas that have been devastated by natural disasters," said Joey Wilson, mobile technologies manager at BCS. "The customized interface provides digital

forms and pick-lists to simplify data entry and ease of use for the field interviewers. It was simple to learn and to synchronize lots of data with their geodatabase."

The second assessment occurred in a small rural community in Hendry County near the Florida Everglades. A sampling of nearly 100 residents was processed using a random selection of GIS tax parcels. Field teams navigated to each parcel, conducted the assessment interviews and returned to field headquarters where all the data was compiled and delivered to the CDC in a digital GIS database. For each household, the interviewer collected relevant attribute information, such as home damage, illnesses or injuries, availability of food, drinking water, medication and utilities since the hurricane.

"PHP&R needed a more efficient process for conducting assessments in the field," said Wilson. "A lot of time was spent filling out paper forms and re-entering this data back in the office. With the use of mobile GIS, field interviewers are able to increase their mobility and decrease the amount of paperwork during the assessment."

Previously PHP&R staff collected RNA information in the field with pencil and paper using standardized paper forms. This data was manually input into spreadsheets and drawn onto paper maps. Wilson and his team assisted PHP&R in designing a customized RNA-specific mobile government solution.

Three days after deployment, all surveys were completed, uploaded from each PDA to a master geodatabase, and delivered to Stacy Young of the Disaster Epidemiology and Assessment Team with CDC for statistical calculations in SAS. "This means important information that can help guide relief efforts is more quickly relayed to emergency managers," said Young.

"Officials from both the Florida Department of Health and the Centers for Disease Control and Prevention were very pleased and impressed with North Carolina Public Health's expert capabilities including personnel and their equipment," said Ron Burger, senior emergency coordinator for the CDC. "I was fortunate to be on the inauguration of the development of this Community Rapid Needs Assessment in 1992 with the response to Hurricane Andrew in the Miami area. It worked extremely well and was very useful even back then, but was logistically difficult; however, now with this mobile GIS capability in the hands of such well trained personnel, the CRNA is a vital public health tool that is extremely vital to emergency managers to assist them with emergency response and recovery efforts."

"Critical information that used to take several days to record and distribute can seamlessly be collected and distributed without redundant efforts," said Mark Smith, Ph.D., epidemiologist for the Guilford County Department of Health and project coordinator for the mobile GIS project. "With GIS, NC PHP&R is able to rapidly deploy, collect, disseminate and analyze information more efficiently than ever."

Joey Wilson jwilson@bcs-gis.com
Mobile Technologies Manager
Bradshaw Consulting Services
2170 Woodside Executive Ct.
Aiken, SC 29803
Phone: 803-645-3244

Accelerating Economic Development

Simdesk gives communities a competitive edge through Community Computing.

Yesterday, it would have taken years to build an IT infrastructure to provide computer services to an entire city or state. Today, Simdesk® eliminates financial and technological barriers by providing powerful integrated enterprise-class computer services that are redefining the way we think about, access and experience computing — all delivered on-demand.

Through its successful Community Computing initiatives, Simdesk provides entire cities and states with access to financially sustainable, on-demand computing services that support education, strengthen the work force and promote economic development.

Residents who gain access to meaningful technology develop capabilities that lead to better jobs and a better quality of life. Without access to technology, these residents are locked out of a growing number of opportunities.

Simdesk combines a set of world-class file, messaging, print and groupware capabilities into one seamlessly integrated, low-cost service. The on-demand solution provides secure e-mail with spam and virus filtering, instant messaging, online file storage and sharing, backup, collaboration tools, and remote printing, as well as a free set of productivity tools for those who can't afford expensive desktop software. Simdesk services allow anyone to take advantage of true anytime, anywhere computing that can be accessed with just an Internet connection and any Web-enabled device from home, office or public access computer. These capabilities give communities crucial tools for competing in a global economy that grows more complex every day.

Empowering Citizens

Cities such as Chicago and Houston have already deployed Community Computing initiatives to give residents access to technology regardless of their income. Citizens can securely reach their e-mail, saved documents and other tools from any computer with an Internet connection, including those found in community centers and libraries. The ability to access an account from anywhere also means users don't need to store data on portable disks, which can be lost or damaged in transit. City residents save their information to Simdesk's World Wide Servers, which are secure and redundant so everyone can rest assured that data won't be lost.

"[Simdesk] really is a complete solution. We have not seen anything similar to it. We are very happy with it."

— Chris O'Brien, CIO, Chicago

Enhancing the Education Experience

Community Computing initiatives aimed at education enable administrators to provide cash-strapped schools and school districts safe and meaningful computer services for teachers and students. Students can work on school assignments from any computer, and students, teachers and parents can use the tools to collaborate on projects. In addition to having access to tools for education, students gain valuable preparation for entering the work force — where computer skills are in high demand.

Benefiting Businesses

Small and growing businesses greatly benefit from Community Computing initiatives. A thriving small-business sector is an important part of every economic development strategy. Cities and states across the country are recognizing that eliminating barriers to market place entry helps provide an environment to develop, attract and retain businesses — stimulating economic growth and job creation. Local businesses can access the same enterprise-class tools and services their larger counterparts enjoy without the investment in costly infrastructure.

"We instantly saw the value of this tool. We share files, messages and procedures through SimIndiana."

— Penny Head, Central Indiana Region, Business Network International

Preparing for the Future

Simdesk is a key component of work force development programs in an expanding number of jurisdictions. Simdesk's on-demand solution readily supports large-scale efforts to improve citizens' technical skills, leading to better jobs and communitywide economic success. Community Computing forms an important part of employment development networks. The technology is being deployed at one-stop career centers across the U.S. that offer comprehensive employment development services to residents.

As economic success and quality of life depend more and more on the ability to access and use advanced technology, communities cannot afford to fall behind. Simdesk Community Computing gives state and local government leaders an affordable and sustainable solution for delivering the technology citizens and businesses need.

"What makes Simdesk such a powerful force is the combination of our technology and our business model," said Simdesk Executive Vice President Wendy Haig. "Today's technology solutions cannot viably address two-thirds of the world's population. Simdesk offers a real and financially sustainable solution that eliminates that barrier and delivers a total solution to entire populations."

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Free Citywide Wi-Fi Network Connects for the Future and Attracts Business Opportunities

Challenge

Fredericton, capital of Canada's New Brunswick province, has high hopes for its future. Home to numerous federal government offices, two universities and several research centers, Fredericton has Canada's highest number of engineers per capita. Dozens of IT, engineering and consulting firms based in Fredericton do business worldwide.

To stand out from other communities, and retain and attract more technology companies, city leaders had to offer more than good schools, a highly educated populace, affordable housing and lovely riverside ambiance.

"We want to give our business community and professionals the best possible tools and promote Fredericton as an innovative, business-friendly city," said Maurice Gallant, Fredericton CIO.

In 2000, the city built a fiber-optic network with business and community partners to deliver low-cost broadband connectivity to government agencies, businesses and educational institutions.

Three years later, to further encourage economic development, Fredericton again turned to technology. Gallant and Don Fitzgerald, executive director of Team Fredericton, the city's economic development department, proposed a nonprofit, communitywide, high-speed Wi-Fi network to offer residents and businesses free or highly discounted Internet access.

The City Council embraced the idea and issued its own challenge, Fitzgerald recalled. "The council members told us our timeline was not aggressive enough, gave us more money, and asked us to complete the project in half the time originally allotted. I'm very thankful that we have a visionary council, but that presented us with some real deployment challenges."

Solution

Fred-eZone consists of more than 200 Cisco Aironet® 1200 Series access points (APs) located throughout the city and airport

— essentially forming one almost continuous hotspot, covering almost 30 square kilometers or 48 percent of the city. The Aironet APs are a good fit because of their rugged design, antenna versatility and broad operating temperature range. But absolutely critical to the implementation are the remote management and monitoring capabilities of the Cisco Wireless LAN Solution Engine (WLSE).

Fred-eZone is an open-access network, so access control is not a concern, but denial of service and other Internet threats are. Cisco IOS® Software security and management capabilities let Gallant and his staff easily monitor and troubleshoot the network, and respond to attacks. Gallant noted the network's impressive reliability; the city has seen very little downtime.

The IT department completed the Fred-eZone project on budget and on schedule. Gallant and Fitzgerald attribute their success to their project partners. "The Cisco sales and technical team and the company's local resellers were really anxious to get involved beyond simply just selling us equipment," said Fitzgerald. "And that's made a huge difference in our project."

Gallant agreed. "The Cisco team worked tirelessly with us to fine-tune the signal overlays, resolve radio signal interference issues, and educate our people so we could sustain the network after it was completed. It's this kind of aftercare, the concern for us after the sale was completed, that was really refreshing."

Value

New Brunswick business leaders heartily support the city's efforts. "Fred-eZone opens up a world of opportunities to work with," said Ryck Bourgette, general manager of the Fredericton Mall. "I have stores like Staples that are being given new industry capabilities, while computer stores are selling adapters and upgrades." John McLaughlin, University of New Brunswick president, said the network has benefited the university significantly. "We live in a time with intense competition for student and research dollars. To have a competitive edge, we need to not only attract the best and brightest faculty, we must also create an innovative environment and community."

"One of the things that makes our Wi-Fi network so cost-effective is the cooperative model we use," said Gallant. "Institution, government and business customers contract for certain amounts of network bandwidth that we manage. But since our customers seldom consume their maximum allotment, we take that unused surplus and make it available to the Wi-Fi network. That's how we're able to fund the free service with a minimum impact to our revenue and expense statement."

Fred-eZone also gives city staff widespread access to network tools. "It's not productive for our work force in the field to run back to home base every time they need access to a document or to look up information," said Gallant. "Having the right technology in place makes our municipal staff more nimble, more efficient and more productive."

Cisco Systems

More information:
www.cisco.com/go/mmn
www.cisco.com/go/government

Lifesaving Technology

Seattle Fire Department uses wireless technology to track people in major incidents.

When disaster strikes, lives depend on first responders' ability to plan quickly. The Seattle Fire Department (SFD) is testing Intermec RFID tags and Intermec 760 mobile computers equipped with IP3 RFID readers to track on-scene personnel and victims, helping responders make important decisions much more swiftly.

Better Triage

The new system streamlines the process of collecting patient information and organizing transport to the region's various hospitals in a disaster.

In mass casualty incidents — anything from a large building fire to a major earthquake — victims who needed hospital care were previously given tags printed with a tracking number. Runners collected their information by writing it out and carrying it to an SFD triage officer, who then radioed the information to a regional trauma center. Only when all the information was radioed in could the trauma center team begin planning which area hospitals would take which patients.

With the new technology, patients are given RFID tags. Triage officers scan the tags and collect patient information using Asentrix Systems' Exodus mass casualty incident patient tracking software on Intermec's handheld computers. As a result, injured citizens could receive vital treatment more than 60 percent faster.

"There's a series of screens, and it's just tap, tap, tap. It's all screen driven," said SFD Lt. Jon Olson. "They're being prompted, 'pick one of these,' and the system is based on what the trauma center and medics said they wanted."

The information can be made immediately available to all incident command personnel — including the regional trauma center — via an 802.11 or CDMA network.

"If I know I have 50 patients coming, it takes a long time for me to tell you about all of them over the phone," Olson said. "Using this technology, it takes 10 seconds per patient to scan the specifics for each patient and only two seconds to update the information to the trauma center. That's fast."

A Streamlined Process

Before, runners took approximately 30 seconds per patient to gather information, and physically running it to the triage officer added to processing time. The new system eliminates that cumbersome process. Triage officers upload information as it is collected, greatly reducing the time it takes for patients to get treatment. In the past, it took approximately an hour and a half to process 100 patients. The wireless system can potentially cut that time to 30 minutes.

And having all patient information visible as it becomes available helps trauma center staff make decisions more quickly about where to direct patients.

"The advantage of using mobile computers is that the trauma center knows exactly what they have as soon as the triage officer knows," said Olson. "What happened in the past is that we've had to radio or phone them and tell them what we have, which is slower and more prone to error. And it doesn't give the people at the trauma center the ability to support the other hospitals or the person on scene."

The RFID technology offers trauma centers that opportunity.

The chief of emergency medicine at one of the Seattle trauma centers commented after the first trial at the University of Washington that Asentrix had done in six months what the trauma centers had been trying to do for 30 years, said Olson. "I cannot think of a higher statement of praise."

Mayday! Mayday! Mayday!

The technology will also help the department track firefighters. The SFD is using Velcro to attach RFID tags to firefighters' helmets. As firefighters are assigned positions, their tags are scanned and their positions recorded.

"We 'shoot' the guy with an IP3 and say, 'OK, you're now going to division A,'" Olson said, explaining that buildings are divided into A, B, C and D horizontally and by numbers vertically. "If a call comes in, 'Mayday! Mayday! Mayday! Engine 29, team B, we're trapped,' usually we have to do a roll call, which takes about five minutes. Then they have to survey all of their people and report via radio where they are until everyone is accounted for. If I can glance at a screen and know where they are, that saves time, which hopefully will save lives."

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