SOLUTIONS FOR STATE AND LOCAL GOVERNMENT IN THE INFORMATION AGE

A publication of e.Republic

GOVERNMENT TECHNOLOGY

VOLUME 20 » ISSUE 1 » WWW.GOVTECH.NET » JANUARY 2007

The New Space Race

inside»

North Carolina tackles statewide identity management

Louisiana builds a regional health information exchange

States bet on **spaceports** to bring in new jobs and build an industry.

plus»

Georgia creates smarter courts

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FEATURES

Cover photo by NASA Goddard Space Flight Center Image by Reto Stöckli (land surface, shallow water, clouds). Enhancements by Robert Simmon (ocean color, compositing, 3D globes, animation). Data and technical support: MODIS Land Group; MODIS Science Data Support Team; MODIS Atmosphere Group; MODIS Ocean Group Additional data: USGS EROS Data Center (topography); USGS Terrestrial Remote Sensing Flagstaff Field Center (Antarctica); Defense Meteorological Satellite Program (city lights).

Correction
November's Two Cents gave erroneous specifications for the Gateway Profile 6. The correct specs are available online. We apologize for the error.

The inside pages of this publication are printed on 80 percent de-inked recycled fiber.

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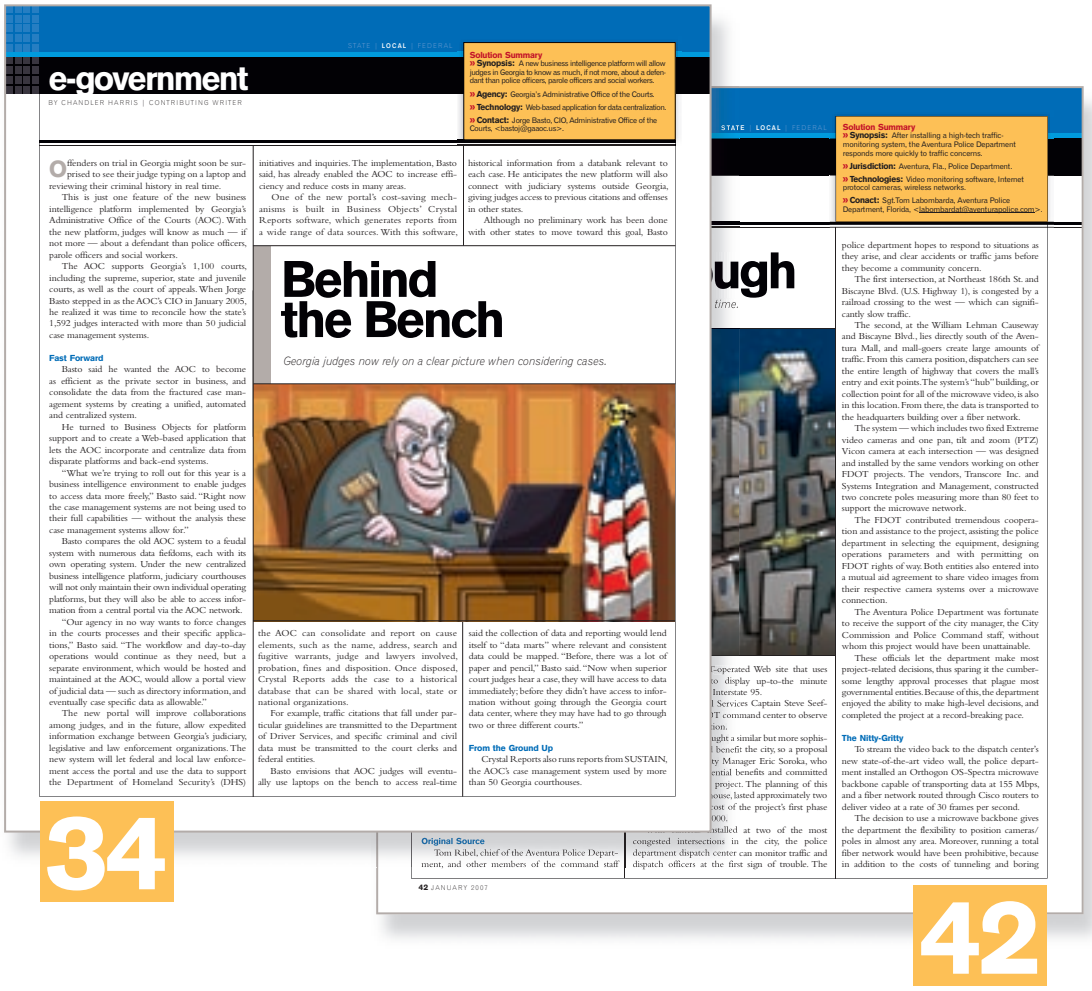

STATE | LOCAL | FEDERAL

e-government

BY CHANDLER HARRIS | CONTRIBUTING WRITER

Solution Summary
» Synopsis: A new business intelligence platform will allow judges in Georgia to know as much, if not more, about a defendant than police officers, parole officers and social workers.
» Agency: Georgia's Administrative Office of the Courts.
» Technology: Web-based application for data centralization.
» Contact: Jorge Basto, CIO, Administrative Office of the Courts, <jbasto@gsaoc.us>.

Behind the Bench

Georgia judges now rely on a clear picture when considering cases.

Offenders on trial in Georgia might soon be surprised to see their judge typing on a laptop and reviewing their criminal history in real time.

This is just one feature of the new business intelligence platform implemented by Georgia's Administrative Office of the Courts (AOC). With the new platform, judges will know as much — if not more — about a defendant than police officers, parole officers and social workers.

The AOC supports Georgia's 1,100 courts, including the supreme, superior, state and juvenile courts, as well as the court of appeals. When Jorge Basto stepped in as the AOC's CIO in January 2005, he realized it was time to reconcile how the state's 1,592 judges interacted with more than 50 judicial case management systems.

Fast Forward

Basto said he wanted the AOC to become as efficient as the private sector in business, and consolidate the data from the fractured case management systems by creating a unified, automated and centralized system.

He turned to Business Objects for platform support and to create a Web-based application that lets the AOC incorporate and centralize data from disparate platforms and back-end systems.

"What we're trying to roll out for this year is a business intelligence environment to enable judges to access data more freely," Basto said. "Right now the case management systems are not being used to their full capabilities — without the analysis these case management systems allow for."

Basto compares the old AOC system to a feudal system with numerous data fiefdoms, each with its own operating system. Under the new centralized business intelligence platform, judiciary courthouses will not only maintain their own individual operating platforms, but they will also be able to access information from a central portal via the AOC network.

"Our agency in no way wants to force changes in the courts processes and their specific applications," Basto said. "The workflow and day-to-day operations would continue as they need, but a separate environment, which would be hosted and maintained at the AOC, would allow a portal view of judicial data — such as directory information, and eventually case specific data as allowable."

The new portal will improve collaborations among judges, and in the future, allow expedited information exchange between Georgia's judiciary, legislative and law enforcement organizations. The new system will let federal and local law enforcement access the portal and use the data to support the Department of Homeland Security's (DHS) initiatives and inquiries. The implementation, Basto said, has already enabled the AOC to increase efficiency and reduce costs in many areas.

One of the new portal's cost-saving mechanisms is built in Business Objects' Crystal Reports software, which generates reports from a wide range of data sources. With this software, the AOC can consolidate and report on cause elements, such as the name, address, search and fugitive warrants, judge and lawyers involved, probation, fines and disposition. Once disposed, Crystal Reports adds the case to a historical database that can be shared with local, state or national organizations.

For example, traffic citations that fall under particular guidelines are transmitted to the Department of Driver Services, and specific criminal and civil data must be transmitted to the court clerks and federal entities.

Basto envisions that AOC judges will eventually use laptops on the bench to access real-time historical information from a databank relevant to each case. He anticipates the new platform will also connect with judiciary systems outside Georgia, giving judges access to previous citations and offenses in other states.

Although no preliminary work has been done with other states to move toward this goal, Basto said the collection of data and reporting would lend itself to "data marts" where relevant and consistent data could be mapped. "Before, there was a lot of paper and pencil," Basto said. "Now when superior court judges hear a case, they will have access to data immediately; before they didn't have access to information without going through the Georgia court data center, where they may have had to go through two or three different courts."

From the Ground Up

Crystal Reports also runs reports from SUSTAIN, the AOC's case management system used by more than 50 Georgia courthouses.

STATE | LOCAL | FEDERAL

Solution Summary
» Synopsis: After installing a high-tech traffic-monitoring system, the Aventura Police Department responds more quickly to traffic concerns.
» Jurisdiction: Aventura, Fla., Police Department.
» Technologies: Video monitoring software, Internet protocol cameras, wireless networks.
» Conact: Sgt.Tom Labombarda, Aventura Police Department, Florida, <labombardat@aventurapolice.com>.

ugh

time.

E-operated Web site that uses to display up-to-the minute Interstate 95.
l Services Captain Steve Seef-T command center to observe ion.
ught a similar but more sophis-l benefit the city, so a proposal ty Manager Eric Soroka, who ential benefits and committed project. The planning of this ouse, lasted approximately two ost of the project's first phase 000.

police department hopes to respond to situations as they arise, and clear accidents or traffic jams before they become a community concern.

The first intersection, at Northeast 186th St. and Biscayne Blvd. (U.S. Highway 1), is congested by a railroad crossing to the west — which can significantly slow traffic.

The second, at the William Lehman Causeway and Biscayne Blvd., lies directly south of the Aventura Mall, and mall-goers create large amounts of traffic. From this camera position, dispatchers can see the entire length of highway that covers the mall's entry and exit points. The system's "hub" building, or collection point for all of the microwave video, is also in this location. From there, the data is transported to the headquarters building over a fiber network.

The system — which includes two fixed Extreme video cameras and one pan, tilt and zoom (PTZ) Vicon camera at each intersection — was designed and installed by the same vendors working on other FDOT projects. The vendors, Transcore Inc. and Systems Integration and Management, constructed two concrete poles measuring more than 80 feet to support the microwave network.

The FDOT contributed tremendous cooperation and assistance to the project, assisting the police department in selecting the equipment, designing operations parameters and with permitting on FDOT rights of way. Both entities also entered into a mutual aid agreement to share video images from their respective camera systems over a microwave connection.

The Aventura Police Department was fortunate to receive the support of the city manager, the City Commission and Police Command staff, without whom this project would have been unattainable.

These officials let the department make most project-related decisions, thus sparing it the cumbersome lengthy approval processes that plague most governmental entities. Because of this, the department enjoyed the ability to make high-level decisions, and completed the project at a record-breaking pace.

The Nitty-Gritty

To stream the video back to the dispatch center's new state-of-the-art video wall, the police department installed an Orthogon OS-Spectra microwave backbone capable of transporting data at 155 Mbps, and a fiber network routed through Cisco routers to deliver video at a rate of 30 frames per second.

The decision to use a microwave backbone gives the department the flexibility to position cameras/poles in almost any area. Moreover, running a total fiber network would have been prohibitive, because in addition to the costs of tunneling and boring

Original Source

Tom Ribel, chief of the Aventura Police Department, and other members of the command staff congested intersections in the city, the police department dispatch center can monitor traffic and dispatch officers at the first sign of trouble. The

DEPARTMENTS

product news

Send product review ideas to Assistant Managing Editor Miriam Jones <mjones@govtech.net>

»two cents

Our take on the latest technology.

BY CORINE STOFLE | STAFF WRITER

As You Please

The malleable and customizable Gateway E-2600S lets you be boss.

When the folks at Gateway designed the E-2600S, I don't think they had a specific person in mind — I'm pretty sure they had everyone in mind.

The result is a highly versatile machine made to adapt to any office space.

The E-2600S comes with the Microsoft Windows XP Professional Edition and an Intel Pentium 4 Processor 531, with 3 GHz, 800 MHz FSB, 1 MB L2 cache.

I kept my machine flat on my desk and under my monitor, and in this configuration, it measures a mere 4.1 inches tall, 16.4 inches wide and 14.4 inches deep.

Others may choose to keep theirs under their desks, and/or standing up. I must admit, being the fundamental skeptic I am, I thought the latter option simply would not work for me. As an avid music listener, I frequently use the CD player, and the standing position obliges the slot to be at a vertical angle. Unless Gateway found a way to defy gravity, I thought, a CD would slide right down from the open slot at that angle. Not so. Four tiny hooks keep the CD firmly in place, making it easy to insert and eject it.

I also enjoyed the E-2600S's customizable aspect. A CIO once told me that when it came to equipping an office with hardware and software, not everyone needs every bell and whistle all the time. With this machine, users can customize their options to suit their work needs.

For instance, the front of the machine can sport two optional USB ports and/or two IEEE 1394/FireWire/i.Link ports. The test unit came with the USB ports option, which is perfect for me, since I have no use for FireWire ports. The USB ports, on the other hand, made it very easy for me to plug in a flash drive, copy files and take work home. The machine also comes standard with four USB 2.0 ports at the rear.

Other options include audio in/side speakers, center subwoofer and rear speaker jacks, which can complement the standard Integrated High Definition Audio — Realtek ALC655 or the optional ALC861 — a nice touch for audio presentations ... or the occasional office party.

Another nice detail is the E-2600S is Energy Star compliant, which can lead to potential savings in these days of pricey energy. The unit starts at $829, which includes a one-year warranty — this machine can easily find a spot in a tight budget.

One problem I experienced — and it could be related to my particular machine — was that the E-2600S's fan was very loud, sometimes making it difficult to hear what went on a few feet away from me. The problem solved itself when I restarted the machine, and only came back periodically.

That was my only bone to pick with the E-2600S, which was otherwise a very functional machine that kept up with my customary 10 to 15 open windows and applications.

»Specs
- 1 GB DDR2 PC4200 533MHz SDRAM (2 DIMM)
- 160 GB Serial ATA150 7200 rpm hard drive with 8 MB cache
- Integrated ultra ATA100 and serial ATA150 controllers
- 16x Double-Layer Multiformat DVD±R/±RW/CD-R/RW recorder
- 3-bay Micro-BTX Case with front audio ports and 275-watt power supply
- 2 PCI Slots, 1 PCI-E x 1
- 6 USB 2.0 ports two front, four rear, one serial, one parallel, two PS/2, one RJ-45 integrated LAN, one VGA, one audio in/out, one microphone, front headphone ports
- Integrated ATI Radeon Xpress 200 Graphics with up to 128 MB shared memory
- Gateway 104+ keyboard (PS/2)
- Gateway PS/2 wheel mouse and mouse pad
- Integrated 10/100/1000 twisted pair Ethernet

»Rating

» Next month ...
The HP Color LaserJet 4730mfp delivers superb document handling.

NEWS

COLUMNS

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online exclusives

Looking for a conference or event? You'll find it in *Government Technology's* online calendar. www.govtech.net/calendar

Net Registration
Washington's secretary of state wants residents to be able to go online to register to vote.

Tower Trouble
Colorado senators approve high-definition TV tower against the will of local government officials.

Viewpoints
Government Technology editors and Center for Digital Government analysts comment each week on the issues shaping public-sector IT.

» Coming up ...
Previews from next month's ***Government Technology*** magazine.

Fact Meets Fiction
Researchers at Intel and Carnegie Mellon University work to mold electronic "clay" into three-dimensional holograms with mass, weight and texture. The technology eventually may yield remarkably realistic training exercises — and a 3-D fax machine could be just a few years away.

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point of view

BY SHANE PETERSON | ASSOCIATE EDITOR

No Man Is an Island

Next month's *Government Technology* covers a Web application recently launched by the Colorado Information Analysis Center (CIAC). By visiting the CIAC's Web site <www.ciac.co.gov> and clicking on the "Report Suspicious Activity" link, one can fill out a form to report any type of suspicious activity one witnesses, and attach media files — perhaps a picture or video shot by a cell-phone camera — as supporting evidence.

The American Civil Liberties Union (ACLU) of Colorado expressed reservations about the anonymous nature of the reports, arguing that anonymity will encourage racial and cultural profiling.

Worse, the ACLU contends, is the threat the online reporting Web site poses to neighborly camaraderie.

"I think it encourages suspicion, and in its worst form, I think suspicion breeds distrust. It breeds isolation. It breeds those kinds of things that make us less neighborly, that make us less connected with the people around us," the ACLU Colorado's Executive Director Cathryn Hazouri told a *Government Technology* writer.

Perhaps.

There's no debate that humans get quite suspicious. There's no doubt that humans distrust. Yet casting a piece of technology as the *primum mobile* of distrust and suspicion leaves plenty of room for doubt. Humans distrust and suspect quite well all by themselves. We don't need technology for that.

If it's unknown, we fear it. It's that simple. It's not technology that severs the connection between us and the people around us. We're the ones who gladly grab a sharp knife to do the cutting. Just watch a group of people self-segregate. In college, I used to watch the students gather at the quad during lunch. On one side, all the Asian students hung out. Across the quad, white students clustered. Black and Latino students respectively chose their sides.

Humans discriminate, and anybody who says he or she doesn't is lying outright … or suffering from a strong case of denial. Each of us decides whether to take the next step to actual bias, but to ignore the fact that we indiscriminately discriminate is hopeless idealism.

Can technology make this worse? Turn us into so many spies? Incapable of reaching out to our fellow people? Incapable of building trust? These are fair questions. It's quite possible that technology *will* do these things. It's also quite possible that technology will *prevent* them.

Like anything else in our world, technology is just a mirror. It reflects us, because we built it. We use it. We can trust each other, or not. It has nothing to do with a few hundred lines of code in a piece of software.

It has everything to do with us, and what we want for each other.

Raise Your Voice

Your opinions matter to us. Send comments about this issue to the editors <editorial@govtech.net>. Please list your telephone number for confirmation. Publication is solely at the discretion of the editors. *Government Technology* reserves the right to edit submissions for length.

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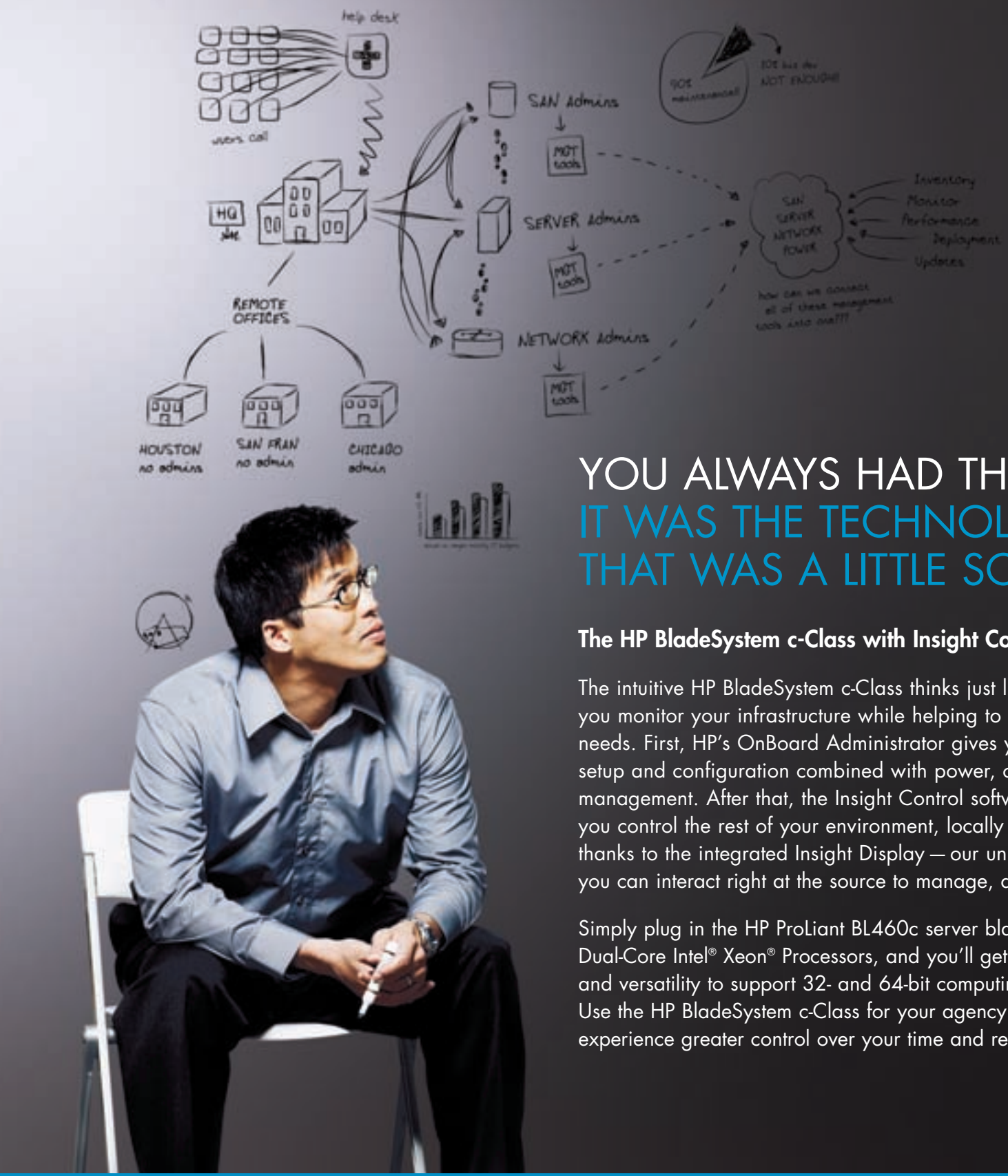

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To Each His Own

Results from a recent IDC survey of more than 4,000 mobile phone and smartphone subscribers from five countries suggest that interest in emerging applications will drive future smartphone sales. The survey results, part of an IDC multiclient study, show that interest in Wi-Fi access and location-based services are highest in the United States and the UK, while interest in storage capacity, music quality and photo quality are the highest in Germany, India and China.

E-mail Enemies

The number of spam messages has tripled since June 2006, according to U.S. e-mail security company Postini, and now accounts for as many as nine out of 10 e-mails sent worldwide.

A Bounty of Spam

According to a recent study by ROI Research, **the spam problem is getting worse**. Based on the following chart, for example, 3 percent of U.S. Internet users receive zero pieces of spam in a typical week, but 20 percent receive between one and 10 pieces of spam in a typical week.

Number of e-mails received per week	0	1-10	11-30	31-50	50+
Spam	3%	20%	19%	17%	41%
Business- or work-related	7%	20%	20%	16%	36%
Friends or family	—	36%	38%	15%	11%
Permission-based retail offer	3%	50%	34%	9%	4%
Personal interests or hobbies	8%	58%	22%	6%	4%
Business-related newsletter	17%	59%	17%	5%	3%
Account statement or online bill	6%	84%	8%	1%	1%

Global Epidemic

Unsolicited e-mails account for between **50 percent and 80 percent** of all messages sent to European e-mail inboxes, according to the European Commission, two-thirds of which come from outside the European Union.

Phishing Fiasco

Following are the amounts of U.S. adult Internet users who have received a phishing e-mail, according to Gartner.

2004 **50 million**

2006 **109 million**

Online Learning

The Internet is a research tool for 87 percent of online users. That translates to 128 million adults.

— Pew Internet & American Life Project

Hand in the Cookie Jar

A Romanian national, **Victor Faur, was indicted on charges** of hacking into more than 150 U.S. government computers, causing disruptions that cost NASA, the Energy Department and the Navy nearly $1.5 million.

The federal indictment charges Faur with nine counts of computer intrusion and one count of conspiracy. If convicted of all counts, he faces as many as 54 years in prison, said a spokesman for the U.S. attorney's office. *— First.org*

Bloodletting

The University of Kansas Hospital opened a fully automated medical lab, increasing the level of safety, speed and accuracy of the **2.6 million blood tests the hospital performs each year.**

The new lab uses bar-code technology, robotics and conveyer belts to transport each blood sample, contained in a test tube, to the appropriate testing instrument. This system uncaps and recaps each test tube, places it in a centrifuge, performs the test, stores the blood for additional testing, and evaluates and reports results, which the patient's physician can access immediately.

Before the lab was installed, a typical blood test could take one to three hours depending on staffing, backlog and the nature of the tests. Turnaround time for a typical eight-test panel is now 30 to 45 minutes from start to finish, no matter the time of day or night

— The University of Kansas Hospital

Power Shortage

Organizations are increasingly deploying more computing power, but by 2008, 50 percent of current data centers will have insufficient power and cooling capacity to meet the demands of high-density equipment, according to Gartner.

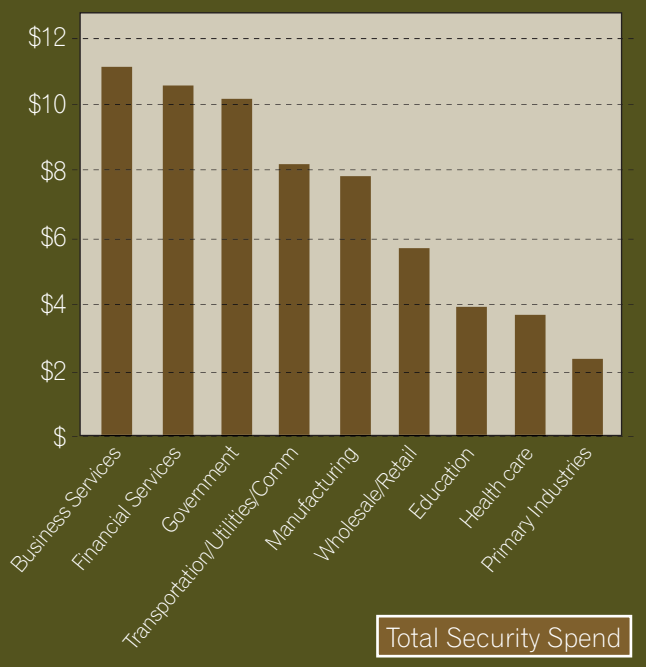
No Life Without IM

A new AP-AOL Instant Messaging Trends Survey examined instant messaging (IM) trends and usage habits among 1,513 IM users. Top-line survey findings of IM users include:

- 72 percent teens who use IM say they send more instant messages than e-mails, as do 26 percent of adults.
- Nearly 30 percent of teens said they can't imagine living without instant messaging, and nearly 17 percent of adults said the same thing.
- 40 percent of adult IM users ages 19-29 send 26 or more IMs each day.
- 27 percent of adult IM users say they send IMs at work, and 59 percent send at least six or more IMs each day. More than 41 percent say that IM makes them more productive in the workplace. *— Associated Press/America Online*

Security Spend

IT departments in U.S. enterprises will have spent $61 billion on security by the end of 2006, representing 7.3 percent of total IT spending in the United States, according to a new report from Info-Tech Research Group.



Health **Check**

Eighty percent of American Internet users — or some 113 million adults — have searched for information on at least one of 17 health topics, and most start at a general search engine when researching health and medical advice online.

- **15 percent** of health seekers say they "always" check the source and date of the health information they find online;
- **10 percent** say they do so "most of the time;"
- **75 percent** of health seekers say they check the source and date "only sometimes," "hardly ever" or "never," which translates to nearly 85 million Americans gathering health advice online without consistently examining the quality indicators of the information they find. *— Pew Internet & American Life Project*

No Churn, Please

According to the latest data released by the nation's largest wireless carriers in the third quarter of 2006, Verizon Wireless customers remain the most loyal in the wireless industry.

For the eighth consecutive quarter, Verizon Wireless had the lowest customer turnover rate, or "churn rate," among the major wireless companies in the third quarter of 2006 — Verizon Wireless' churn rate was 1.2 percent.

The rates were calculated based on the wireless carriers' financial reports filed prior to the end of the third quarter. *— Verizon Wireless*

Melting Away

The **Arctic Ocean could become nearly devoid of ice during summertime as early as 2040**, according to research published in the December 12 issue of *Geophysical Research Letters*.

The study, by scientists from the National Center for Atmospheric Research (NCAR), the University of Washington and McGill University, uses supercomputer scenarios to show that sea ice could shrink so abruptly each September that, within about 20 years, it may begin retreating four times faster than at any time in the observed record.

The team studied seven simulations run on the NCAR-based Community Climate System Model, a tool for studying climate change. The scientists first simulated fluctuations in ice cover since 1870, including a significant shrinkage of late-summer ice from 1979 to 2005. The simulations closely matched observations, a sign that the model was accurate.

The team then simulated future ice loss. In one model, the September ice shrank from about 2.3 million to 770,000 square miles in a 10-year period. By 2040, only a small amount of perennial sea ice remained along the north coasts of Greenland and Canada, while most of the Arctic basin was ice-free in September.

— University Corporation for Atmospheric Research

view from the hill

BY ALISON LAKE | WASHINGTON BUREAU CHIEF

Governments Get Smart

Search giant Google is plying its wares to the federal sector by promoting free search engine tools designed to improve online visibility for all levels of government — and training on these applications is included.

"We are trying to convey to governments that Google can help them index all their Web site information for users," said J.L. Needham, strategic partner development manager at Google. "This evolution of the Web can empower smaller entities, such as agencies and state/local governments, to convey their information and services to users."

Google's initiative to distribute free tools to Web publishers lets agencies streamline and broaden their Web site's content, increase visibility and enhance targeted searching for users.

The Centers for Disease Control and Prevention (CDC) use Google Co-op to create header tags above search results and the CDC name/link associated with results when users search for information on the CDC.

Similarly the Food and Drug Administration points Web seekers to information on clinical trials and has uploaded clinical trial data to Google. "Google offers a dozen or so services for agencies to disseminate information, and help get content and services in the hands of citizens," Needham said, adding that keyword searches on search engines often reveal only a small fraction of the information contained on portals only known by government librarians.

"Agencies have so many unused pages that could be site-mapped," he said. "Lost content can be replaced by dynamic site maps."

Google's site map application is based on open standards. The application not only targets user searches, but also acts as a cataloging system, similar to an individualized library.

Agencies can specify the nature of a particular URL in a database and tag, or annotate, search results, letting the user know if the information is archival or subject to public access. The results are shuffled for each search.

For more information visit <www.google.com/sitemapsgov>

State and local health agencies can now improve online presentation and the exchange of health information. The State Alliance for e-Health, forged in October 2006, will serve as a forum to discuss health IT solutions. The National Governors Association's Center for Best Practices created the alliance, and will manage its operations.

State-level solutions — from industry, government officials on all levels, and health IT experts and organizations — to problems involving the exchange of health information include strengthening inter-organizational business processes and integrating benefit programs and care to citizens.

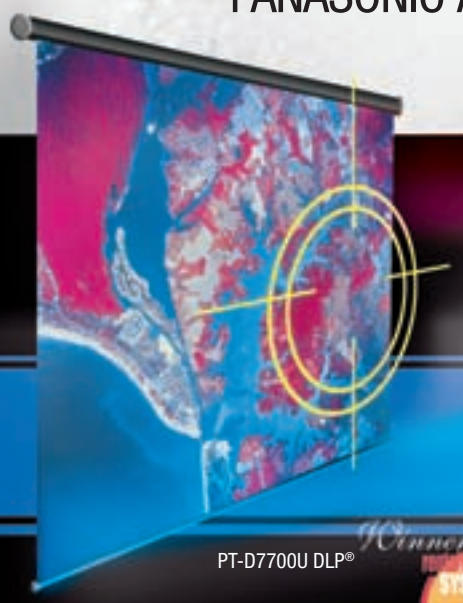
The Government Accountability Office released its study of administrative processes in health services and determined that federal agencies must better balance administrative costs via technology improvements.

States depend on federal agencies to succeed. "Simplifying policies," the report stated, "especially those related to eligibility determination processes and federal funding structures — could save resources, improve productivity, and help staff focus more time on performing essential program activities. By helping states facilitate technology enhancements across programs, the federal government can help streamline processes and potentially reduce long-term costs."

The report analyzed how states and federal agencies saved money by developing and maintaining IT systems. For example, states that receive verified electronic data from the Social Security Administration can determine recipients' eligibility for food stamps without collecting and verifying applicant information separately. "Technology plays a central role in the management of human service programs, and keeping up with technological advancements offers opportunities for improving the administration of human services," the report states.

To access the report, visit <www.gao.gov>.

PANASONIC ANNOUNCES THE END OF **NODDING OFF.**



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letters to the editor

Tell It to Joe Six-Pack ...

I read the article *Hard Bargain* in the [September 2006] issue. May I respectfully posit a totally different take on the situation?

The article talks about contract terms that are too tough. Let me suggest the contract terms aren't too tough, they're not tough enough — and they're focused on the wrong things.

What on earth would make me suggest such a proposition?

Well, I have attended government technology expositions, and seen all the discussions and presentations about the high rate of government IT project failures. Some say it's 60 percent. I've heard 65 percent, 67 percent. Pick your study. And the vendors are there, hawking computerized project planning solutions to reduce these percentages. This failure rate seems to be accepted as inevitable.

Does anyone else see anything absurdly wrong here? Sixty-five percent of large projects failing? Are you kidding me? This waste is financed by tax money. Money extracted forcibly from Joe Six-Pack. Maybe it's no big deal to IT vendors and "acceptable" in the IT community, but ask Joe Six-Pack if it's OK to have huge numbers of large IT projects failing and wasting hundreds of millions of dollars of his tax money.

How about aiming for less than 1 percent failures? Achievable? Oh hell yes.

The process for lining up people to design software is the problem. The RFP process is inherently flawed. It invites disasters, and California, in particular, has had a slew of them. The people authoring the RFPs are a core problem. I have seen several RFPs with absolutely idiotic provisions in them. Ensuing projects have absolutely no chance of success.

The failure to require prototypes is another critical deficit in the process. Would requiring prototypes that actually work and demonstrate both code execution functionality and user-friendliness shift a large burden to vendors? You bet. And that's exactly where the burden should be. All of it. No money should change hands until the prospective vendor provides the first prototype so that government workers can actually see and try out a basic prototype for both accuracy of code-execution and usability.

I'm suggesting a series of prototypes, builds — or whatever you want to call them — and "progress payments" linked to successful builds. The initial prototype doesn't have to cover total functionality, but it needs to be sufficient to give the purchaser a clue or two as to how the vendor is going to perform. No more huge, bad surprises after $50 million has already gone out the door.

Forget the idea of contracts saving government. [California CIO] Clark Kelso is a lawyer. Or at least he's a law school professor. He should know better than to just bank on contracts. Suing and damages don't get you good software. Lawsuits just assess blame; they don't prevent or solve problems. Get connected to the real world, not the theoretical world of legal remedies.

Bonds aren't a good solution either. That just gives the government more money to throw away to other inept vendors on poor projects.

Memo to government: Require the prototypes, and don't back down.

Don't like this idea in the IT community? Want to keep getting free license to throw taxpayer money away? Try that idea out on Joe Six-Pack who is financing all this foolishness.

» **Richard Power,** *attorney*

Obvious Solution?

Re: your article [*Formatting for the Future*, August 2006] — no mention of PDF at all! I don't believe it. With the concern for transportability across platforms, why no discussion of portable document format? Microsoft will only look for more money to develop some other nonsense. PDF is already a standard — why the soul-searching noted in your article?

» **Don Willemann,** *design manager, New York City Transit*

Your opinions matter to us. Send comments about this issue to the editors <editorial@govtech.net>. Please list your telephone number for confirmation. Publication is solely at the discretion of the editors. *Government Technology* reserves the right to edit submissions for length.

“... for me the single overarching goal of human space flight is the human settlement of the solar system, and eventually beyond.”

MICHAEL GRIFFIN, ADMINISTRATOR OF NASA,
IN A 2004 TESTIMONY BEFORE CONGRESS

The New Space Race

BY CHAD VANDER VEEN
TECHNOLOGY AND POLITICS EDITOR

Some states are betting on **spaceports** to bring in jobs and build an industry.

For centuries, man has dreamt of escaping the confines of Earth and venturing into the universe's unknown blackness. Space, more than any other field of exploration, has the ability to inspire people of all ages and backgrounds. Indeed, at the dawn of the space race, everything from cars to television to toys was influenced by the wonder of what might be. But the once mighty American space industry, still essentially in its infancy, has struggled for more than two decades to recapture the public's imagination.

After the Apollo program ended in the 1970s, the Space Shuttle, unarguably a technological marvel, was touted as the next generation of space vehicle — a manned launch system that would be safe, cheap and easily repeatable. It was none of those things.

Following the Challenger explosion in 1986, the public's fascination with the Space Shuttle program quickly transformed into apathy, even anger. In a 1994 episode of *The Simpsons* that reflected popular sentiment, the satirical cartoon skewered NASA when the agency was depicted turning average nitwit Homer Simpson into an astronaut as part of a desperate attempt to rekindle public interest in Space Shuttle launches. The 2003 Columbia disaster further degraded public interest in the Shuttle program and in space exploration itself.

But there is mounting evidence that the space race will soon be reborn. Thanks largely to the 2004 X-Prize competition and a surprising attitude adjustment taking shape in NASA, many observers herald the coming years as the dawn of a race toward the commercialization of space — bringing with it new jobs, new space vehicles and an entirely new industry. A few states already are placing bets on this burgeoning enterprise, believing in economic development potential that could be out of this world.

Photo courtesy of Spaceport America

Aerial view of Spaceport America site, 30 miles east of Truth or Consequences and 45 miles north of Las Cruces, N.M.

Rise of the Spaceport

The deserts of the southwestern United States typically are regarded as barren, lifeless expanses of rock and sagebrush. But as nature shows are fond of pointing out, there is an abundance of life hidden in the harsh landscape — a community of creatures that can soon expect human company. In a few short years, the arid expanse from Mojave, Calif., to New Mexico will not only host coyotes, snakes and scorpions, but also wealthy people from around the world seeking what may be the ultimate adventure — a rocket ride to space.

The commercialization of space is beginning, and the fledgling industry needs a launch pad of its own. Filling that role is something called a spaceport. The word spaceport conjures up visions of the various "Star"-related films — be they *Star Wars* or *Star Trek*. But fact, as usual, is a bit more ordinary than fiction. A spaceport would function just like an airport, but instead of traveling to Minneapolis-St. Paul or Raleigh-Durham, passengers would hurtle more than 60 miles above the Earth's surface and return in about an hour. Some spaceport visionaries hope these facilities will include hotels, restaurants and other venues that will entertain space tourists before and after their experience.

Long the exclusive territory of NASA and the military, the spaceport is being transformed into a commercially viable enterprise, with economic development opportunities ripe for the picking — precisely why New Mexico Gov. Bill Richardson initiated a bold plan to bring the commercial space travel industry to his state.

In December 2005, Richardson struck an agreement with adventurer extraordinaire and Virgin Companies Chairman Sir Richard Branson. The newly created Virgin Galactic, a Virgin Companies subsidiary, would be the first permanent tenant of New Mexico's Spaceport America. In July 2006, New Mexico economic development Secretary Rick Homans announced a partnership with Virgin Galactic, a division of mega-corporation Virgin, to develop Spaceport America. The $225 million facility will be built near the White Sands Missile Range — and its already restricted air space — in New Mexico, with $100 million coming directly from the state's coffers. The remaining $125 million will be funded through tax severance bonds and will be used to build infrastructure such as roads, water and power.

Photo courtesy of Spaceport America

New Mexico Gov. **Bill Richardson** and **Sir Richard Branson** announce New Mexico will be the world headquarters for Virgin Galactic.

"It all comes down to new jobs and new opportunity, and that's what every state — that's what the United States — is trying to figure out; what's our role in this new worldwide global economy?" Homans said. "We see the birth of a new industry here and our studies — one by the Futron Corp., an international consulting firm in aerospace, and the other from New Mexico State University — show generally up to $1 billion in new revenue to the state of New Mexico and somewhere over 5,000 new jobs would be created by the year 2020 in this new industry, if it pans out the way we are all thinking.

"That's a transformative impact on a state like New Mexico with a population of 1.8 million people," he continued. "Those number of jobs might be a drop in the bucket in California or Florida, but to New Mexico that's a big deal, and it's worth our putting significant financial resources behind it to make that happen."

Besides the spaceport's potential economic impact, Homans said his state wants to avoid the mistakes it made when Bill Gates came to Albuquerque to start Microsoft. Back then, Homans said, the state was not ready to embrace and assist the new computer industry, nor willing to take the required risk. As a result, Gates and Microsoft fled to Washington state.

That's part of the motivation to pursue what many might consider a far-out way to spend taxpayers' money. Homans said intangibles — such as civic pride and being at the forefront of something with spectacular potential — also play a role.

"We see a rare opportunity to be in on the ground floor of something that is potentially huge and has a huge impact on the world, on the country,

and certainly on our state," he said. "That's sort of part of the motivation too — to send a signal worldwide that New Mexico embraces new technology; it embraces some element of risk, entrepreneurs and new ideas. And that's a very important message to send because that's what economic success in the future is going to be built on."

The idea of the spaceport has been floating around New Mexico for more than 15 years. In fact, the state has had a romance with space for decades, starting with Werner Von Braun's V2 rocket launches in the 1940s, followed by what Homans mirthfully described as "a pretty historic visit to New Mexico" — the famous 1947 Roswell Incident in which extraterrestrials allegedly crash landed in an area ranch, only to be hauled off by nefarious government agents.

When the idea for a spaceport first came up, Homans explained, the theory was that the state ought not do anything until a new, reusable launch vehicle was developed, and had a bona fide spaceport customer.

Part of the spaceport puzzle fell into place on Oct. 4, 2004, when famed aircraft creator Burt Rutan and his company Scaled Composites, builders of Voyager, the first aircraft to circumnavigate the earth without stopping, won the $10 million Ansari X-Prize. Rutan's company captured the X-Prize for building and successfully flying the first privately constructed, reusable, manned spacecraft into space and returning safely to the earth. The Ansari X-Prize — so named for Anousheh Ansari, the principal sponsor of the competition and recent visitor to the International Space Station (ISS) — vaulted the notion of private space flight from the pages of science fiction into an industry grounded in reality and poised to make a lot of money.

Money was another puzzle piece. The spacecraft designed by Rutan, SpaceShipOne, used a revolutionary design (when compared to the Space Shuttle) that permits trips into suborbital space for hundreds of thousands of dollars versus hundreds of millions for NASA launches. Branson, who built an empire on his apparently limitless passion for risky entrepreneurial ventures, acquired the rights to the technology and ordered a small fleet of new space vehicles. A prototype of the cabin for the nine passenger spacecraft, SpaceShipTwo, was unveiled in September at *Wired* magazine's NextFest in New York City.

With the vehicle and customer now in place, New Mexico initiated negotiations with Virgin, resulting in the December 2005 agreement that New Mexico would build a spaceport if Virgin Galactic located its world headquarters and all of its primary operations in the heart of the state.

"The rules were always very simple: Wait for the industry, wait for the customer, then go ahead," Homans said. "All those pieces were in place and the price of admission for New Mexico to be at the front of this new industry, the price of admission is to build a spaceport."

There is, however, a third piece to the puzzle: a market for commercial space activity. Fancy spaceships and a glittering spaceport bring little economic benefit without people who will pay to send themselves or some other payload into orbit.

Will Whitehorn, president of Virgin Galactic, said the market not only exists, but demand for space access is higher than most could have guessed.

"The early part of the market is going to be space tourism," he said. "That's where we started because there's a ready market of people who've shown enthusiasm. We've got no product to show those

SpaceShipOne
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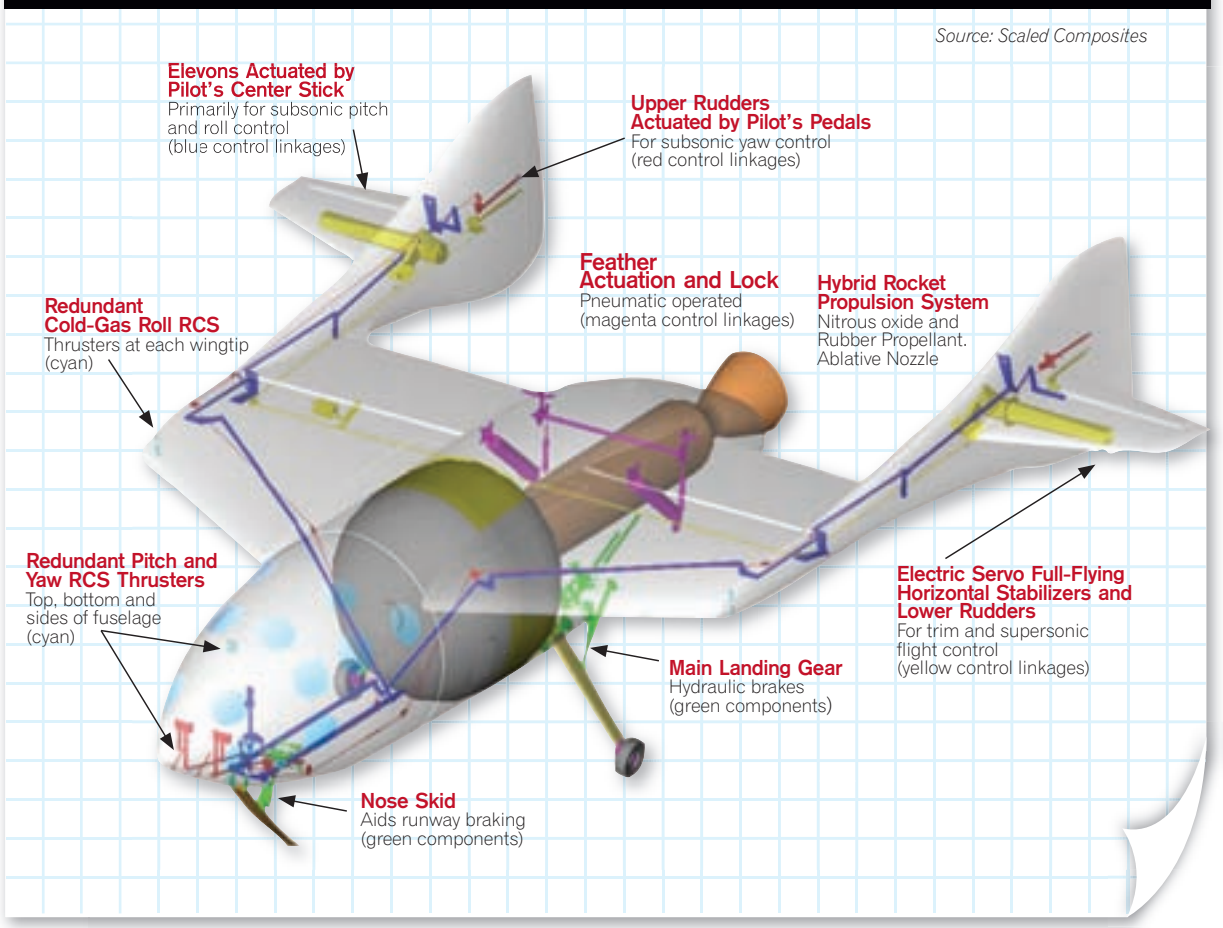
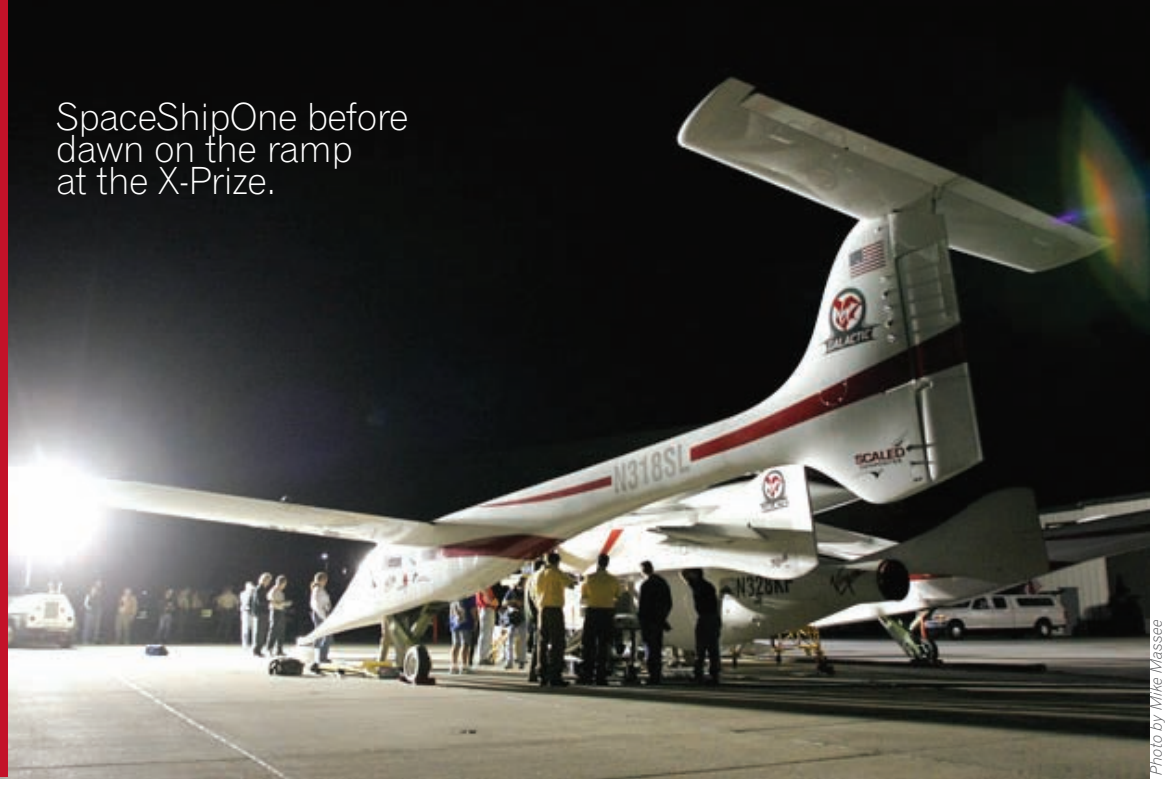


Sir Richard Branson and fifth-graders from East Picacho Elementary in Las Cruces, N.M., fire model rockets on the site of Spaceport America.

Photo courtesy of Spaceport America



SpaceShipOne before dawn on the ramp at the X-Prize.

Photo by Mike Massee

customers — it won't come out of the hanger till next year — but the response has been remarkable. We've already got nearly $17 million in deposits."

Virgin Galactic's first 100 trips are already spoken for, even with a price tag of approximately $200,000 per person per ride. Such a large sum might be enough to convince regular people that there's no way such an industry can survive. But as Whitehorn pointed out, tickets for the initial transatlantic flights from Southampton, England, to New York City in 1939 would cost $75,000 in today's dollars.

The first commercial space flights are anticipated to take place in 2009, with much of 2008 dedicated to testing. Plans call for as many as two launches a day, and Branson himself has pledged to be on the first flight. Since the spacecraft will be ready before the spaceport, flights initially will launch from the Mojave Spaceport near Edwards Air Force Base.

All of this is part of a unique experiment; private industry wants to see if the commercialization of space is a worthy goal while some forward-thinking state governments position themselves to reap the benefits.

"What we need to do is build spaceport facilities," said Alex Tai, Virgin Galactic's vice president of operations, at the American Institute of Aeronautics and Astronautics' (AIAA) annual Space Conference. "We need to go out there and make partnerships like we are in New Mexico, where there was an incredible amount of bravery shown by Richardson and his government."

Indeed, a handful of states are beginning to realize the possibilities a private spaceport could offer — meanwhile the one state that should be at the forefront of the industry is essentially absent.

Spaceports: The New Airports?

While New Mexico's Spaceport America is arguably the highest profile at the moment, other states are investing public money in these ventures. Most notable among them is the Oklahoma Spaceport, which recently was licensed by the Federal Aviation Administration (FAA). The Clinton-Sherman Industrial Airpark — the former Air Force base that houses the space facility — is now managed by the Oklahoma Space Industry Development Agency (OSIDA), a state agency established in 1999 to develop a spaceport. At the time, a new spacecraft called the VentureStar was poised to become the flagship vehicle in the commercial space industry. The VentureStar was built by Lockheed-Martin as an unmanned space plane capable of delivering payloads at a fraction of the cost of a Space Shuttle mission. Unfortunately numerous problems and cost overruns cut short the VentureStar's existence, with development being cancelled in 2001.

By this time, however, OSIDA already had begun transforming the old Clinton-Sherman airbase into a spaceport. The runway at Clinton-Sherman is ideal for the horizontal takeoffs and landings of runway hogging, rocket-powered spacecrafts. Originally built to handle B-52 Stratofortresses loaded with nuclear bombs, the concrete runway is an impressive 13,500 feet long, 300 feet wide and more than a foot thick. However, prior to the X-Prize and following the VentureStar's failure, private space activities were a hard sell.

"The initial challenge for us was, at the time, the concept that the private sector was going to be able to develop vehicles that would be in a position to access space, whether it be suborbital or orbital — that was not given very much credibility," said Bill Khourie, OSIDA's executive director. "And until Burt Rutan opened that door, I think there was a lot of skepticism as to whether this was really going to be something the private sector could do."

After the VentureStar's cancellation, the prospects for space tourism in Oklahoma looked grim. In an effort to foster competition during the VentureStar era, the Oklahoma Legislature passed SB 55, which authorized the state to award millions in transferable tax credits to a qualifying company proposing to build a space plane. When Lockheed's project was cancelled, this so-called "O-Prize" was still waiting to be claimed, though the offer of tax credits was set to expire in 2003.

On the last day of that year, George French, the president of a small company called Rocketplane (now Rocketplane Kistler), submitted documentation to Oklahoma, claiming the company had the required $10 million in initial capital, would create at least 30 jobs, locate their headquarters in Oklahoma and could build a space plane — all conditions mandated by the O-Prize legislation. Rocketplane Kistler's plans were to build a horizontal takeoff and landing vehicle based on the airframe of a Lear jet executive aircraft. The rocket-powered craft, called the Rocketplane XP, will reach suborbital space much like the craft Virgin Galactic is building. After reviewing the documentation, Oklahoma awarded Rocketplane Kistler $15 million in transferable tax credit, which the company sold, using the proceeds for additional seed money.

Retired U.S. Air Force Maj. Gen. Jay Edwards has perhaps the most complete perspective on the rise of space tourism in Oklahoma. Edwards is the former executive director of OSIDA and now serves as the government/regulatory liaison for Rocketplane Kistler. Edwards said Oklahoma views the industry

Rocketplane XP

General Characteristics	
Length:	43 feet
Diameter:	5 feet
Gross takeoff weight:	19,500 pounds
Dry weight:	8,500 pounds
Crew environment:	Pressurized cabin to ~10 psi
Payload capacity:	950 pounds
Number of jet engines:	2
Number of rocket engines:	1
Rocket propellant:	Liquid oxygen and kerosene
Nominal rocket thrust:	36,000 pounds

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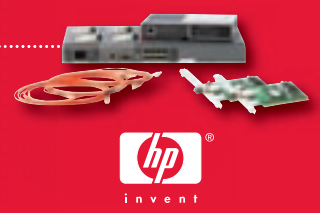

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much the same way states did in the early years of commercial aviation.

"It does create jobs, and the jobs are usually high-paying jobs, but more importantly than that, [the state is involved] in order to get in on the beginning of the commercialization of space, which is a new industry," Edwards said. "The state looks at the model aviation took when it started from the barn-storming days — when no one thought the airplane had a particular commercial application — to what happened once Lindbergh flew the Atlantic, and they realized, 'Hey, this airplane does fuel the economy; this airplane does make a difference.' And when that happened, states all over began to build airports so these airplanes could operate. I think states are looking at space travel as an extension of aviation travel, and are taking an interest in spaceports so that when these vehicles are proven to be safe as transport vehicles from one country to another, they will be at the front of the development."

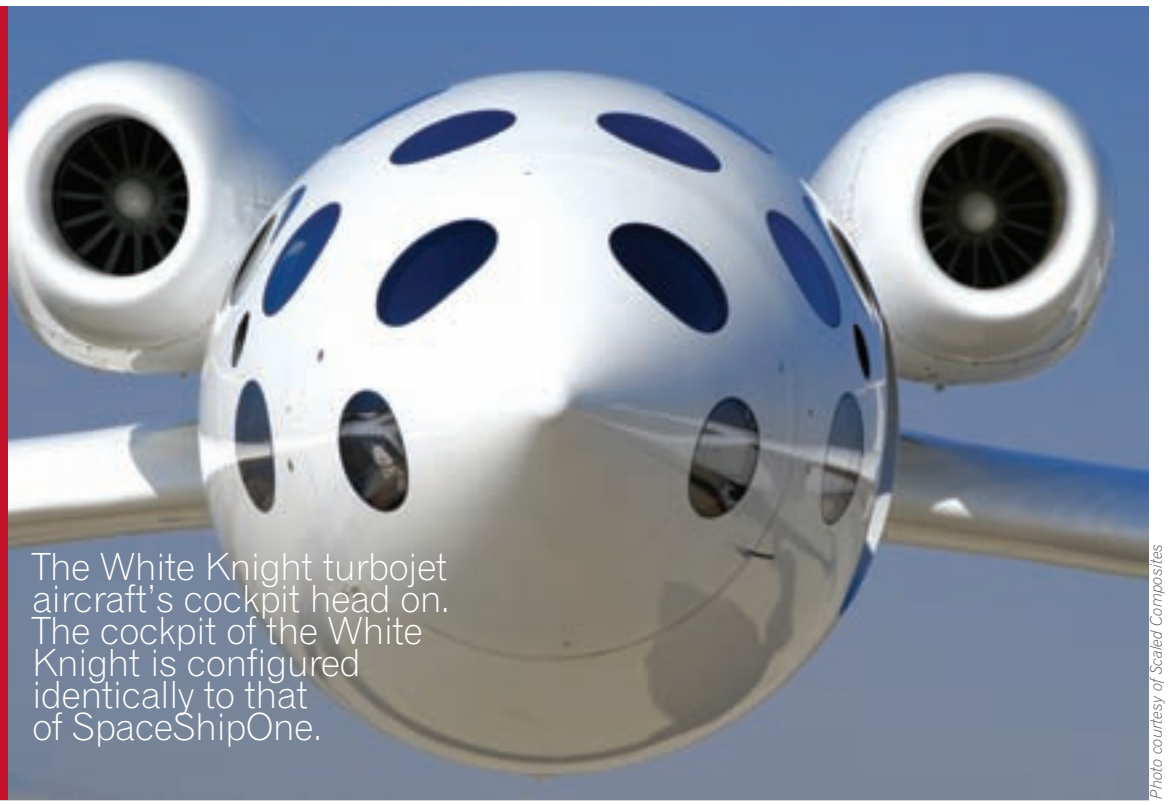
Indeed, the widely circulated and comprehensive study by Bethesda, Md.-based Futron Corp., found the market outlook for space tourism to be surprisingly bright. The consulting firm, whose clients include NASA, the Department of Defense and the FAA, forecasts that by 2021, demand from more than 25,000 American passengers will generate more than $1 billion in annual revenue. Futron Corp. also predicts suborbital ticket prices will drop from the current $200,000 to around $50,000.

"That report gives a very strong indication that there are numerous people in this country alone who cannot only afford to do it, but want to do it," Khourie said. "That doesn't include other parts of the globe. Just from the space tourism side, it's a very strong market. Think of how many industrial applications, even from universities and other private-sector companies that might need to do something that requires zero gravity — doing experiments, launching a payload, telecommunications — there are so many applications out there that I think will get involved because the access to space will be so much cheaper, it will allow them to accomplish their missions and fulfill the type of goals they want to achieve as far as utilizing space vehicles."

Other states — Florida, Wisconsin, Texas and Alaska — have plans for their own private spaceports. In fact, Alaska's Kodiak Launch Facility has sent commercial satellites to space for nearly a decade, though it has no immediate plans for space tourism.

Ironically the one FAA-licensed spaceport that has produced successful commercial space launches has had virtually no government assistance. California's Mojave Spaceport, northeast of Los Angeles, was the site of SpaceShipOne's famed 2004 launch into history. Numerous major milestones in aviation, such as Chuck Yeager's first supersonic flight, have taken place in the Mojave Desert. But according to Stu Witt, general manager of the Mojave Airport and Spaceport, California seems content to let this industry leave the state just as it let major aerospace leave.

"[California] has given us nothing that they wouldn't give to a normal … airport," Witt said. "The governor's representative told us directly that incentives are a race to the bottom. That was the attitude in the state of California. Everything we've had to do, we've had to do on our own."



The White Knight turbojet aircraft's cockpit head on. The cockpit of the White Knight is configured identically to that of SpaceShipOne.

Photo courtesy of Scaled Composites

Apollo on Steroids

With the commercialization of space helping renew enthusiasm for all things cosmic, how does NASA fit in with this next generation of spacefarers? Almost everyone would agree the marvelous yet perpetually-troubled Space Shuttle is no longer suited to meet either NASA's or the public's vision for manned space flight.

In early 2004, President Bush announced the Vision for Space Exploration, a new policy that sought numerous objectives, including completing the International Space Station (ISS) by 2010; returning to the moon by 2020; and developing the Crew Exploration Vehicle to replace the Space Shuttle — set to retire in 2010.

In 2006, NASA announced that Project Constellation would be the agency's strategy as it attempted to realize the Vision for Space Exploration. Project Constellation encompasses both a new launch vehicle and new missions. The missions mirror the president's objectives to complete the ISS, return to the moon and eventually head to Mars. NASA's choice of vehicle to replace the Shuttle, however, surprised many observers.

At first glance, the launch vehicle looks quite similar to the Saturn V rockets used for Apollo. The Crew Exploration Vehicle, now known as Orion, is a capsule that sits atop the tall, slender Ares I rocket. Firing people into space via a controlled explosion was the basic strategy for Apollo and will be again. All the technology will be cutting-edge and, unlike the Space Shuttle, Orion will not bring its own supplies to space.

The Ares I rocket's purpose is simply to get Orion into orbit. But before the astronauts arrive in space, NASA will have already launched the gargantuan Ares V rocket to do the heavy lifting. The Ares V is a multistage cargo rocket that will ferry multiple modules such as the Crew Service Module, the Lunar Surface Access Module, and the Earth Departure Stage into orbit. Once Orion reaches orbit, it will rendezvous with the Crew Service Module and, for lunar missions, the Lunar Surface Access Module and the Earth Departure Stage — the propulsion system for blasting Orion from a low earth orbit to the moon.

Like much of the rest of the project, Orion's return to Earth will be decidedly old school with modern technology at work behind the scenes. The capsule, like its Russian cousins, will plunge like a red-hot stone back to Earth. As in the old days, parachutes will slow the descent but, adopting a technology used by the Russian Soyuz and the Mars Rovers, Orion will also have rapidly inflatable airbags that, when combined with the chutes, will make recovery on land possible.

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SpaceShipOne glides down for approach at the Mojave, Calif., spaceport.

Photo courtesy of Scaled Composites

According to Darrel Ng, chief deputy press secretary for Gov. Arnold Schwarzenegger, the state must work itself out of a budget crisis before it can fund spaceports.

"California still has a multibillion dollar structural budget deficit," he said. "Given those budget constraints, the best way the governor can support a project like this is to keep California's business climate strong and highlight many of California's natural advantages, such as having the best public university system in the world, and providing the infrastructure necessary to support such a project."

There are a few supporters in the California state Legislature, most notably Assemblyman Kevin McCarthy, R-Bakersfield, and Sen. Roy Ashburn, R-Bakersfield. Witt said the state's transportation department also pledged its support, with CalTrans Director Will Kempton advocating for state investment in the Mojave Spaceport. And the state created the California Space Authority (CSA), though the funding of the CSA is said to be marginal at best.

But it appears the state is largely indifferent to the idea of a spaceport. SB 1671, sponsored by Ashburn, was killed in the Senate Appropriations Committee, ending the only serious attempt to involve the state in the industry. The bill called for an $11 million grant, to be repaid immediately once a permanent space-capable tenant was secured at the spaceport.

Further evidence of California's lack of interest came at the AIAA conference, where one closely connected speaker said Schwarzenegger had to be reminded who Burt Rutan was prior to a private meeting between the governor and the aviation and space legend.

"I was disappointed when SB 1671 did not make it through appropriations, and certain senators from the left indicated it was millions for billionaires by investing," Witt said. "California is an odd beast. California is controlled by people who certainly have encouraged aerospace to go other places in the United States over the last 20 years. This industry has been encouraged to leave the state."

Space Mania

Still, Witt and others are convinced the space industry is primed to take off. When looking at the various projects currently under way, it becomes easy to share their optimism.

NASA, for example, is fundamentally changing the way it does business. For the first time, under the leadership of newly appointed Director Michael Griffin, the space agency awarded contracts to two private companies to bring cargo to the ISS. The contract winners were selected via a $500 million contest known as Commercial Orbital Transport Services (COTS). The winners, SpaceX and Rocketplane Kistler, each demonstrated a capability to efficiently and safely deliver cargo to the ISS with a reusable launch vehicle. NASA reasoned that for $500 million — half the cost of a single Shuttle launch — it could encourage private industry to do some of the heavy lifting. The attitude is a new one for the agency.

"I think that Mike Griffin has fundamentally changed the image and the operation of NASA," Homans said. "What just happened in the last couple weeks when Griffin himself set aside $500 million for this COTS award and they awarded that $500 million to two companies, SpaceX and Kistler Rocketplane … these companies are saying that for $200 [million] or $250 million we can provide a way at far less cost to take you to the space station and back, and take people and payloads with new technologies we're developing in the private sector in mostly a privately funded program to date, really this is the first government money coming into it.

"What you have is NASA embracing innovation," he continued, "embracing these entrepreneurs and giving them a shot to really prove their stuff."

Perhaps the biggest question is what does one do once in space? On suborbital flights, the reason will be the sheer thrill of a rocket ride into space. On the Rocketplane XP, for instance, passengers will ride to 25,000 feet, at which point the pilots will engage the rocket engine. The rockets will burn for 90 seconds, propelling passengers from about 250 knots to almost four times the speed of sound. In those 90 seconds, passengers will experience acceleration that is three and a half times the force of gravity until reaching the flight's zenith around 330,000 feet.

"After that 90 seconds, you're in a coasting phase, then the g-forces will lift, and you'll gradually approach microgravity," Edwards said. "You'll experience microgravity for about four to five minutes; you'll see the curvature of the earth; you'll see the blue ball; you'll be in the black part of space. The bird can be turned in such a way such that you can get a pretty good view, and then the bird will begin to descend on its own. Then you'll re-encounter the atmosphere, you'll encounter some g-forces again, though not as severe as those going up. After you get back in the atmosphere, the pilot will be positioned over the spaceport where he will do a circling landing. The whole thing will take place inside of an hour."

On the government side, Griffin and NASA are dedicating most of the agency's resources for the next decade or more to getting man back to the moon and then to Mars. NASA awarded Lockheed-Martin the contract to build the Shuttle's badly needed replacement, the crew exploration vehicle now known as Orion.

Going to the moon is great if you're NASA and have billions to spend, but what about space tourists? One of the most fascinating developments is the underreported story of Robert Bigelow, founder of Budget Suites of America and pioneer of what may be the world's first orbiting hotel.

At press time, orbiting far overhead, is Genesis-I, a quarter-scale test module for the space hotel. Built by Bigelow Aerospace, the module was launched in July on a Russian rocket. Bigelow's plan includes a $50 million award to the company best demonstrating how to bring passengers to his space hotel. With a few launches lined up for further testing of modules, Bigelow recently announced his company's plans to launch a complete, inhabitable space hotel within five years.

The notion of a space hotel, once seemingly far-fetched, is on the verge of reality. Aerospace companies like Rocketplane Kistler and SpaceDev are vying to get their spacecraft designated as the official "taxi" to Bigelow's hotel.

"We're working with companies like Bob Bigelow's aerospace corporation, which intends to provide a destination in space — an orbiting space complex," said Bob Seto, Rocketplane Kistler's vice president of engineering systems and analysis. "That then allows people with interest in this to go into orbit and go into the activities he's planning for his space complex. It's more than a hotel. It's a set of places where experimentation for development of biomedical products, etc. People can then go up there perhaps for vacation, but perhaps can go up there for furthering industry as well. When you start going beyond that, to the resources of the moon, it's mind-boggling. This is just the start, and it's a huge amount of potential."

Not long ago, you might have been ridiculed for advocating building — in the middle of the Nevada desert — a giant pyramid, a medieval castle and a quarter-scale model of New York City; then stuffing them to the gills with slot machines, hotel rooms and restaurants. Similarly there is bound to be a chorus of voices decrying the construction of spaceports no matter where they're located, warning that commercial space travel is too risky and too expensive. But, if it were cheap and easy and safe, we'd already be doing it.

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By Chad Vander Veen
Technology and Politics Editor

Second-Chance Points

North Carolina Deputy CIO Bill Willis talks about tackling statewide ID management . . . again.

The January 2003 issue of *Government Technology* reported on North Carolina's efforts to deploy a statewide ID management application. At the time, the North Carolina Identity Service (NCID) seemed promising. The story covered the proposal to roll out individual user IDs for both state employees and residents. The plan is that these IDs would eventually grant access to every state service available online.

When the story first ran, the outlook for NCID was bright. Unfortunately there were clouds on the horizon. North Carolina's Chief Information Security Officer Ann Garrett told a *Government Technology* reporter that with the state's 26 agencies and 80 boards and commissions, one challenge would be "getting everyone floating their boat in the same direction."

Interagency cooperation was but one of a number of factors that eventually derailed the project. Current Deputy CIO Bill Willis talks about what happened to the project, as well as how — and why — the state got NCID back on track.

The ID management initiative originally kicked off in 2001 with unsuccessful results. In 2005 you tried again. What was different this time?

Commitment, different laws and organizational structures.

In December 2004, the Legislature passed a law mandating an IT consolidation plan. They gave the CIO — who prior to that, had sort of run a shared-services organization without a lot of control over agency things — significant control over projects.

We have more teeth than we had before. That's part of it. The other part of it is, from my view, the organization — even our own — never made a commitment to it. You have an identity management solution sitting there and your own e-mail doesn't use it.

To reinvigorate this, we renamed it. All new projects are required to either use NCID or show to some significant degree why they cannot or why they should not. Our new HR/payroll system that will be rolling out over the next two years — followed by a complete ERP [enterprise resource planning] on the same platform — will be using it. So every state employee will have to have an ID to begin that. Our e-mail system will be switched to it.

Another part of it is, because nobody committed to it, they didn't beef up the infrastructure the way they should, and it just sat there and withered. We've now made a commitment to it, organizationally in the shared service, organizationally around the ERP program, and every IT project in North Carolina has to sit in front of me and tell me how they're going to do it, or why they can't. And why they can't is a significant burden. They have to tell us why they're going to invest more money and not move to this scenario.

It's got to be tough to explain why you shouldn't have to do this.

Someone asked me how we're getting people to do this. Generally we're bullying them into it. Everybody's going to come right off the bat and say, "Oh, I can't do it; this adds risk to my project."

It's one of those things you have to have leadership commitment to early on. So we just need to shove them over — part of that's through force, part of that's through logic, part of it is getting them ready, so down the road we can lower the barriers to transition them in.

But it's mostly a commitment. The reason the first one didn't work is because they didn't commit to it. They didn't drive it. This is one of those things … the absolute top-of-the-list thing for success is you must be committed to it. This is in that category. You can build it, but they will not come unless you make them.

Metcalfe's law is basically an adoption curve of networked things. You have a low adoption rate until you hit a certain point, a critical mass. The way you get through that early part, in this particular case, it almost has to be by commitment.

For the state employee part of this, as we roll out our HR/payroll [this] year, we'll cross that adoption curve. We're in that phase of being committed and just grunting it out. But I believe that by this time next year, it will be default for new things having to do with state citizens.

We're working on ways to engage our universities and local governments because they use our services a lot. There has to be an engagement with them that you validate who's who. And then, there's a whole series of processes of how you use this with citizens, which is where your real payback comes from eventually.

Do you have any citizen-facing applications?

We have some. I know the secretary of state's office is using it for corporate citizen kind of functions in some ways. The Department of Revenue [DOR] is preparing to use it first for corporate taxes and then citizen income taxes.

Just because you have an identity-management system does not solve your need to relate, for example, a set of income tax filings and an income tax account to a particular ID. A citizen may be able to come into our portal and register for and get an NCID, but then if they want to associate that ID with their income taxes or their DMV [Department of Motor Vehicles] record or something like that — so they can log on and do business that way — there's still a subscription process you have to go through that's very much like what you would do if you created an independent ID for that user in that agency.

We can't say this guy's registered, therefore he can see his taxes and he can see his motor vehicles records, etc.

We can say he's registered, then he has to go through a process at DMV or DOR and answer some secret questions about that account, and then they could link the two together.

We can authenticate the person, but then [the agencies] need to authorize them in a way to use their systems. The connectivity between those two things is an interesting process, and it's different for different services.

Would you say the project was partly driven by the state's general IT consolidation efforts?

Sure. You sort of have architectural vision for where you want to go. We, like every other state, would like to make much more use of the Internet and electronic access through whatever means to serve our citizens. But to do it in some sort of fashion that doesn't cut that citizen up into a different person for each agency they touch is much more difficult.

We have about 8 million citizens in North Carolina. We have 100,000 state employees. If we just take those 100,000 employees, and each of them needs to use five business systems during their work, if they have one password, that's 100,000 passwords to take care of; if they have five, that's 500,000 passwords to take care of. The cost of taking care and maintaining name and password pairs in sync so someone can use them is linear with the number of passwords.

Will NCID include a single sign on?

We are not trying to do single sign on. We're trying to do a single name and password.

As a service provider, the benefit is just to lower that number of name and password pairs. If we have 8 million citizens and each of them needs the DOR thing, the DMV thing, etc., [and] so if there are five [passwords] for each citizen, then that's either managing 8 million names and password pairs — or 40 million.

It doesn't bother me that I might have to type that same name and password 10 times a day, as long as it's the same name and password.

We make this practically transparent, and in many cases, it's only a few lines of code. That's easy. Passing certificates around so once you've logged in — you're always logged in. That's hard. That is technically hard. It would be equivalent to boiling the ocean, you'd never get there.

As we get more portal-based interfaces and more things that allow us to walk through those portals and build in that way so the credentials pass through and get handed, then it might get easier. But why would I want to give up 90 percent of the benefit by struggling with that really hard technical piece when I can bring both end-users and the systems very significant benefit and security?

Looking at the differences between now and the first effort, for the ID management technology, is it pretty much the same or is the technology different now?

We kept the same licenses. When we took a look at reinvigorating the project, there are a couple of things out there. The software we had licensed still held a very significant portion of the market share.

We took the licenses we had; we spent a significant amount of money strengthening the underlying infrastructure; we replicated things; we invested a lot of effort and significant money in bringing the application up to speed; we did some enterprise licensing for things like LDAP [lightweight directory access protocol] directories so we can deploy them without significant additional cost.

We did a number of things and made some investments in our capability and in our infrastructure, and we keep it up. It can become — if you're not careful — a serious single point of failure. So you want to mitigate that, both with resiliency and survivability in your application itself and in many cases, like our ERP system, it has its own set of LDAP directories that it will run off of, and we'll sync with it.

If for some reason our ID management system goes down, the only thing they can't do is change names and passwords. They'll still run totally without it. That's important for survivability and performance.

Do you have any plans for anything like biometrics or public key infrastructure?

We do have plans. We are in the later stages of planning two-factor authentication. We do need, in some cases, a two-factor authentication. We will be implementing that, and that could proceed to biometrics if necessary. And this is where the potential for Real ID comes in. A Real ID could be viewed as not much more than a well authenticated second-factor authentication that everybody had ...

... Ideally I think, according the government anyway...

We thought about this. We know and knew about the Real ID stuff coming. But first off, it's not very well defined to me yet.

Not to anyone.

Secondly it's not a DMV problem. It's a statewide problem. Nobody is going to make those deadlines, I believe. I don't think anybody is going to come close to those deadlines.

Do you believe North Carolina will be Real ID-ready in May 2008?

Not a chance. We need a way to manage identities across our state employee population and across our citizens — and we need it sooner than waiting till 2008 to even figure out what's going on. All the investment we've made in this, even if we have to change the technology, we will have put in place the processes, the concepts, the relationships, the basis for using Real ID to authenticate.

We may have to change our technology, but technology is not that hard to change. People and processes and relationships are hard to change.

It could look like this. You could have your NCID that has your name and password. For the next couple of years we could have VeriSign or Entrust as a second factor of authentication. But as we start issuing Real IDs that have machine-readable formats and all kinds of things with them, as the readers become more available, we just use that as a second factor, and you kill two birds with one stone. We believe that it is worth the investment now, even if we have to change the technology.

Can you discuss the benefits you've realized or anticipate realizing?

We certainly haven't met any ROI [return on investment] goal on this so far. It's still early in the process, and our investment still outweighs the kind of benefits that have been returned. But as I said, it doesn't take much calculating if you're reaching out to citizens and you think they may have two, three, four, five, six, seven different engagements with different agencies or services in North Carolina — and you have 8 million citizens — to see the difference between 8 million passwords and 40 million passwords.

We clearly believe there's an absolute cost benefit in that. Plus you're delivering better service. You're not even counting the benefit of better security, better passwords management, better arrangement, better termination processes, better initiation processes. Those are sort of obvious. They're soft. It's hard to measure them, but it doesn't take much to get to the point where you believe it will be worth a lot.

We still haven't talked about the convenience to the citizen. Government, it seems to me, tends to cut these folks up in awful little chunks. We don't treat them as individuals. Have you ever been to a company talking about a product focus versus a customer focus? Have you watched what the telephone companies have been doing the last five years? Everything was a separate bill. You were a different customer for each product they sold. Now they're trying to be really focused — you're their customer, and through that mechanism, they give you lots of products.

The analogy is perfect. The government is the same way. We have lots of services and products that we need to, or we're required to, or we should be providing to our citizens. But we need to be customer focused, not product focused. This alone, along with the portal capability, could be the point where we begin to pull those things together.

That's the reason we think this is worth committing to, and the reason we're using both money and political capital to try and move forward — even though it's a little difficult.

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BY STEVE TOWNS | EDITOR

Leaders of the Pack

From Govtech.net

Forty-four states responded to the 2006 *Digital States Survey*. The biennial survey, conducted by the Center for Digital Government, examines state governments' technological progress across three broad areas:

1. online citizen and business self-service;
2. architecture and infrastructure; and
3. planning, policy and structure.

The survey releases rankings for the top 25 states, and compiles a broad array of aggregate statistics on digital government growth and acceptance. In partnership with *Government Technology* magazine, the Center for Digital Government is releasing findings from the 2006 survey online at <www.govtech.net/digitalstatesawards>. The site will provide comprehensive analysis of the 2006 *Digital States* findings, as well as interviews with the top-ranked states.

Revealing the secrets of 2006 *Digital States*' top performers.

What separates the top 10 finishers in the Center for Digital Government's 2006 *Digital States Survey* from the rest of the pack? There are common threads despite wide, state-to-state variance in political, demographic and geographic factors.

Top 10 finishers excel at cross-boundary collaboration, deploying useful and practical applications to serve multiple agencies and even multiple branches of government. Underpinning these efforts are mature policies and architectures that promote shared services and discourage the development of overlapping systems. Economic development, public safety, health and education tend to be key drivers for IT-related innovation in these states — often with the governor personally leading the charge.

Working Together

Top states in the 2006 survey earned uniformly high marks for creating applications that are shared among multiple agencies and branches of government.

For example, fourth-ranked Utah operates a shared, online-payment solution used by more than 20 state agencies. UtahGovPay — which processed 1.3 million credit card and virtual check transactions in 2005 — can be customized to look like any agency Web page, resulting in a seamless experience to customers.

Shared applications aren't only crossing agency boundaries. A growing number of them also cross jurisdictional lines.

Third-ranked Ohio enhanced its Ohio Business Gateway (OBG) to handle electronic filing and payment of business taxes for 580 cities in the state. The OBG, designed to give businesses one-stop access to government services and transactions, provides a standard electronic process for complying with Ohio's Commercial Activity and Municipal Net Profits taxes.

Overall, the top 10 states outperformed the national average in numerous areas related to collaborative applications and services, according to the survey results.

Sixty percent of states in the top 10 share infrastructure with other governments and have developed multijurisdictional governance models for these activities. By contrast, only 34 percent of all *Digital States Survey* respondents had implemented such practices. Similarly 40 percent of top 10 states have implemented intergovernmental data sharing applications that are jointly governed by multiple jurisdictions. Just 18 percent of all survey respondents had done so.

Top 10 Digital States

2006	2004	
1	1	Michigan
2	3	Virginia
3	26+	Ohio
4	8	Utah
5	5	Arizona
6	9	Arkansas
7	6	South Dakota
8	12	Kentucky
9	25	Wisconsin
10	7	Tennessee

Intergovernmental Collaboration

The *Digital States* top 10 beat the national average in a number of intergovernmental activities.

Joint infrastructure sharing among multiple jurisdictions

Top 10	60%
All Respondents	34%

Data sharing applications governed by multiple jurisdictions

Top 10	40%
All Respondents	18%

Driving Progress

Among top 10 finishers, economic development was a key motivator for collaborative activity, and governors often played a high-profile role in leading these activities. The OBG traces its roots to Gov. Bob Taft's Jobs Cabinet, created in 2004 to fashion a comprehensive strategy for attracting and retaining jobs. Cross-boundary projects in ninth-ranked Wisconsin and seventh-ranked South Dakota also are connected to job-creation programs spearheaded by their chief executives.

This type of activity was more common among top finishers than the remainder of *Digital States* respondents. Forty percent of top 10 states have launched multijurisdictional economic development efforts, compared with just 27 percent of all respondents, according to the survey.

Criminal justice/homeland security represents another key area for collaboration — both within the *Digital States Survey's* top 10 and among all survey respondents. Multijurisdictional initiatives in this area are under way in 60 percent of the top 10 states and in 55 percent of states overall.

For instance, sixth-ranked Arkansas launched the Arkansas Wireless Information Network, a multiphase initiative to create a statewide interoperable radio system. The project is led jointly by representatives from key state agencies and local first-responders.

Eighty percent of top 10 states have fully consolidated shared utilities such as e-mail, electronic payment systems, help desk, and calendaring and messaging applications. By comparison, this **work has been completed in just 30 percent** of all *Digital States Survey* respondents.

Collaboration by Function

Top 10 states had greater intergovernmental collaboration in many functional areas.

Health and human services emerged as another driver for collaborative IT progress. Forty percent of the top 10 states operate multijurisdictional applications in this area versus 25 percent for the rest of the pack.

Second-ranked Virginia's No Wrong Door initiative uses Web technology to give elderly citizens simplified access to the bewildering array of public and private health resources available. In addition, the initiative promotes collaboration among the state and local agencies, nonprofits, community organizations and private providers that play a role in the support process. State officials say the initiative improves patient care and stretches funding by helping organizations coordinate information, referrals and case management.

Good Policies

Not surprisingly, the *Digital States Survey's* top 10 have implemented enterprise policies and architectures that actively promote collaboration. Some of the highest-ranked states also posted the best scores for service-oriented architecture (SOA) maturity. This was true for Utah, Ohio and top-ranked Michigan. Growing adoption of SOAs and other policies designed to promote application sharing and aggregation of IT demand helped top 10 states outperform the national average when it came to consolidating IT infrastructure.

For instance, 80 percent of top 10 states have fully consolidated shared utilities such as e-mail, electronic payment systems, help desk, and calendaring and messaging applications. By comparison, this work has been completed in just 30 percent of all *Digital States Survey* respondents. Ninety percent of top 10 finishers have consolidated local area and wide area network services and other transport management tasks versus 57 percent of overall *Digital State Survey* respondents.

The Payoff

All of this attention to enterprise consolidation and standards paid significant dividends for top 10 finishers.

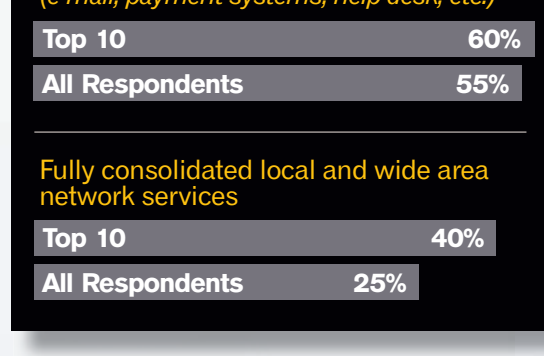
Michigan credits a statewide Web services strategy with transforming its software development process. The Michigan Department of Information Technology (MDIT) used the approach to launch more than 40 new applications despite staffing and budgetary constraints.

Using open systems and architectures, Michigan slashed the cost and time associated with developing software applications, according to state officials. The state estimates that its Web services strategy saved an estimated $12 million to $14 million in 2005-2006, based on the reduction in development hours alone. Furthermore, the strategy let the MDIT stockpile a repository of Web services that are shared by cross-agency applications.

Similarly Ohio collected a significant return on upgrades to the OBG. Officials said electronic collection of Ohio's Commercial Activity Tax totaled $79 million in the first year of operation, a return of about $23 for every dollar invested in the $3.4 million project.

Collaboration Progress

States among the Digital States top 10 lead the nation in consolidating key IT services.



Federated Nation?

Top 10 states were busy developing shared and consolidated IT services, but they weren't necessarily centralizing IT functions. When asked to rate their degree of centralization of IT development and operations, almost all of the top 10 viewed themselves as predominantly decentralized. Indeed, this trend held true for most states responding to the *Digital States Survey*, 75 percent of which classified themselves as decentralized.

This may indicate a growing view among state officials that a federated path to IT consolidation is a better fit for the realities of government. It could also be a sign that Web services, SOAs and other enterprise approaches finally give jurisdictions the tools they need to consolidate without centralizing. Yet at the same time, the survey's top two finishers — Michigan and Virginia — both have centralized their IT operations.

Ultimately the *Digital States Survey's* top 10 proved there is more than one "right way" to transform government operations. These states adopted practices and strategies that fit their particular needs and political environments.

Behind the Bench

Georgia judges now rely on a clear picture when considering cases.

BY CHANDLER HARRIS | CONTRIBUTING WRITER

Solution Summary

» **Synopsis:** A new business intelligence platform will allow judges in Georgia to know as much, if not more, about a defendant than police officers, parole officers and social workers.

» **Agency:** Georgia's Administrative Office of the Courts.

» **Technology:** Web-based application for data centralization.

» **Contact:** Jorge Basto, CIO, Administrative Office of the Courts, Georgia, <bastoj@gaaoc.us>.

Offenders on trial in Georgia might soon be surprised to see their judge typing on a laptop and reviewing their criminal history in real time.

This is just one feature of the new business intelligence platform implemented by Georgia's Administrative Office of the Courts (AOC). With the new platform, judges will know as much — if not more — about a defendant than police officers, parole officers and social workers.

The AOC supports Georgia's 1,100 courts, including the supreme, superior, state and juvenile courts, as well as the court of appeals. When Jorge Basto stepped in as the AOC's CIO in January 2005, he realized it was time to reconcile how the state's 1,592 judges interacted with more than 50 judicial case management systems.

Fast Forward

Basto said he wanted the AOC to become as efficient as the private sector, and consolidate the data from the fractured case management systems by creating a unified, automated and centralized system.

He turned to Business Objects for platform support and to create a Web-based application that lets the AOC incorporate and centralize data from disparate platforms and back-end systems.

"What we're trying to roll out for this year is a business intelligence environment to enable judges to access data more freely," Basto said. "Right now the case management systems are not being used to their full capabilities — without the analysis these case management systems allow for."

Basto compares the old AOC system to a feudal system with numerous data fiefdoms, each with its own operating system. Under the new centralized business intelligence platform, judiciary courthouses will not only maintain their own individual operating platforms, but they will also be able to access information from a central portal via the AOC network.

"Our agency in no way wants to force changes in the courts' processes and their specific applications," Basto said. "The workflow and day-to-day operations would continue as they need, but a separate environment, which would be hosted and maintained at the AOC, would allow a portal view of judicial data — such as directory information, and eventually case specific data as allowable."

The new portal will improve collaboration among judges, and in the future, allow expedited information exchange between Georgia's judiciary, legislative and law enforcement organizations. The new system will let federal and local law enforcement access the portal and use the data to support the Department of Homeland Security's (DHS) initiatives and inquiries. The implementation, Basto said, has already enabled the AOC to increase efficiency and reduce costs in many areas.

One of the new portal's cost-saving mechanisms is built in Business Objects' Crystal Reports software, which generates reports from a wide range of data sources. With this software, the AOC can consolidate and report on case elements, such as the name, address, search and fugitive warrants, judge and lawyers involved, probation, fines and disposition. Once disposed, Crystal Reports adds the case to a historical database that can be shared with local, state or national organizations.

For example, traffic citations that fall under particular guidelines are transmitted to the Department of Driver Services, and specific criminal and civil data must be transmitted to the court clerks and federal entities.

Basto envisions that AOC judges will eventually use laptops on the bench to access real-time historical information from a databank relevant to each case. He anticipates the new platform will also connect with judiciary systems outside Georgia, giving judges access to previous citations and offenses in other states.

Although no preliminary work has been done with other states to move toward this goal, Basto said the collection of data and reporting would lend itself to "data marts" where relevant and consistent data could be mapped. "Before, there was a lot of paper and pencil," Basto said. "Now when superior court judges hear a case, they will have access to data immediately; before they didn't have access to information without going through the Georgia court data center, where they may have had to go through two or three different courts."

From the Ground Up

Crystal Reports also runs reports from SUSTAIN, the AOC's case management system used by more than 50 Georgia courthouses.

Basto and his IT staff are currently preparing to install SUSTAIN in the Georgia Supreme Court to

help the judicial institution transition to an electronic document environment and start filing appellate cases electronically. Crystal Reports will also be used with SUSTAIN to provide critical data to the Supreme Court.

The data tracked by Crystal Reports has been used to identify trends and patterns in criminal activities that were not as clear prior to the tool's implementation.

The more than 600 reports and myriad information gathered by AOC employees — judges, clerks and other judiciary members — prompted several important decisions in 2005, including the formation of special commissions and committees.

One such example is the Georgia Alliance for Drug Endangered Children (GADEC), which was formed in 2005 after reports on juvenile crime and drug treatment programs indicated a dangerous trend among Georgia's youth.

The reports found that juveniles living next to Georgia highways were using drugs more frequently than their peers.

"The new AOC platform gives us a way to get necessary data to see where we need to focus our attention and where our problems are," said Peggy Walker, judge at Douglas County Juvenile Court and founder of the GADEC. "We looked at drug use and saw methamphetamines were a big problem and saw patterns of use across northern Georgia, along the corridors of the expressway. It gave us a clearer picture we would not have had otherwise."

The AOC business intelligence platform and Crystal Reports are extremely useful tools in understanding what is happening in the state, Walker said, especially since the courts don't have the means to fund studies and gather the necessary information to subsidize commissions.

"We don't have [the] ability to fund that type of research and to have that type of information," Walker said. "If the AOC can have that information, we can use that to form our budgets, and then when we can look for resources. So it's a vital part of helping us to do our jobs well."

Crystal Reports also generates intelligence that determines judicial appointments based on statewide case count statistics and whether additional judges are needed to address an increase in caseload.

"Through the use of this reporting software, we saw that we had big deficiencies in data, and what we were missing," Basto said. "Now we're incorporating in our applications around 600 reports, from end-of-month reports to receipts."

Next Platform

Basto is working to make the AOC platform the premier source of judicial data in the state. It is a huge undertaking he admits, but he is already anticipating the possibilities of the new technology. Once the system is fully deployed, Basto said he foresees a comprehensive, unified network throughout Georgia, where state, county and city agencies can consolidate and share their data across multiple networks, applications and information sources.

Basto said the new system will consist of a standardized platform that not only supports the AOC, but also the Department of Motor Vehicles, police and sheriff departments, the Department of Corrections, and any other state or city municipality conducting an investigation and needing to access information from disparate databases, including the DHS.

"There is not an agency I know of in Georgia that does not allow complete state-side information to be shared," Basto said. "I don't see why we cannot go toward that goal. Our system is only as good as the information it provides."

public health

BY DAVID RATHS | CONTRIBUTING WRITER

Solution Summary

» **Synopsis:** Hurricane Katrina helped speed development of a prototype regional health information exchange in Louisiana, whose developers are working to expand the sharing of electronic medical records.

» **Jurisdiction:** Louisiana.

» **Technologies:** Networking, database, XML.

» **Contact:** Dr. Roxane Townsend, Department of Health & Hospitals, Baton Rouge, La., 225/342-7092.

Healthy Exchange

Hurricane Katrina spurs cooperation to build a prototype regional health information exchange in Louisiana.

Regional health information exchange projects involving insurers, hospitals and clinics typically require years of consensus building and planning to get off the ground.

But Louisiana found a sure-fire way to speed up the process.

"Just have a major hurricane, and it drops a lot of barriers," said Dr. Roxane Townsend, deputy secretary of the Louisiana Department of Health and Hospitals in Baton Rouge, La.

With its prototype, called the Louisiana Health Information Exchange, the state and eight local health-care providers have accomplished in nine months what in other instances would have taken two to five years, Townsend said.

"The challenges were easier to overcome because we had a bunch of shared pain," he said. "We had all been in the same boat — almost literally."

Townsend witnessed firsthand the disruption to the medical community when Hurricane Katrina hit the Gulf Coast. At the Superdome, she saw people carrying their medications in plastic grocery bags.

"When you opened them up, it was all wet and the labels were peeled off," she remembered. "The medicines themselves were just a white slurry. And that's all the information you had. It's an unacceptable place to be."

When the city flooded, providers lost tons of paper records. Even many doctors who had electronic medical records lost access because their servers drowned.

"So we learned that records have to be easily transportable and have redundancy in a remote area," Townsend said.

Serving as a positive counterexample to the chaos at the Superdome was the Louisiana Immunization Network for Kids Statewide (LINKS). Pediatricians use this Web-based, state-run program to enter data on children's immunizations, and LINKS lets enrolled users search for patients and view their vaccination record. In the months following the storm, the records were accessed in all 50 states, as children moved to new locations with their families.

"We estimate this saved re-immunization costs of $6.3 million," Townsend said.

Change of Pace

Louisiana juggled multiple health IT efforts prior to Katrina, including a public health information network. In early 2005, the state applied to the federal government to be one of four regions to build a prototype for a National Health Information Network.

When Katrina hit, Dr. David Brailer, who was then national coordinator for Health IT in the U.S.

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Four States Examine Sharing Health Records

The health data exchange being built in Louisiana is part of a larger effort to examine how to move health data across the entire Gulf Coast region.

The day Hurricane Katrina hit the Gulf Coast, Dr. David Brailer, then national coordinator for Health IT in the U.S. Department of Health and Human Services, was addressing a meeting of the Southern Governors' Association (SGA) in Georgia on the value of electronic medical records.

"He talked about the value of health IT in saving lives by cutting down on medical errors," recalled Lee Stevens, director of health policy and programs at the SGA. "But right after that we saw the Katrina evacuees, and how not having records was exacerbating a catastrophic situation."

After the storm, Brailer asked the SGA to host a task force on health information exchange between Texas, Louisiana, Mississippi and Alabama.

"Making patient data accessible to authorized physicians, whether it is following a hurricane or as part of routine care, remains a challenge that must be addressed," Brailer said in announcing the creation of the task force.

Most states are struggling with building networks to share health data, and the concept of doing it across four states was daunting.

"We didn't have any real health IT experience, so it was a tall order for us," Stevens said. "But it was clearly critical."

The SGA received a one-year, $735,000 grant from the Robert Wood Johnson Foundation to create the Gulf Coast Health Information Task Force, which has brought together leaders from health plans, hospitals, consumer groups and state government.

In its first six months, it has established working groups around three areas: clinical and technology, governance, and legal and finance. The task force is looking at how to create interoperable records, as well as models for sustainable funding.

"One of the difficult things," Stevens said, "is that we have to take baby steps to make sure we're building consensus across the region."

Department of Health and Human Services, contacted Dr. Fred Cerise, secretary of the Louisiana Department of Health and Hospitals, and asked if the state would be interested in a separate proposal specifically in response to Katrina.

In September 2005, Louisiana received a one-year, $3.7 million grant to create a prototype of a health information exchange. The exchange group consists of eight hospitals and health providers in New Orleans and Baton Rouge, including Blue Cross and Blue Shield of Louisiana, and the state Medicaid program.

Regional efforts are under way to examine the possibilities of expanding the Louisiana experiment across the entire Gulf Coast region.

The exchange uses Oracle's Healthcare Transaction Base. All providers submit data into the system in either XML or a format called 837, which is an electronic file format that supports medical bill data. The provider information shows results such as lab tests and X-rays.

"Some have more than others, depending on how much is done electronically," Townsend explained. "We drew up a list and said, 'This is what we'd love to have, but send us what you've got.'"

Each area — Baton Rouge and New Orleans — has its own master patient index located on its own regional server. In addition, a record locator service lets users query the system about where to find additional patient information.

Louisiana tested the exchange with emergency room (ER) physicians treating patients new to their hospital, and clinic physicians treating patients who recently went to an emergency room. Townsend believes the latter case is where the exchange may prove most valuable.

"ER docs are used to working in the dark all the time and do a good job," she said. "But primary care docs could really use the information that someone went to an ER recently and had an X-ray or a lab test done. That is really beneficial, so you don't duplicate tests."

One participant in the prototype is Ochsner Health System, a group of 700 physicians with offices in New Orleans and Baton Rouge. Ochsner uses electronic medical records, and its network survived the flood, said Dr. Lynn Witherspoon, vice president of information systems. Nevertheless, the storm drove home the urgency of the problem, he said. "We know full well the value of health information exchange. We're all passionate about getting it up and running on a routine basis."

Stepping Stones

Although Witherspoon considers the prototype a success, some technical issues remain. Uploading the data to the exchange is straightforward, but the patient identifier doesn't work well yet, he said.

There is no unique national identifier, and Social Security numbers can't be used for security reasons. He said if a patient was seen at Ochsner, at Louisiana State University Hospital and by a clinic in Baton Rouge, the master patient index is challenged to pull all those pieces of data on Mr. or Mrs. Jones into one clear picture.

It's a big issue, and Witherspoon said a solution does not seem to be forthcoming on a national level.

Other challenges include getting more physician groups to use electronic records and involving more organizations in the exchange. "The fact that we chose to do it with a small number of organizations so we could rapidly show proof of concept means we now have to reach out to other providers and insurers," Witherspoon said.

A big piece of phase two will be to make the exchange more inclusive, so all providers will have some sense of ownership. The grant period ended in September 2006, and the goal now is to take it from the prototype to the pilot phase, and deploy it in emergency rooms and doctors' offices. To do that, the state will have to secure additional funding.

Townsend admits that the state has put the cart before the horse.

"We have a working prototype, but all of the things you usually work out beforehand, the policies and procedures, we haven't worked through yet. That's why we're not ready yet to take this live."

Still to be resolved are the tough issues of governance. Who owns the exchange? Who makes decisions? What are appropriate levels of privacy and security?

Yet Townsend said she and her colleagues feel a sense of accomplishment about what they've done in the wake of Katrina.

"We're trying to answer the question, 'Can you make a difference in people's health care with shared electronic records?'"

David Raths is a writer based in Narberth, Pa.

> "The fact that we chose to do it with a small number of organizations so we could rapidly show proof of concept means we now have to reach out to other providers and insurers."
>
> — DR. LYNN WITHERSPOON, VICE PRESIDENT OF INFORMATION SYSTEMS, OCHSNER HEALTH SYSTEM

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geo info

BY MERRILL DOUGLAS | CONTRIBUTING WRITER

Solution Summary

» **Synopsis:** One Idaho city develops a Web-based application to allow anyone to locate gravesites in the public cemetery, view data about the deceased and see a photo of the headstone.

» **Jurisdiction:** Nampa, Idaho; Medford, Ore.

» **Technologies:** Trimble GeoXT GPS receiver, ESRI's ArcCAD software, GPS PhotoLink software from GeoSpatial Experts.

» **Contact:** Rod Collins; GIS manager; Engineering Department; Nampa, Idaho; <collins@ci.nampa.id.us>.

Monumental Improvement

As genealogists turn to the Web to research public cemetery gravesites, city clerk's staff can devote more time to other tasks.

Many local governments use GIS to locate the homes of people living in their jurisdictions. Now Nampa, Idaho, is also using GIS to locate the final homes of its nonliving residents.

As of November 2006, Nampa's Department of Information Systems was putting the finishing touches on a Web-accessible map database of gravesites in the city's cemetery. The database will let users find information on individuals buried in the public cemetery, view their gravesites on aerial photographs and look at pictures of their headstones.

The main purpose of the Web application is to help genealogists, who traditionally call the city clerk's office for gravesite information and location. The online system will give researchers more details than they could get on the phone and will save time for city employees.

In the past, a genealogist would call the Department of City Clerk with questions about one or more individuals. "We would give them all the information we had, which would generally be how much they paid for the space, when the space was purchased, who the funeral home was and when they were buried," said Diana Lambing, the city clerk. "Of course, they were often wanting more information than that."

Responding to these calls took time away from other tasks. "We could spend up to 20 or 30 minutes, or even longer if we had someone calling with a long list of names," Lambing recalled, adding that sometimes, she and her staff searched paper records for information that wasn't in the database. They also had to get creative with spellings.

Weeks might go by without an inquiry, Lambing said, but if several calls came in the same day, city staff could spend hours helping them.

When a genealogist wanted to physically see a grave, that meant extra work for the cemetery sexton. "He would have to take them out there, pull out his maps and show them where it was," said Rod Collins, GIS manager in the Nampa Engineering Department.

In summer 2005, Lambing asked the information systems director in Medford, Ore., about his city's use of GPS and GIS technology to plot gravesite locations. Medford had created an internal database of locations for staff use.

Nampa was already using GPS in other applications, such as mapping trees in public parks, Lambing said. If the city created a map database of the cemetery, she added, her department could put it out on the Web, and people could do their own genealogy research. "And they could pull up a picture of the headstone and get a feel for what it looks like without having to go out."

Matching Photos, Coordinates

Nampa's Department of Information Systems worked with GeoEngineers, its GIS consulting firm since 2002, to develop the application. Jay Young, a GIS technician for the city, used a Trimble GeoXT GPS receiver, loaded with the cemetery database, and ArcCAD software from ESRI to collect a geographic coordinate for each gravesite.

He also photographed each grave marker, using a digital camera. Then, using GPS-PhotoLink software from GeoSpatial Experts of Thornton, Colo., and a script created by GeoEngineers, he ran a routine to link data about each site to its geographic coordinates and the photo. GeoEngineers then developed the online presentation.

Young collected data on 300 to 500 sites per day, taking 12,000 photos in all. As of November 2006, about 5,000 of them had been processed and added to the database.

GPS-PhotoLink uses the time stamps on the GPS device's track log and the digital photo to match each site to its photo. "As long as you've got the GPS in the right spot when you take the picture, GPS-PhotoLink creates a point file with that picture's name and the position," Collins said, adding that if a full-blown GIS system isn't available, the software can use Google Maps to display the data point.

GeoEngineers used the Microsoft.NET framework and ESRI's ArcIMS software to develop the Web-based application, said Blair Deaver, senior GIS analyst/programmer for the GeoEngineers applied technology team in Bend, Ore. "We're also using SQL Server to store the nonspatial data."

When the site goes live on the Web, any user will be able to query the database by name; date of birth, death or burial; or by section, lot or space number.

Not many governments have implemented similar applications, but the idea has attracted interest. Deaver put together a presentation on the Nampa project at a conference in 2006.

"There were a lot of GIS folks who said, 'We really want to do the same thing,'" he said, including

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justice

BY SGT. TOM LABOMBARDA | CONTRIBUTING WRITER

Solution Summary

» **Synopsis:** After installing a high-tech traffic-monitoring system, the Aventura Police Department responds more quickly to traffic concerns.

» **Jurisdiction:** Aventura, Fla., Police Department.

» **Technologies:** Video monitoring software, Internet protocol cameras, wireless networks.

» **Conact:** Sgt.Tom Labombarda, Aventura Police Department, Florida, <labombardat@aventurapolice.com>.

Getting Through

Cameras help police respond to traffic issues in double time.

Traffic is a major concern in Aventura, Fla. To help alleviate this problem, which frustrates citizens and visitors alike, the city has recently installed a high-tech monitoring system.

The Traffic Video Monitoring System (TVMS) is a multiphase project to enhance the Aventura Police Department's ability to respond to traffic concerns. The impetus for the TVMS came from a similar project by the Florida Department of Transportation (FDOT).

The project's first phase was completed in September 2006, with the installation of two cameras at problematic intersections in the city. Full project completion is slated for August 2008.

Original Source

Tom Ribel, chief of the Aventura Police Department, and other members of the command staff knew of the FDOT-operated Web site that uses video monitoring to display up-to-the minute traffic conditions on Interstate 95.

Ribel and Special Services Captain Steve Seefchak visited the FDOT command center to observe the equipment in action.

Aventura staff thought a similar but more sophisticated system would benefit the city, so a proposal was submitted to City Manager Eric Soroka, who agreed with the potential benefits and committed funds to the TVMS project. The planning of this system, designed in-house, lasted approximately two years, and the total cost of the project's first phase was just under $500,000.

With cameras installed at two of the most congested intersections in the city, the police department dispatch center can monitor traffic and dispatch officers at the first sign of trouble. The police department hopes to respond to situations as they arise, and clear accidents or traffic jams before they become a community concern.

The first intersection, at Northeast 186th St. and Biscayne Blvd. (U.S. Highway 1), is congested by a railroad crossing to the west — which can significantly slow traffic.

The second, at the William Lehman Causeway and Biscayne Blvd., lies directly south of the Aventura Mall, and mall-goers create large amounts of traffic. From this camera position, dispatchers can see the entire length of highway that covers the mall's entry and exit points. The system's "hub" building, or collection point for all of the microwave video, is also in this location. From there, the data is transported to the headquarters building over a fiber network.

The system — which includes two fixed Extreme video cameras and one pan, tilt and zoom (PTZ) Vicon camera at each intersection — was designed and installed by the same vendors working on other FDOT projects. The vendors, Transcore Inc. and Systems Integration and Management, constructed two concrete poles measuring more than 80 feet to support the microwave network.

The FDOT contributed tremendous cooperation and assistance to the project, assisting the police department in selecting the equipment, designing operations parameters and with permitting on FDOT rights of way. Both entities also entered into a mutual aid agreement to share video images from their respective camera systems over a microwave connection.

The Aventura Police Department was fortunate to receive the support of the city manager, the City Commission and Police Command staff, without whom this project would have been unattainable.

These officials let the department make most project-related decisions, thus sparing it the cumbersome lengthy approval processes that plague most governmental entities. Because of this, the department enjoyed the ability to make high-level decisions, and completed the project at a record-breaking pace.

The Nitty-Gritty

To stream the video back to the dispatch center's new state-of-the-art video wall, the police department installed an Orthogon OS-Spectra microwave backbone capable of transporting data at 155 Mbps, and a fiber network routed through Cisco routers to deliver video at a rate of 30 frames per second.

The decision to use a microwave backbone gives the department the flexibility to position cameras/poles in almost any area. Moreover, running a total fiber network would have been prohibitive, because in addition to the costs of tunneling and boring

pipe for the fiber, a host of permitting issues would have considerably delayed the project. Also, the selected microwave is very robust and built above the current bandwidth need to support potential future projects.

One of the system's features lets dispatchers move cameras and zoom in on potential nontraffic-related problems. Staff can pan, tilt and zoom the devices to look at many of the surrounding businesses and monitor potential situations, such as bank robberies. Using the software developed by Transcore, staff can also call up pre-set positions that rapidly reposition the PTZ cameras at the touch of a button. This feature instantly moves the camera to any of the banks or businesses in its field of view.

With the first phase of this project complete and working as planned, more intersections will soon be equipped with similar devices.

The overall project is divided into three phases: phase I — installation of the backbone fiber/microwave network and cameras at two intersections; phase II— microwave and cameras at two to three additional intersections plus deployment of the Tropos Wi-Fi network; and phase III — the completion of a fiber ring around the center of the city with multiple cameras installed at strategic locations to monitor the city's jogging path.

Once this project is completed, the police department will be able to view live video from multiple intersections and areas of concern. Because the backbone data network is robust, the department can now support its own 802.11 wireless network. Installation of a new Tropos Wi-Fi network will let the department supplement the existing mobile data connectivity network.

At this time, it's not the city's intent to expand this service to the general public. This network is being constructed and managed as a completely secure network to support police and city functions.

With greater speed to the patrol cars' mobile data systems, the police department will be able to stream the same live traffic video to officers and add additional video stream from banks and convenience stores.

This added benefit will let officers see what's going on inside a business when responding to alarms or disturbance calls before entering the premises. The police department will work with local businesses and banks to install supplemental Internet protocol-compatible digital video recorders (DVRs) to the businesses' existing camera networks. The DVRs will then be connected using secured 802.11 devices on the Tropos network. Once this is achieved, the department will be able to view video from the business cameras hooked up to the DVR.

This project brings the Aventura Police Department to the forefront of technology advances for a police agency. The department will not only address traffic concerns more effectively, but will also enhance both officer and citizen safety.

Tom Labombarda is sergeant of the Aventura Police Department in Florida.

CONTINUED FROM PAGE 40

people from city governments and Native American tribal governments.

Linda Bobbitt, vice president of GeoSpatial Experts, said the company has received inquiries from several other local governments.

The Medford Experience

In 2002, GeoEngineers developed a similar application for a cemetery managed by Medford, which at the time had no database for its gravesites.

"It was all handled in one person's head and the few notes he kept," said Keith Aeschliman, project manager in the city's Technology Services Department.

Medford had GeoEngineers develop a database and GIS system, linked to photos of the headstones for internal use. Staff use it for information they need to sell plots and to field genealogists' inquiries.

The city hasn't put the information on the Web, but that move could come soon. City programmers will probably rewrite the application within the next year, using newer software from ESRI, Aeschliman said. "When we do that, that's when we're likely to go public with it."

In Nampa, once the Web-based application goes live and word gets out to genealogists, that should reduce calls to the city clerk's department, although people are still welcome to call if they need extra help, Lambing said.

The city clerk's department could also use the Web site to show available gravesites to prospective buyers, she said. Funeral homes could use it to locate available spaces, and monument makers to find the right location when they need to place a stone. The city might give those professionals access to data that's not available to the general public, she said.

A side benefit of the project is that it gave the city clerk's department a good audit of gravesites in the cemetery, Collins said. "They found spaces that used to be unavailable, because of an old irrigation ditch that is no longer in use."

Linking geographic coordinates to photos might also prove useful in other corners of the city government, such as the Waterworks Division. When department staff install equipment, they may have to work around the facilities of numerous other utilities, Collins said, recalling a recent project.

"They said it would have been nice, when the trench was open, to take a picture of how all that was put in, so if they ever had to go back and do some work, they'd know what they were getting into," Collins said, noting that staff could link the photo in a database to that particular intersection and add data on the facilities they installed.

There has also been talk about using the software to inventory street signs, Collins said. "I'm sure there are lots of ideas we haven't even thought of."

Merrill Douglas <mdouglas@stny.rr.com> is a writer based in upstate New York. She specializes in applications of information technology.

> "It was all handled in one person's head and the few notes he kept."
>
> — KEITH AESCHLIMAN, PROJECT MANAGER, TECHNOLOGY SERVICES DEPARTMENT, MEDFORD, ORE.

Send product review ideas to Assistant Managing Editor Miriam Jones <mjones@govtech.net>

»two cents

Our take on the latest technology.

BY CORINE STOFLE | STAFF WRITER

As You Please

The malleable and customizable Gateway E-2600S lets you be boss.

When the folks at Gateway designed the E-2600S, I don't think they had a specific person in mind — I'm pretty sure they had everyone in mind.

The result is a highly versatile machine made to adapt to any office space.

The E-2600S comes with the Microsoft Windows XP Professional Edition and an Intel Pentium 4 Processor 531, with 3 GHz, 800 MHz FSB, 1 MB L2 cache.

I kept my machine flat on my desk and under my monitor, and in this configuration, it measures a mere 4.1 inches tall, 16.4 inches wide and 14.4 inches deep.

Others may choose to keep theirs under their desks, and/or standing up. I must admit, being the fundamental skeptic I am, I thought the latter option simply would not work for me. As an avid music listener, I frequently use the CD player, and the standing position obliges the slot to be at a vertical angle. Unless Gateway found a way to defy gravity, I thought, a CD would slide right down from the open slot at that angle. Not so. Four tiny hooks keep the CD firmly in place, making it easy to insert and eject it.

I also enjoyed the E-2600S's customizable aspect. A CIO once told me that when it came to equipping an office with hardware and software, not everyone needs every bell and whistle all the time. With this machine, users can customize their options to suit their work needs.

For instance, the front of the machine can sport two optional USB ports and/or two IEEE 1394/FireWire/i.Link ports. The test unit came with the USB ports option, which was perfect for me, since I have no use for FireWire ports. The USB ports, on the other hand, made it very easy for me to plug in a flash drive, copy files and take work home. The machine also comes standard with four USB 2.0 ports at the rear.

Other options include audio in/side speakers, center subwoofer and rear speaker jacks, which can complement the standard Integrated High Definition Audio — Realtek ALC655 or the optional ALC861 — a nice touch for audio presentations ... or the occasional office party.

Another nice detail is the E-2600S is Energy Star compliant, which can lead to potential savings in these days of pricey energy. The unit starts at $829, which includes a one-year warranty — this machine can easily find a spot in a tight budget.

One problem I experienced — and it could be related to my particular machine — was that the E-2600S's fan was very loud, sometimes making it difficult to hear what went on a few feet away from me. The problem solved itself when I restarted the machine, and only came back periodically.

That was my only bone to pick with the E-2600S, which was otherwise a very functional machine that kept up with my customary 10 to 15 open windows and applications.

»Specs

- 1 GB DDR2 PC4200 533MHz SDRAM (2-DIMM)
- 160 GB Serial ATA150 7200 rpm hard drive with 8 MB cache
- Integrated ultra ATA100 and serial ATA150 controllers
- 16x Double-Layer Multiformat DVD±/R±RW/CD-R/RW recorder
- 3-bay Micro-BTX Case with front audio ports and 275-watt power supply
- 2 PCI Slots, 1 PCI-E x 1
- 6 USB 2.0 ports two front, four rear, one serial, one parallel, two PS/2, one RJ-45 integrated LAN, one VGA, one audio in/out, one microphone, front headphone ports
- Integrated ATI Radeon Xpress 200 Graphics with up to 128 MB shared memory
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- Gateway PS/2 wheel mouse and mouse pad
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product news

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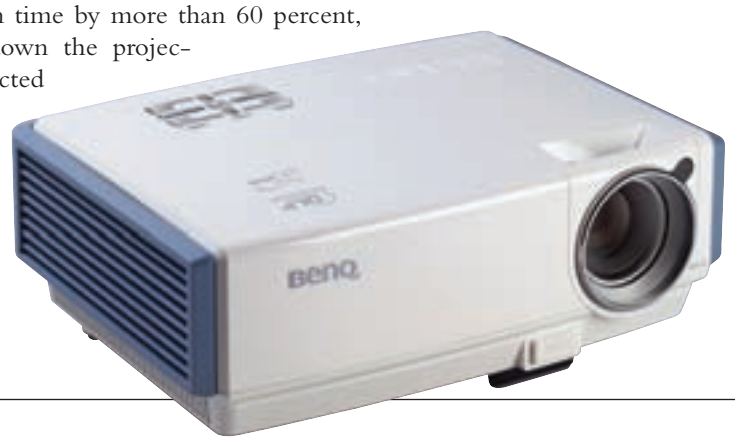
Vista-Ready

The **Lenovo** C200 notebook offers models with Intel Core 2 Duo processors that run multiple programs, such as business or multimedia applications, while simultaneously conducting virus scans. The C200 also offers Windows Vista-capable models. The notebook's curved silver exterior makes carrying more comfortable, and a 15-inch anti-glare display makes reading easier. The C200 features a five-in-one multicard reader to handle card formats from various devices, such as digital cameras, digital camcorders, USB storage devices, game controllers and digital music players. Lenovo Care tools on the C200 deliver automated updates, one-button system recovery, easy connectivity and IBM service and support. **<www.lenovo.com>**

Cool and Clear

The **BenQ** MP510 digital projector weighs 5.9 pounds with a footprint of 10.9 x 8.2 inches. With 1500 ANSI lumens of brightness and a 2000:1 contrast ratio, it doesn't require completely dimming a room's lights. A wall-color-correction feature eliminates the need for a projection screen and still maintains the MP510's ability to display accurate colors. The unit accepts analog RGB, component video and S-Video inputs, accommodates a wide range of digital video formats, including 480p, 576p, 720p and 1080i, and can work with many high-definition TV systems. The MP510's quick-cooling feature reduces cool-down time by more than 60 percent, and its auto-off function shuts down the projector when no data source is detected after a user-defined amount of time to save power and prevent overheating. The machine can be password protected to prevent unauthorized usage, and features front/rear and table/ceiling positioning capabilities.
<www.benq.us>



Data Harvester

LXE's HX2 is a small, lightweight data collection computer designed to be worn on a person's arm or waist, and features a magnesium alloy front and impact-resistant screen for sturdiness. It contains an Intel XScale processor, an 802.11 radio with Bluetooth, and its large backlit keys are fully mappable so users can customize them for specific applications. The HX2 supports industrial-grade voice recognition applications. Users can run voice logistics applications and traditional barcode scanning applications on the same unit.
<www.lxe.com>

Remote Printing

Toshiba's e-STUDIO 901 high-volume monochrome digital multifunction printer lets users access its network through a 10.4-inch Super VGA thin film transistor LCD remote touchscreen control panel. It offers 1200 dpi resolution, 8,050-sheet maximum paper capacity and an extended drum life lasting up to 2 million copies. A three-drawer large capacity feeder option features both ledger- and letter-size handling. The 100-sheet reversing automatic document feeder scans both black-and-white and color originals at an equal speed of 80 pages per minute and includes a scan-to-e-mail feature for network scanning needs. **<www.copiers.toshiba.com>**

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BY CHAD VANDER VEEN | TECHNOLOGY AND POLITICS EDITOR

The Technology Devolution

As a reader of *Government Technology* magazine, every month you can count on great stories about the rapidly changing technology landscape and how it all fits into the government sector. But what isn't often covered are the stories of government programs and projects that don't benefit from technology and are in fact hindered by it.

Case in point. At the time of this writing, millions of Americans are casting their vote for some number of politicians who, if elected, will immediately begin spending their time preparing for the next election. As feared, reports are streaming in that electronic voting machines are malfunctioning. The machines caused so much frustration that a poll worker in Kentucky attacked a voter; while in Pennsylvania an aggravated voter simply destroyed the infernal thing by smashing it to bits. After the 2000 presidential election — the one where thousands of regular folks were outsmarted by simple punch card ballots — people who believed they knew better started clamoring for electronic voting machines. These people, from all political backgrounds, demanded that the most sacred and solemn duty in democracy be done on a complicated piece of technology instead of a simple, reliable piece of paper.

Here we are, six years later, and the day's headlines speak of votes being miscast, being changed, and worries of the voting machines being hacked. In fact, Fox News recently had a live demonstration of an electronic voting machine being hacked in 10 seconds. Electronic voting machines are a much too complicated solution to a very simple problem. If there are people out there voting that are too stupid to use a punch card correctly, then the solution is not to give them a freakin' computer. Instead, why not try to keep it even simpler?

Toss the computers, toss the punch cards, toss everything but paper and pencil. On the ballot should be the following, in English: the name of the candidate/measure/proposition in 28 point Times New Roman font. Next to that would be two equally large empty boxes, one for yes and one for no. Above and below them, the names and boxes would have very thick, black lines that clearly separate the candidates/measures/propositions. All voters would be asked to do is make some kind of mark in the box they chose. Not a fill-in, not an X — just a mark of any kind. If the voters can't operate a pencil, they can scratch the box with their fingernails. If a voter somehow marks both yes and no, then the vote is tossed in the same pile as the computers and punch cards.

Add to that a few new laws such as: Anyone with a job who wants to volunteer to work the polls would be paid a normal day's wage by their employer without using any vacation or sick time; every registered voter would be given the option of absentee voting; and every damn ballot, by law, would be the same.

For Pete's sake, even Iraq has a more reasonable voting system than we do. And now, we're stuck with these horrible voting machines. Technology for technology's sake is a foolish philosophy. Admittedly technology can be — and has been — the solution to a lot of problems. But sometimes it isn't the right solution, and other times, it's just plain stupid.

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BY PAUL W. TAYLOR | CHIEF STRATEGY OFFICER | CENTER FOR DIGITAL GOVERNMENT

Lost in Translation

On the Internet, nobody knows you're unilingual.

Nothing animates capital campuses like the beginning of a new legislative session. The wooden desks, marble and brass in the chambers are reminders of the great traditions of representative government. But the quietly blinking LEDs of computing and network devices are reminders of how the public's business now gets done.

Downstairs in the bill room, the legislative hopper begins to fill. The first bills to drop offer a combination of trial balloons, bills ripped from the headlines, and perennial pet projects all vying for the early attention of committees as they gear up for another season of deliberation.

That curious mix often includes "official English" bills. Such measures have already passed in 28 states. The prime target is Spanish, but as the name suggests, the measures prohibit government from using any of the other 320 languages spoken in the United States while conducting official business — including providing several types of public services.

Buoyed by their most recent win in Arizona through a citizen's initiative that passed in the November 2006 general election, English-only activists can reasonably be expected to set their sights on expanding their reach.

It is helpful to decouple the language or number of languages used in and by government to conduct official business from the debate over immigration, something the proponents in the official language movement tend not to do. Indeed, language use — or more properly, which language(s) to use in conducting official public business — has been caught in the undertow of the more complicated public policy issues related to what constitutes a reasonable, just and enforceable immigration policy.

All of this may seem a distant concern for these pages, but once one touches the question of *how* to develop and deliver multilingual services online, it naturally and inevitably exposes the public-sector IT community to the question of *whether*.

The exposure is not theoretical. With 13 percent of its population identified as Spanish-speakers, Utah saw an opportunity to extend service at incremental cost with Español.utah.gov — a Spanish version of its popular, award-winning public service portal. Its launch was delayed … nay, almost scuttled … a year ago when it confronted the official English crowd.

As it has done across the country, a group called "U.S. English" had ushered a non-English ban bill from the hopper through the Legislature and onto the governor's desk.

The brightly colored red, white and green Web portal went dark pending a review of all the content by the Attorney General's office against the one provision that provided some flexibility. The U.S. English model legislation included a specific exemption for "actions … that protect the public health."

As it happened, almost everything on the Spanish-language site fits under the exemption. So much for the implicit conspiracy theory that second and third languages were a bureaucratic ploy to expand public programs — turns out the bureaucrats were only doing their jobs by the most efficient means.

Utah's Spanish-language Web site returned to service, but sporting a color scheme that substituted blue for green to give it a more patriotic hue. Utah is not alone.

California and Arizona both have official English laws, but these governments serve populations that are 35 percent and 28 percent Spanish-speaking, respectively. For its part, California found room under the exemption to provide searchable access to its online Megan's Law sex offender registry in a total of 13 languages.

Among the minority of states without official English measures, Pennsylvania makes COMPASS, its online self-service system for navigating through the process of social services eligibility and applications, available in a dozen languages. (Absent a state-level official English measure, the small town of Hazleton, Pa., passed one of its own.)

A number of important things are lost with the English-only debate. The Web is not the sole province of any one language any more than our communities are. It is a sign of our times that linguistic minorities are firmly ensconced in the digital majority. Consider, for example, that two-thirds of Hispanic-American households enjoy Internet access and more than half are part of the emerging broadband majority.

The movement assumes that speakers of other languages are a net drain on the economy — tourism, entrepreneurship and intellectual capital be damned. It is a position more reflective of a flat Earth rather than a flat world to suggest that denial of public services based on linguistic ability actually solves anything.

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