

# OCSC Newsletter

## Serving Citizens Through E-Government

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## The Citizen Services Delivery Cycle

By *Martha Dorris*  
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Governments have tackled the improvement of citizen service delivery on many fronts, first with the automation of government-to-citizen, government-to-business, and government-to-government transactions and information services; and secondly, by streamlining the bureaucracy itself.

Information technology has expanded governments' ability to deliver services of a quality equivalent to that of most customer-centric corporate providers to enable citizens to transact business with the all levels of government over the Web. Cities made it possible to pay parking tickets online; states permitted online driver license renewal; the IRS encourages online income tax filing, and many countries now process visa applications online.

After automating basic services governments found a bigger challenge. In order to fully deliver on the e-government promise, they had to collaborate horizontally and vertically across boundaries. When they viewed government service delivery from the citizen's perspective, they found that citizens want more than simply automated service delivery; they want all related services to be available in the same place. They want to be able to finish a transaction in one sitting. A small businessman who needs to register a business, for instance, wants to get all

necessary forms and process all necessary applications at the same time and in the same place. A citizen looking for government information wants to find it now—whether online, on the phone, or in person.

Governments are already beginning to count on the savings they can derive by moving service delivery systems out of staffed offices with customer-service counters, away from agency-specific call centers and Web sites, and labor-intensive manual processes. However, if citizens don't want, don't like or don't use these programs, the government won't realize the efficiencies that the technology promises.

### 1. Discovery

The mission of government program managers is to serve citizens—and they must also answer to a number of stakeholders-e.g., Congress, the White House and agencies, and government employees who provide the services. So the first step in delivering citizen services is to find out what our citizen-customers and government-stakeholders want. Citizen-centric governments conduct and study surveys and focus groups to find out directly what citizens have to say about how to improve citizen service. They also review trends in web traffic and usage statistics to determine how widely their online

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**Comments and Suggestions**

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**1-800-FED-INFO**



services are used. They benchmark world-class organizations and seek best practices across the board to allow governments to provide state-of-the-art service without having to reinvent the wheel.

Government program administrators serve many masters. Although they are increasingly citizen-oriented, they must also keep in mind the interests of their “board of directors”, the legislative and executive leaders who legislate to create their programs and control their budgets to fund them. The president’s agenda, legal and political priorities, budgets and the capital investment process, portfolio management and other essential forces must also be considered in determining the highest priorities for meeting citizens’ requirements. Regardless of the citizens’ interest in improved technology-based services, program administrators must always be mindful of the need to provide a proven return on investment, show alignment with policy and political priorities, and be creative about finding the necessary funding.

Government employees are an important, though often overlooked, stakeholder group. They form the frontline of service delivery and are responsible for the quality of the citizens’ experience. They need continuous communications and training to ensure that their actions are consistent with the priorities set by government leaders and that they employ the best practices and procedures available. In addition to the numerous conferences and congresses held by non-profit and governmental organizations, training programs like those offered by the Web Manager University offer the latest thinking in how to make government web sites user-friendly.

## 2. Mission-focused Programs

In this phase of the citizen services delivery cycle, the government program and technology directors come together to find ways to meet the needs of their customers, stakeholders and employees. They review feedback from citizens and benchmarking results. They also review policies, laws and funding priorities established by the governing authorities who are their stakeholders to identify the best areas for technology investments. Ideally, they re-engineer the processes involved in delivering their service to maximize efficiency and avoid simply using technology to perform processes that don’t deliver value for the citizen—or “paving cowpaths.” They look at essential concerns like the impact on security and privacy and desirable features like opportunities for re-use and interoperability. They identify proven technology and explore emerging technology solutions (preferably off-the-shelf). They must make a business case to position their program as producing a high return for the IT investment

portfolio. Given approval, they develop, test, validate and reconfirm it. Reality checks and consultation with citizen and stakeholder representatives are important.

## 3. Collaboration and Transformation/Sharing, Leveraging, and Transforming

Over the long-term, improving citizen service delivery will require more than simply putting services online. It will require a fundamental transformation of government, a new orientation that focuses on fulfilling citizens’ needs as effectively as possible. This “whole-of-government” approach must be taken at an enterprise level, in order to ensure that transformation becomes—as the UK e-government strategy puts it—“irreversible.”

Programs will be designed and operated through a collaborative process that brings other governments, non-profits, industry and academics into the planning and development process. Standards will be developed to make it possible to share technology and information and ensure interoperability among many essential partners. New funding models will reflect this new reality. New methods of recruiting and training will help ensure a capable staff with the skills to operate in this new environment. New governance models will need to be developed to manage these processes and ensure that appropriate incentives are in place, when traditional reporting relationships are weakened.

The consolidation of Federal government “lines of business” is one way to effect this transformation and eliminate duplication at an enterprise level. Here is how the process is described in the fiscal year 2007 budget documents:

When duplication across federal agencies has been identified, the Administration has an ongoing process, through inter-agency taskforces, to bring together the appropriate agencies and help them to consider broad-based approaches to promote inter-agency data sharing and cooperation in building common solutions, rather than maintaining separate investments. Upon migration to common, Government-wide solutions, agencies will shut down redundant systems which will not only save money but also free-up resources for agencies to better focus on achieving their missions. These interagency taskforces focus on the agency Lines of Business (LoB) rather than a specific technology or investment.

Consolidation is underway in the areas of financial management, human resources management, case management, grants management, federal health

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architecture and information system security. Three more lines of business initiatives will be implemented in fiscal year 2007—IT infrastructure, geospatial and budgeting.

This “back-office” transformation will create a new technology infrastructure for government and make it easier to view the process of citizen service delivery at a whole-of-government level. Eventually, all services delivered by any government entity—federal, state or local—should be available through a single government source that does not distinguish (and perhaps does not even identify) the government office providing the service.

#### 4. Service Delivery

At one time, there were only two ways to get government services: go down to the post office, or the agricultural extension office, or the Social Security office, or the county courthouse and state your business to the person behind the counter; or engage in an often lengthy correspondence with a government agency by mail. Some citizens like the face-to-face interaction and don't mind the inconvenience or the time it takes. Others are content to get government information by mail—once they have found the appropriate government office to address it to. Those who find it burdensome to have to appear in person to or wait for the mail to conduct business with the government now have a choice of many different ways to get what they need.

With an eye to improving services to the citizens, governments have made it easier to get printed information from the government. The Federal government, for example, established a central distribution point in Pueblo, CO, from which a wide range of Federal consumer publications is mailed to citizens. For over 30 years, these publications have been available to citizens at little or no cost.

In the past decade or so, technology has opened up many different channels for government to use in serving citizens. The Paperwork Reduction Act of 1995 committed the Federal government to making most services available through the Internet. State and local governments, which are closer to the front line in citizen service delivery, have

also been quite successful in using the online channel for informing citizens. Citizens can pay their taxes and file tax returns online, get licenses (business, hunting, driving, etc); apply for passports, student loans and government grants, and even pay their parking tickets online. They can participate in policy-making, vote, and purchase government surplus online. And it's easy to find answers to frequently asked questions on [www.FirstGov.gov](http://www.FirstGov.gov), the U.S. Government's official Web portal, which offers FAQs about Federal programs on its home page—and the way to find state and local FAQs using its Search capability. Even the Federal Citizen Information Center publications can be downloaded from the Internet.

Technology has also made it easier for citizens who want to get government information over the phone. The National Contact Center, at 1-800-FEDINFO, is staffed 12 hours a day and can provide information about most Federal programs or contacts at specific agencies. During times of emergency, like the 2005 hurricanes, it has expanded its hours to 24/7. The contact center customer representatives get their information from the same large database as [FirstGov.gov](http://www.FirstGov.gov), so what is provided by phone is consistent with the information online. The National Contact Center also responds to e-mail inquiries sent through [FirstGov.gov](http://www.FirstGov.gov). Questions are answered as quickly as possible usually within two business days.

The objective of citizen-centered government is to serve citizens as quickly, reliably, and accurately as possible, using every channel citizens want to use. This requires continuously asking citizens what they want from government—and how they want to interact. Through this ongoing dialogue, government can measure citizen satisfaction with how they are being served, and feeding that information back into the process of citizen service delivery.

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## State of Alabama *Smart IT Budgeting & Strategic Planning Initiative: Moving Alabama Toward An Enterprise View of Technology*

By Jim Burns  
Chief Information Officer  
State of Alabama

### Description

The state of Alabama has implemented a strategic planning, budgeting, and implementation process that is transforming the way Information Technology (IT) is done throughout state government. SMART budgeting for IT is Specific, Measurable, Accountable, Responsive, and Transparent. This comprehensive strategy is taking Alabama to higher levels of IT service delivery, accountability, and cost efficiency. Taxpayers are getting more for their dollar, government is more accountable, and Return On Investment (ROI) for IT is no longer a buzz-word—it's a reality.

SMART is a strategy that is moving Alabama toward an enterprise view of technology. This view will assist agencies with implementing Alabama Governor Bob Riley's vision for efficient government through executive order (Alabama Executive Order 20) and through the overall SMART budgeting initiative. It's important to note that the SMART approach crosses all disciplines and agencies in Alabama government. However, SMART for IT ensures that IT planning and budgeting make sense for the state as a whole, as well as for the business objectives of the individual state agencies.

Because Alabama's central IT

organization, the Information Systems Division (ISD), provides services for the Executive Branch, the entire planning and SMART processes were linked to the governor's vision as articulated during his State of the State address: "Our first objective is to cut out waste and create efficiencies in government." The SMART implementation includes state agencies (customers of ISD), vendor partners, and the Office of the CIO and the ISD as a whole.

### Significance and Improvements

The most direct result of SMART is the ability of the Alabama Information Services Division (ISD) to develop and implement enterprise solutions and achieve the economies and collaboration only achievable with government-wide systems. With collaboration and after analysis of ROI, plans were generated to reduce the total number of email systems from a total of 40 to 1. During the next 12 months, great progress was made toward this goal, as more than 73 agencies converted to a state-wide Microsoft Exchange and e-mail solution. Through network consolidation, sharing of bandwidth to the Internet, and a state-wide initiative to curtail non-state business on the network (using targeted content filtering), ISD reduced

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network traffic significantly and dramatically reduced exposure to malicious code (spyware). These steps reduced the number of hits to non-business sites from 600/hour to nominal levels.

By planning and executing enterprise level e-government applications, Alabama has greatly improved its service and visibility to its citizens. Centralized e-government, with a public-private partnership with NIC, Inc. made Alabama a top-three provider in the nation in terms of number of e-gov applications deployed by a state government.

One new application was deployed for the Alabama Real Estate Commission to replace the paper-based system it had used for many years. With this new application, called "CMAP", the Real Estate Commission now receives data related to realtor class scheduling and the certification of licensees. The CMAP tool simplified the process by which the Commission, licensees, and education providers supply schedules, rosters, certificates, and other information during license renewal and audit periods. The Commission is assured of the authenticity of a licensee's certification from the CMAP system because it has been directly entered by the education provider. Real estate professionals may access class schedules and also print course completion information.

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The new service is truly a win-win for the Real Estate Commission, its licensees, and the education providers. Education providers no longer need to print, fax, and mail class schedules, certificates, rosters, and other information that can average up to 600 pages of material. Instead, all information is provided by data entry and placed in a database that is integrated end-to-end in the back office. The process of wading through 600 pages of information to verify one person's course completion was inherently cumbersome and arduous. With CMAP, the task of visually scanning hundreds of documents is replaced with an easy-to-use application that can scan the database in seconds. As a result, the Commission has also estimated a 50 percent reduction in staff time associated with course maintenance. The CMAP tool is one of many applications that demonstrate the benefits of enterprise e-gov as required by SMART IT.

## Benefits

Governor Riley recognized that his goal for efficiency was impossible without the effective use of technology. The Governor gave full freedom to ISD to do its job for the State. This latitude translated into a new vision for ISD:

"To become a trusted leader, providing high value IT services to the State of Alabama and to have a Commitment to Excellence, Customer Focus, Ethical Management and a Quality Work Environment."

These simple words were transformational for ISD and have directly affected efficiency, reputation, and employee morale. When the new vision statement was issued, ISD was not a leader and was viewed as a provider of over-priced, low-quality service. Now, although the vision is not fully realized, ISD is respected for its accomplishments

over the past several months.

The governor also required every other agency of Alabama state government to link its spending with measurable results that taxpayers will be able to see in reports posted on the Internet. In addition to complying with the governor's directive, ISD developed the state's Internet portal, which was essential for implementing the governor's state-wide SMART budgeting vision overall ([www.smartbudgeting.alabama.gov](http://www.smartbudgeting.alabama.gov)).

The Alabama Finance Director, who has administrative oversight of ISD, said SMART budgeting and planning will "assist state agency directors ... in identifying and eliminating ineffective programs or programs that

cannot demonstrate they are effective."

The state's technical architecture is a key ingredient in the SMART planning process. The National Association of Chief Information Officers' (NASCIO's) "Enterprise Architecture Development Tool-Kit" is an outstanding template that is being used to move the newly formed "Standards, Architecture, and Planning" organization forward. This organization, along with state IT directors and a partnership with Intergraph Corporation, is tasked with developing architecture and standards and also enforcing them. This planning produces documents that can be shared with agencies as

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Governor Bob Riley - State of Alabama

SMARTGOVERNING

Governor's Priorities | Plan | Budget Request | The SMART Cycle Operations Plan | Quarterly Performance Report

**S**pecific  
**M**easurable  
**A**ccountable  
**R**esponsive  
**T**ransparent

**Improving Alabama Government...**

As Alabama completes the second year of **SMART** (Specific, Measurable, Accountable, Responsive, Transparent), I want to commend all state agencies for their outstanding efforts in implementing a statewide strategic planning system. State government is moving to reflect the needs and expectations of Alabama citizens. Through continued cooperation and commitment, we will ensure Trust, Excellence, Servanthood and Results to all Alabamians.

In a short time, a system has been developed that focuses on implementing strategic goals with each agency's finite available resources. These practices and framework carry out the requirements of the Budget Management Act and foster even greater accountability and transparency. These changes will benefit Alabamians for years to come.

SMART will continue to grow as more ways are identified to improve the management of state government. Explore this web site and learn more about this important initiative for the State of Alabama.

**What's New**

- FY08 SMART Manual Changes and Highlights
- New SMART FAQ's
- Capital Assets Sub-Plan Manual
- SMART Dates Calendar
- FY 08 Training Resources
- FY '08 SMART Training Manual
- New SMART Due Dates
- Agency Worksheets for FY08 SMART Plan

**SMART Library**  
A collection of information for state agencies and the general public.

Library | Overview | Agency Login | Contact Us | Search | FAQ

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they develop their specific plans within a three-year timeframe and comply with the requirements of SMART. The standards themselves are "living documents" that will be updated as technologies and requirements change. These documents help with an enterprise view of IT, particularly for shared IT services such as e-mail, networking, telephony, and ERP applications.

"Our technical architecture is the glue that holds all of our enterprise goals together. Without architectural standards and compliance, the State of Alabama IT operations are more like a confederated republic of independent organizations than a unified State government." (Jim Burns, Chief Information Officer, State of Alabama)

## ROI and Payback

Alabama reaps daily paybacks because of the SMART IT planning and budgeting process. Whenever an enterprise approach is used, whether for hardware purchases, centralized e-mail, or Internet bandwidth, the result is a good ROI for Alabama.

Improvements within agencies include development of projects with a strong emphasis on a positive ROI through improved service or reduced costs. Specifically for 2004, the state began saving over \$75,000/month as a result of new state-wide leveraged buying and standardization on PC platforms and peripheral equipment. Prior to this, individual agencies purchased PCs and associated hardware on an ad-hoc, agency-by-agency basis. SMART and Executive Order 20 required agencies to work with ISD in planning for and purchasing IT equipment and software.

Through network consolidation, sharing of bandwidth to the Internet, and targeted content filtering, the

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## ROI COMPUTATIONS FOR ALABAMA CENTRALIZED E-MAIL

*Alabama Centralized E-mail account cost per year and per month*

ACE PROJECT		
Cost Per Email Account on ACE		
Number of Accounts	Cost Per Year	Cost Per Month
3000	\$245.05	\$20.42
7000	\$105.02	\$8.75
10000	\$73.51	\$6.13

*Old Distributed E-mail account cost per year and per month for agency with 100 users.*

AGENCY COMPUTATIONS			
379,435			
Cost Per Email Account on Agency Server			
Number of Accounts	Cost Per Year	Cost Per Month	Average per Year
100	\$758.87	\$63.23	\$75,887

*Return on Investment (State-wide)*

Type EMail System	Accounts	Cost per Year
Distributed EMail	10000 X \$500 (average)	\$5,000,000
Consolidated EMail	10000 X \$73.51	\$735,100
Projected Return on Investment		\$4,264,900

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state reduced network traffic significantly and eliminated the need to buy more bandwidth from our Internet access provider. Additionally, through e-mail consolidation and holding internal IT agencies responsible for ROI for agency-only e-mail systems, the state began saving over \$100,000 month—with ongoing savings projected to top \$4 million/year.

The Alabama Department of Finance conducted a survey of state e-mail systems on a departmental basis. The survey asked for information about the number of servers, mailbox size, number of users supported, virus detection software, and various other factors. This survey showed the wide variety of e-mail systems that had supported the state, the cost of running those services, and their complexity. The survey also showed that costs varied widely among agencies, with ongoing costs ranging from \$20/month per employee to a high of over \$63/month per employee. By eliminating duplicate efforts and expenditures by agencies and consolidating e-mail on a central

system, Alabama Centralized E-Mail (ACE) at full capacity of 10,000 users will lower the cost of an individual employee e-mail account to under \$7 and also provide improved service and tighter security.

## **In Summary**

The statewide SMART process enhances the ability of leadership to prioritize projects and direct IT resources in order to achieve statewide objectives. An enterprise (as opposed to individual agency) view is now the focus, enabling the state to take advantage of economies of scale and leverage assets for maximum impact. The SMART process is a comprehensive planning process that enhances the possibility of success, speeds up approvals, and gets the central IT authority, ISD, out of the business of micro-managing each and every IT effort for every agency. If an agency follows its SMART plan and complies with the governor's executive order, it can go about its IT business without the need for approval at every step of implementation.

SMART strategic and budget planning efforts occur annually and follow a three-year look forward. This comprehensive, long-term look enables the state to plan for action, rather than respond to a document disconnected from the reality of running state government. To achieve buy-in, stakeholders and representatives from all agency IT organizations are part of an "Executive Committee" and a larger "Advisory Committee" that meet regularly to plan and make recommendations. The three-year process is gradually refined as plans move forward for approval by the CIO for the IT component and then, ultimately, to the Chief Financial Officer for overall planning and budgeting approval. An informative website rounds out the process by providing SMART guidance for all users and links to SMART guidelines and methodology.

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## States Push Taxpayers to File Online

By Kathleen Hunter  
Staff Writer  
Stateline.org

With the books closed on 2005, state revenue officials are trying to entice more taxpayers to file their state income tax returns electronically.

In Illinois, where recent increases in electronic state personal income tax filings mimic a national trend, slightly less than half of returns were filed by computer last year. But officials are optimistic that a majority will be filed via the Internet this year.

Illinois tax collectors are relying on incentives such as direct deposit of tax refunds as quickly as three days after returns are filed and online responses to common questions about state taxes to lure more people away from traditional paper returns.

"It just makes sense. It helps the taxpayer because it's efficient and timely," Illinois Department of Revenue spokeswoman Geraldine Conrad said.

Last year, about 2.4 million of Illinois' 5.7 million personal income tax returns were filed electronically. That's 12 percent more than in 2004.

Nationwide, the number of state income tax returns filed electronically also is approaching half. About 48 percent were filed electronically last year, up from 42 percent in the year before and 31 percent in 2003.

Arkansas, California, Georgia, Iowa, Michigan, and Minnesota are among states where more than half of the returns already are filed electronically.

Just five years ago, paper returns accounted for 80 percent of all state personal income tax filings. Much of the effort to move away from paper was due to state budget woes.

"A lot of growth in electronic filing occurred when states didn't have any money," said Harley Duncan, executive director of the Federation of Tax Administrators. "When the recession hit, there was a push to move to electronic filing because that takes paper out of the system, requires fewer people, and helps save money."

Although filing deadlines vary widely in the 44 states that tax personal income, many taxpayers file their state taxes in conjunction with the federal government's April 15 deadline.

After a decade of double-digit growth in the electronic filing of state returns, experts predict that electronic filings could plateau unless states offer incentives.

"It's just getting harder to attract new people to the game by using the old method of trying to market it," Duncan said.

He cited Indiana and Virginia as states where new methods are being tried. In those states, for example, taxpayers can check the status of their state income tax refunds online.

In response to scant growth in online filings in Maryland, the state comptroller's office is pushing legislation granting taxpayers who file state returns electronically a two-week extension on paying taxes to the state.

Thirteen states (Alabama, California, Connecticut, Massachusetts, Michigan, Minnesota, New Jersey, New York, Rhode Island, Oklahoma, Utah, Virginia and Wisconsin) also now require that tax preparers submit returns electronically.

"That's what you'd call the low-hanging fruit," said Duncan, of the Federation of Tax Administrators.

Across the country, there are various means of filing electronically, including by personal computer using various commercially-sold software programs; by state-run Web sites in 20 states; and by the Internal Revenue Service. Non-paper returns also are filed by phone.

The number of state income tax returns filed electronically still lags behind the federal E-File rate, despite states' efforts to encourage taxpayers to move away from paper filing.

About 44.4 million—nearly one-half—of all personal state income tax returns were filed electronically in 2004, compared to about 49.4 million federal returns—a gap that experts say states could have difficulty closing.

Most states now offer residents the option of having their income tax refunds directly deposited into their bank accounts, adding another level of efficiency and cost-effectiveness to the process.

"Just like the electronic filing, it's quicker, easier, and cheaper," Duncan said. "It cuts down printing and mailing costs and printing and mailing time. It gets the refund to you three to five days quicker than you'd otherwise get it."

Corporate income and other business taxes are next on states' agendas, Duncan said. The IRS, for the first time this year, will require companies with gross assets of \$50 million or more to file corporate income tax returns electronically. Seventeen states also will offer companies the option to file corporate income tax returns electronically this year. So far, Massachusetts is the only state that requires some companies to file corporate income tax returns electronically. Thirty states also offer businesses the option to file sales taxes electronically.

*Comments on this article may be sent to [letters@stateline.org](mailto:letters@stateline.org). Selected reader feedback will be posted in the Letters to the Editor section. Contact Kathleen Hunter at [khunter@stateline.org](mailto:khunter@stateline.org).*



## E-Localization: *Beyond E-Government*

By David Molchany  
Deputy County Executive and CIO  
Fairfax County, VA

In July 2005, I attended a seminar where the key finding was the concept of “e-localization” as a step beyond e-government. E-localization for a government requires an understanding of its customers, community, and culture, and then using this understanding to create an overall strategy for deploying a custom e-services program and delivery channels that fit the customers’ service needs.

This concept encompassed the following principles:

- Localization of services is necessary to make an e-government program relevant to citizens and their service needs.
- A holistic approach should be followed to determine which e-government delivery channels best meet the needs of citizens and how they want to interact electronically with government.
- Citizen-Customers should be treated like Stockholders who want a return on their investment, i.e., service delivery that makes sense to them and fits their needs in exchange for their tax dollars.

I soon recognized that this concept defines the Fairfax County approach to e-government. In Fairfax County, e-localization is accomplished through our strategic planning process. The Board of Supervisors set the county’s strategic direction based on constituent input. The county executive and senior management team translate the Board’s strategic direction into an overall county strategy and operational goals and then determine government investment priorities, including for IT and e-government.

County leaders support an enterprise approach to managing information and technology county-wide. The CIO is one of four deputies reporting to the county executive and has responsibility for all strategic communications, information and technology initiatives, and investments, including IT, cable television, consumer protection, document services, and the county library and archives. The CIO also works directly with the county’s Office of Public Affairs and is the county executive’s liaison to the county’s Economic Development Authority.

The role of the CIO has been broadened to become the “Information Deputy County Executive” encompassing enterprise-level communications, marketing, citizen feedback, message-formulation, and the delivery of information-based services to citizens.

The county’s Chief Technology Officer/ Director of the Department of Information Technology reports to the “Information Deputy County Executive/CIO”. With a direct staff of more than 300 and a budget of over \$73 million, the CTO administers the county’s technology modernization fund, which ranges from \$9 million to \$20 million per year. Over 150 agency-based IT staff members are also matrix managed by the CTO to ensure consistent enterprise-wide IT governance.

IT project priorities are set by the county’s Senior IT Steering Committee, which is chaired by the CIO and includes the CTO, and are based on the county’s strategic goals. IT projects are initiated by program managers in the county departments, who are in the best position to understand both citizens’ needs and the county’s strategic direction. The goals of the county’s e-government program are to:

- resolve the “Digital Divide” issue for all residents, businesses, civic groups, and other interested parties;
- transform the ways of transacting e-government business with citizens;
- and create a 24/7 government.

In order to ensure a continual improvement process for determining e-government priorities, the county draws on input from citizens and businesses through focus groups and surveys, as well as input from the county departments and the elected Board of Supervisors.

Fairfax County offers a variety of e-government channels, including:

- [www.fairfaxcounty.gov](http://www.fairfaxcounty.gov), which averages over 7.5 million unique visits per year
- Interactive Voice Response (IVR), which handled almost 900,000 calls in fiscal year 2005 and collected over \$3 million for Fairfax County Courts;
- 29 multi-media kiosks in libraries, malls, government centers, and other public places—a collaborative regional effort with local municipalities and INOVA Hospital;
- a cable TV government access channel, which offers original programming, satellite training courses, coverage of live and captioned government meetings, programs describing government services, and the

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# State and Local News

capability to handle 2,500 bulletin board messages;

- a “Contact Us” mobile access channel, which offers a county phone directory and e-mail contact links via PDAs or mobile phone;
- an “Access Fairfax Center,” which offers access to the web, kiosks, and IVR. The Center allows county residents to do business with the county using technology that might not otherwise be available to them;
- an emergency alert text messaging system for first responders, county employees, and citizens, which is also in use across the National Capital Region (NCR).

All of these channels began as pilots. Statistics are kept to track channel usage and the popularity of services with customers. We redesign and update the channels based on feedback from our continual improvement process.

Fairfax County's success in meeting its citizens' needs using e-government since 1991 and its number one ranking in the 2005 Digital Counties Survey of counties with populations over 500,000 can be attributed to the following key points. These points can also serve as a checklist for determining how to create an e-localization program for e-government:

- focus on citizens and their priorities for e-government services;

- focus on government and the services it must provide;
- focus on channels—the channels citizens want to use now, the emerging channels they are beginning to use (e.g., iPod, RSS news feeds, wireless technology, text messaging), and the channels that will be available in the future;
- focus on innovation, piloting new services and channels with citizens and marketing them;
- get continual feedback from citizens; and
- understand and meet the social needs of the community.

Supported by executive-level sponsors, a good IT investment program, and a commitment to serve citizens efficiently and effectively, e-localization will bring about the positive change necessary to effect a transformation of government. Local governments that can anticipate citizen needs and easily adopt new channels of service to meet them, one that offers excellent service delivery and seamless service across different levels of government, will have citizens who believe they are well-served by their government. And that translates into increased trust in government and citizen support for their civic authorities.

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## GSA Pilots Working Together to Improve Citizen Services

By Susan Turnbull

Intergovernmental Solutions Division  
GSA Office of Citizen Services and Communications  
U.S. General Services Administration

Performance of intergovernmental communities is hampered today by constraints that impede trust and capacity for joint action. Barriers are associated with distance, lack of continuity and access to shared agreements, and an easy means to develop community products. Due to urgencies for communities to form and become productive fast, the inadequacies of current mechanisms such as communications by teleconference, e-mail, and face-to-face meetings are becoming more apparent.

The GSA Intergovernmental Solutions Division (ISD) continues to address the challenge of getting the right people together regionally and nationwide for the continuity of communications and coordination necessary to advance seamless service to citizens. Over the years, ISD has learned that high performance requires quality dialogue, openness, and transparency in order to build the trust that leads to credible actions on behalf of communities at local, state, regional, and national levels. Unfortunately, few organizations have the staffing and resources to support an effort where multiple communities want to come together. An easier community-based process is needed where all the parties "share the burden" and in turn benefit from greater shared understanding and capacity for joint action.

In FY 05, ISD explored an internet-based approach to engaging our

communities to work together to improve communications, coherency, and continuity of action. We added a collaborative work environment, accessible by web browsers, to our existing communication tools (teleconferences, e-mails, and face-to-face meetings).

Now, past and current conversations and ideas continue to gain value over time, because they are sharable across communities and available on an open site (<http://www.gsa.gov/collaborate>). Here one can read discussion archives and search or browse community shared resources, including "wiki" pages that document shared contributions and open work of the intergovernmental communities supported by this office. "Wiki" pages refer to a web technique (evolving since 1995) that enables community members to both read and write on the web. "Wiki-wiki" is Hawaiian for "very quick."

The "wiki" capability is just one of the four integral parts of the Collaborative Work Environment used by ISD that also includes portal, discussion forum, and shared resource repository. It's also possible to hyperlink to any paragraph of any "wiki" page or conversation as a quick way to "point" everyone on a teleconference call to the same page and paragraph.

"Wikipedia" is probably the best known application of a wiki. (<http://en.wikipedia.org>). A less familiar, but riveting example of "wiki"

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potential for public service is the tsunami "wiki" created by a global community of volunteers in the aftermath of the 2004 tsunami. Using a "wiki", along with a discussion group, and photo-sharing tool, volunteers from around the world established "light" governance principles and worked tirelessly to organize and unify precious bits of information and communications needed by all parties before a comprehensive institutional response was possible. Volunteers working into the waning hours of the day would be relieved by the next wave of "wiki" volunteers up at dawn in their time zone, like strangers in a bucket brigade, but spanning the globe. The site and story is at: [http://www.tsunamihelp.info/wiki/index.php/Main\\_Page](http://www.tsunamihelp.info/wiki/index.php/Main_Page)

One example of ISD success in piloting the collaborative work environment was its support in the development of the Federal Enterprise Architecture Data Reference Model (DRM) v2.0. This project, completed in 180 days and issued by the Office of Management and Budget (OMB) in December, 2005, was jointly commissioned by OMB and the Architecture and Infrastructure Committee of the Chief Information

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# Federal News

Officers' Council. The Department of Homeland Security (DHS) was the lead agency, and CIO's sent designated representatives to the DRM Working Group.

The ISD collaborative work environment provided the DRM Working Group with the quiet, "closed" community space needed for its 125 members to share, deliberate, and transparently document the entire work process. The space accommodated meeting notes, conversations, drafts, and related resources, numbering over 300 documents. In addition, the DRM Working Group used an "open" community ISD collaborative work environment—the DRM Public Forum—to invite public comment and draw upon interested state and local government participants. Over 130 people subscribed to the DRM Public Forum, and six DRM open workshops were held. Active state participation at this initial phase of federal consensus-building targeted the Global Justice XML Data Model Initiative (most active state and

federal data exchange) and the National Information Exchange Model, which builds on the GJXM.

The ISD collaborative work environment contributed significantly to the development of the DRM v2.0. ISD will continue to facilitate development of Intergovernmental Improvement Communities under the Architecture and Infrastructure Subcommittee of the CIO Council in FY 06-07. Federal Enterprise Architecture principles and practices serve to build common understanding needed to work together toward improved citizen service delivery at lower cost.

The Collaborative Work Environment instituted by ISD in FY 05 advances an environment for participation by state and local governments by reducing the barriers associated with physical distance and travel costs. Further understanding and exploration of the performance potential of web-based "shared work" capabilities are continuing priorities. ISD is contributing to the evolution of high performance results across

organizational boundaries by demonstrating how to create environments that:

- expand effectiveness and networking across intergovernmental communities;
- maximize information-sharing of best practices for citizen services; and
- minimize redundant efforts.

*For general information on the rapid emergence of "wikis" for local and global communities:*

<http://en.wikipedia.org/wiki/Wiki>

*For information on the global community's self-organizing in response to the Tsunami Relief effort:*

[http://www.tsunamihelp.info/wiki/index.php/Main\\_Page](http://www.tsunamihelp.info/wiki/index.php/Main_Page)

*For further information contact Susan.Turnbull@gsa.gov or 202-501-6214. The ISD Collaborative Work Environment: <http://www.gsa.gov/collaborate>*

# Interagency Committee Proposes Governmentwide Customer Service Standards

By Karen Trebon

USA Services E-Gov Program

GSA Office of Citizen Services and Communications

U.S. General Services Administration

President George W. Bush has directed the federal government to become market-based, citizen-centric, and customer-focused. Specifically, the President's Management Agenda calls for agencies to improve their responsiveness to citizens. However, there are no governmentwide standards or metrics to measure citizen satisfaction or improvements to service delivery. In order to develop standards of performance for customer service delivery, the Citizen Service Levels Interagency Committee (CSLIC) was formed. The Committee is coordinated by USA Services, one of the President's E-Gov initiatives managed by the U.S. General Services Administration (GSA), working with the Office of Management and Budget (OMB).

The Committee is comprised of 58 contact service representatives from 33 executive branch agencies and the Smithsonian Institution. Participants were gathered via informal government networks of USA Services partners and call/contact center managers. With advancing technology, call centers have evolved into contact centers—citizens no longer just call the government; they also communicate with the government through e-mail and web chat.

The Committee's mission is to develop and deploy governmentwide guidelines to ensure that citizens receive accurate, timely, and consistent service from the government. USA Services supported the Committee's work through the following activities:

- reviewed the baseline of government-to-citizen activities, practices, and service delivery methods, identified by USA Services and OMB through a budget data request (BDR) to each agency;
- sponsored a study of contact center metrics, best practices, and technologies utilized in the public and private sectors; and
- compiled existing market research on citizen expectations and desires when communicating with government; and

- conducted a series of 23 focus groups on citizen channel preferences.

Under the leadership of Daryl Covey (National Oceanic and Atmospheric Administration) and Mary Lamary (Office of Personnel Management), the Committee drew upon its own independent research and the experience of its members to develop a series of draft service levels and best practices. These findings are intended to serve as the basis for developing template "service level standards" for agency operations and performance-based government contracts. The Committee developed a three-level framework to take into account the resource differences among agencies:

- **standards**, which are metrics and best practices to which all agencies should adhere;
- **guidelines**, which are metrics and best practices with a demonstrated impact on citizen satisfaction; and
- **recommendations**, which are suggested improvements at the discretion of the agency.

In order to ensure the broadest possible perspective on governmentwide customer service delivery methods, the Committee established five subcommittees to focus on key issues in each major citizen channel of communication with government. The five subcommittees established were:

- telephone
- e-mail
- traditional (walk-ins, postal mail)
- cross-channel issues (foreign languages, customer complaints)
- future methods (instant messaging, web chat)

Almost 30 Committee and subcommittee meetings were held by conference call between March and July of 2005. Following completion of its deliberations, the Committee circulated its draft report for comment among various

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stakeholder groups, including contractors involved in citizen contact activities, and federal, state, local, and foreign governments. The final report was submitted to OMB on September 29, 2005, for endorsement and released to the federal community of contact center services on October 20, 2005.

Following is a sampling of significant findings and metrics:

- **Customer satisfaction** - Although an ongoing activity, formal measurement should occur at least annually;
- **E-mail response time** - Respond to 90 percent of inquiries within two business days;
- **Phone service** - provide an estimate of wait-time if the customer will be holding for more than 30 seconds;
- **Wait time at "walk in" offices** - Should not exceed 15 minutes.

Although the Committee has completed its report, CSLIC's work continues into Fiscal Year 2006. This year, the group will form into subcommittees to tackle such meaningful customer service topics as:

- **Implementing CSLIC's Findings** - This includes promoting the idea within agencies and budgeting for new or expanding programs;
- **Drafting Additional Findings** - CSLIC expects to receive feedback that will require changes to the original report. Ideas for expansion of the original report have already been received. This "living document" will continue to improve customer service within the federal government;
- **Measuring Customer Satisfaction** - This includes finding the best approach for individual agencies to improve how customer satisfaction is measured and

building agreement on similar measures so that, years down the road, there are ways of comparing "apples to apples."

- **Developing Online Resources** - This might entail putting up a website for collaborative development of documents and sharing of ideas and best practices. White papers developed by CSLIC and others will benefit all.

USA Services is undertaking other activities to further support agencies in improving their service to citizens. A cost-model software tool has been developed to help agencies identify the costs of their existing citizen contact activities. Agencies can also determine the costs of implementing changes, such as longer operating hours. In addition, this cost model will be able to project the costs for starting a contact activity, such as a call center, and compare in-house to outsourced activities. USA Services also offers the FirstContact contract vehicle, which allows agencies to quickly establish or enhance contact center capabilities under pre-negotiated agreements with five designated vendors.

USA Services is a natural to lead all of the above efforts, since it operates the 1-800-FEDINFO National Contact Center. This center responds to calls, as well as e-mails sent to the government from the FirstGov.gov website. In addition, USA Services holds meetings where members of the federal community can discuss developments in contact center practices and technology.

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# National Sex Offender Public Registry

By Regina B. Schofield  
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U.S. Department of Justice

There is no greater purpose of the U.S. Department of Justice (DOJ) than to protect our children and citizens by safeguarding our neighborhoods. To that end, the department has sought to provide a single, national access point for information from existing state and territory sex offender registries: the National Sex Offender Public Registry (NSOPR) website at <http://www.nsopr.gov>

First announced by Attorney General Alberto R. Gonzales in May 2005, the NSOPR website provides real-time access to public sex offender data nationwide with a single Internet search. The department-sponsored site, to be hosted by Regional Information Sharing Systems (RISS), allows citizens to search existing public state and territory sex offender registries beyond their own state boundaries.

"I see the powerful value of the right information being available at the right time to prevent many crimes from ever taking place," said Attorney General Gonzales. "Real-time access to public registry information can offer parents, grandparents, and concerned citizens the ability to protect children by identifying sex offenders nationwide through a single search from their home computer, or even a local library with Internet access."

## The Beginning of NSOPR

States had already invested significant resources in developing their own public registries in an effort to comply with the Wetterling Act<sup>1</sup>, as well as to address the demand of citizens for access to local sex offender data. NSOPR leverages that work and aims to minimize additional burden on states by not requiring further reporting or extensive software development. Other priorities include maintaining state control of data, limiting the latency of data, and avoiding privacy concerns associated with centralized national databases.

Due to the diversity of states' implementations, the NSOPR model utilizes a Service Oriented Architecture (SOA) to facilitate communication between the national search and state registries. Using standardized web service templates enables a high degree of reuse among states and is ideally

suited to this architecture. The information exchanged over SOA is composed in DOJ's Global XML Data Model (GJXDM), a well-recognized data model specification developed and supported in partnership between the department and practitioners in the justice field. Designed to be implementation-neutral, GJXDM is ideally suited for facilitating communications between disparate justice systems.

NSOPR allows each participating agency to host a name index server provided by the department. As an alternative, states may provide access to their sex offender data using existing systems capable of supporting web services architecture. Under the name index server model, a server periodically and automatically extracts the searchable (indexed) fields from the database on a timeframe prescribed by the state.

A national search queries the index servers to compile a list of results, including a link to the detailed records of each offender. By this method, the first time the existing state web server is invoked is when the offender detail record is requested. The project goal was to avoid overburdening state databases with national searches while preserving the existing infrastructure. A similar process applies when a state chooses to use web services with current servers. In this case, the web service queries directly against the state sex offender registry. Taking on this approach requires a state to have a system in place capable of handling additional queries over and above those currently received.

Realizing states have varying degrees of expertise in the still emerging field of SOA, the department is providing on-site support and technical assistance, web service templates to enable timely participation, and name index server hardware as needed.

The design of the NSOPR site fulfills the goal to reuse existing state infrastructure wherever possible by acting as a conduit of information from existing state and territory registries. When displaying the detailed record of an offender, the data is shown as it would appear on the state's website. Not only does this eliminate the need to reformat the data, but it highlights the work done by the states and ensures that all information captured at the state level is made available.

## What Prompted the Creation of NSOPR?

In response to pending legislation in Congress, the Bureau of Justice Assistance (BJA) of the Office of Justice Programs provided the Attorney General with an executive summary

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<sup>1</sup> In 1994, Congress passed the Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act. This law requires states to have sex offender registries, and requires individuals convicted of a criminal offense against a minor, or of a sexually violent offense, to register their current address. For more information, visit <http://www.ojp.usdoj.gov/BJA/what/02ajwactcontents.html>.

and a diagram illustrating a proposed distributed model to connect state sex offender repositories. The Attorney General responded by asking to see a live, functional prototype, linking state information over the Internet. BJA, under the leadership of Director Domingo S. Herraiz, delivered a working prototype connecting four states (Maryland, New Jersey, Ohio, Pennsylvania) within five days. The following day, Attorney General Gonzales announced his intention to connect a minimum of 20 states within 60 days and then make NSOPR available to the public.

Bringing this prototype to life involved overcoming numerous barriers, including the complexities of creating the website, web service, and index server infrastructure; policy issues between states; and conditions governing the use of information in various state registries. The cooperative partnerships developed during the prototype stage were critical in meeting the 60 day deadline. Communication was key to success at every level within and outside the department. BJA's policy advisors contacted state policymakers to determine feasibility, while the technical support staff and contractors worked directly with state technicians to develop the required connectivity.

In addition to the federal/state partnerships, support from private industry was crucial to NSOPR's success. The Integrated Justice Information Systems (IJIS) Institute provided<sup>2</sup> in-depth support on the project, including peer review of the web service solutions and GJXDM exchange documents, as well as on-site support in implementing the service-oriented architecture for states requesting technical assistance. Over 50 IJIS member companies volunteered their expertise to the project. The level of support from IJIS has proven to be invaluable, and has led to a collaborative public/private relationship on a number of key initiatives in the past, including the development of GJXDM. These relationships enabled the department to exceed its goal by connecting over 20 states in 60 days, with the initial release costing less than \$1 million.

Also, the coordination between states and DOJ to accomplish such a rigorous goal has been phenomenal. It has been an extraordinary example of the department working in partnership with states to better protect communities. Although some states initially expressed reservations, most responded favorably to DOJ's proposal of the decentralized architecture and implementation design. Even those with limited experience in SOA were eager to become involved and work on the creation of NSOPR. The department provided a web services template to states, which could be customized to work with existing sex offender registry systems, and states worked rapidly to employ the technology. This served as a validation for the project, confirming the need for this kind of tool, and the demand for

the ability to search sex offender data nationwide was tremendous. In fact, a collateral benefit of NSOPR is that it will serve as an implementation model for many states that are in the process of migrating their systems to web services, as well as a catalyst for SOA development.

## Public Release Exceeds Expectations

Recognizing this was a high-profile project, DOJ took steps to ensure the site would not be overwhelmed by hits to either the site or to state repositories. The NSOPR site was made public on July 20, 2005, at 3:00 p.m, and the interest was tremendous. Within the first 48 hours, the site received over 27 million hits, peaking at nearly 1,000 hits per second by the middle of the second day. In spite of this overwhelming response in the first 72 hours, the site remained operational with only limited instances of slower than normal response time. Performance has been strengthened by adding bandwidth and load balancing through the installation of additional servers. In the 30 weeks since NSOPR's release, the site has received over 201,303,983 hits (as of 2/12/06) from over 100 countries, and more than 1,000 websites have provided links to NSOPR.

Launching NSOPR on time was a great success, but the work is far from complete. DOJ continues to make periodic refinements and enhancements to the site, pushing toward the final goal of having all 56 states and territories online by the end of 2005. DOJ intends to add to the site's functionality to enable multiple zip code searches, zip code radius searching, and geospatial mapping capabilities. Many states provide these kinds of tools already, and the goal is to make them available for use by all states and territories.

A project of this scale could not have been accomplished without the partnerships between state, local, and federal government, as well as private industry. In the coming months, these partners, especially states, will assist with ongoing evaluations of the site and the creation of advisory committees and focus groups to help refine the architecture and interface.

The website in this phase represents a solid beginning and the tip of the iceberg of what is to come. With the backing of the public and private sectors and the mandate from citizens, DOJ will continue work on NSOPR to make it an even more powerful tool. The implications of NSOPR are huge in that it offers critical information to millions of concerned citizens in every community across the nation. But what it really comes down to is protecting the lives of children, one child at a time.

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<sup>2</sup> IJIS is a membership-based organization of private-sector practitioners with the goal of applying industry expertise toward helping justice agencies better share information.

## Lifelines

By Rudolph Brewington  
Public Affairs Officer  
LIFELines Services Network

**U**.S. Navy ships all carry lifelines to save sailors from drowning. The Navy also provides electronic “lifelines” of information that can be thrown (virtually) to sailors and their families.

A 1995 SECNAV Worldwide Needs Assessment found that Quality of Life (QOL) services were not being distributed equally. In response, the Navy developed the LIFELines Services Network, a comprehensive, integrated, web-based, multi-media system that reinvented the delivery of QOL programs and systems. The Navy accomplished this by harnessing the power of the Internet. This action vastly improved global availability and range of information for tens of thousands of uniformed personnel, family members, and civilian service members of the Department of the Navy (DON – Navy and Marine Corps).

Publicly accessible via [www.lifelines.navy.mil](http://www.lifelines.navy.mil) or [www.lifelines.usmc.mil](http://www.lifelines.usmc.mil), LIFELines is much more than a website. LIFELines delivers more than 25,000 pages of original QOL support content “better, faster and cheaper,” including self-help programs, interactive learning tools, and electronic transactions around the world, 24 hours a day/7 days a week. LIFELines accomplishes this using six modern telecommunications media—the Internet, Internet Simulcast, Satellite Broadcast, Teleconferencing, EchoStar Dish Television (for overseas broadcasts), and Cable Television—powered by a dynamic database system.



LIFELines technology allows service members and their families to communicate across the globe. It also provides access to:

- civilian and military news;
- distance learning, college courses, and other services on the Internet;
- interactive participation in live Internet broadcasts with command leaders;
- live television shows; and
- streaming audio/video and audio/videos on-demand.

*All this with just the click of a mouse!*

What makes LIFELines so unique and creative is that it leverages the power of partnerships with Navy, Marine Corps, Coast Guard, DOD QOL Executive Committee (representing all military services), and the Navy-Marine Corps Relief Society.

LIFELines has evolved into a premier, award-winning DON Knowledge Management (KM) system. It re-invented the brand of a 228-year-old institution—the United States Navy—and elevated the concept of service. LIFELines is a highly-visible, well-known, high-traffic source of

information. For example, over the last 12 months, LIFELines has had more than 55 million hits and 2.7 million individual sessions.

The Oracle-based LIFELines Services Network also has enormous capacity. The system is currently hosting:

- Navy Familyline;
- The Master Chief Petty Officer of the Navy's (MCPON) DirectLine;
- The SECNAV's Retiree Council website;
- Operation Dear Abby's Anyservicemember websites;
- DOD's Exceptional Family Member site;
- DOD's Deployment Connections site;
- DOD's Military Home Front;
- DOD's Commanders Page site; and
- Military Student site

LIFELines demonstrated its effectiveness in the wake of the attacks on September 11, 2001. LIFELines responded to the needs of military personnel and their families

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in an extraordinary way, driven by the extraordinary nature of the crisis. LIFELines immediately geared up to become the “go-to place”—the most informative website in the Department of the Navy. It provided updated news, information, messages (print and video) from Navy and Marine Corps leaders, as well as policy and mobilization information targeted to military families. Specifically:

- The home page was reformatted to provide links to websites offering multiple, critical emergency and legal resources (e.g. American Red Cross, Navy-Marine Corps Relief Society, National Military Family Association, etc.).
- News and other reliable and official information was regularly and consistently updated as events warranted.
- LIFELines’s Casualty Section provided Information and resources to the Naval District Washington (NDW) command leaders and personnel and to Fleet and Family Service Centers to assist and train Casualty Assistance Calls Officers (CACO) and other human services personnel offering support to the next of kin of military members who were casualties. LIFELines also provided this material to Call Center and Information and Referral personnel at the DoD Family Assistance Center established in Arlington Virginia.
- LIFELines worked with NDW Chaplain CAPT Gene Theriot to produce a 4-part e-Learning video—“the CACO/Chaplain Training Series”—which was posted on the website. The series provided valuable online training—available globally and 24/7—to help first responders deliver casualty news with compassion to survivors; handle emotional outbursts of grief by the bereaved; and assist command leaders in establishing

strong family support teams.

- LIFELines established a new website—“Dealing with Disasters”—which helped military members and their families access online resources for crisis preparedness, response, and recovery.
- LIFELines worked with Navy psychiatrist CAPT Jennifer Berg to produce another e-Learning video series—“When Disaster Strikes: A Senior Leaders Guide to Trauma Response.”—which provided Critical Incident Stress Management training. This 12-part series was posted on the website for reference by commanders. LIFELines also created a CD version of the series and distributed it to over 500 Navy, Marine Corps, Coast Guard commands and family support organizations as a permanent training tool.
- LIFELines created a web-based alternative to the Anyservicemember Mail Program, which had delivered “snail mail” messages of support to service members and families during the holidays. This traditional, paper-based mail holiday greeting program had to be suspended following the anthrax mail attacks. It was replaced with a web-based program—“OperationDearAbby.net.” The new program received millions of electronic messages of support for service members and families. These were accessible around the clock and globe for command download, viewing, and printing.
- LIFELines developed a four-part TEAM America video e-Learning series to assist service members and stay behind families prepare for deployment and mobilization. This series provides information about the Navy Ombudsmen, Marine Corps Key Volunteers, Family Centers, and other human

services support programs available 24/7.

- LIFELines developed a four-part video e-Learning series on the effects of Combat Stress on service members, spouses and family members, and commands. Dr. Jennifer Berg served as moderator for all segments and conducted on-screen interviews with individuals who have experienced Combat Stress and sought appropriate help.

As for the future, in keeping with its practice of staying on the cutting edge, LIFELines is about to introduce new podcasting capability, the latest in the on-the-go, on-demand technology. With podcasting, users can listen to audio versions of articles whenever and wherever they chose by downloading MP3 audio files to their personal computer which can then be transferred to an iPod or other MP3 player using a podcasting application.

Bottom line: LIFELines is a single, reliable source of information for Personal Development and Family Support. A number of government and private businesses have noted the success of the LIFELines model. The Navy also received queries from corporations in Great Britain and Japan, expressing interest in the LIFELines model and asking how to apply web-based systems for delivery of human resources information to citizens.

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# The Revolutionary Impact of Food Stamp Electronic Benefits Transfer (EBT)

By *Lizabeth Silberman*  
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**F**ood Stamp benefits are used by eligible recipients to purchase food at more than 155,000 stores nationwide that are licensed by the U.S. Department of Agriculture's Food and Nutrition Service (FNS). More than 62 billion paper food coupons were printed to meet recipients' needs between 1978 and 2002.

Today, electronic benefits transfer (EBT), which operates like a debit-card payment system, has replaced paper coupons. Using EBT, a recipient applies for benefits at a local Food Stamp office and eligibility/benefit levels are established. An account is created, and monthly benefits are automatically deposited in it. The recipient gets a plastic card, like a bankcard, and is assigned a personal identification number (PIN) for security reasons. Most EBT systems use the same electronic funds transfer technology that many stores use for debit-card payments. Retailers get their payment through a settlement process at the end of the business day.

State agencies, with federal approval, procure customized EBT systems that piggyback on commercial practices and use standardized messaging formats. In most cases, the states do not operate these systems on their own hardware or own the software. Generally, they outsource the system, entering into service contracts that include account setup and benefit authorization, account maintenance, transaction processing, retailer participation, reporting, and other functions.

## Reasons for Creating EBT

FNS wanted to modernize the Food Stamp Program and eliminate the cumbersome processes of the paper system—printing, shipping, storing, redeeming, and destroying coupons—and the costs and logistics associated with them. Each year, billions of pieces of paper were issued to Food Stamp households. FNS was responsible for printing and storing coupons centrally and then shipping required inventories to more than 4,000 state issuance points.

At the height of the program in the mid-1990s, coupons moved through 186,000 retailers and were deposited at

more than 26,000 banks nationally. Banks routed the coupons to the Federal Reserve Bank, where they were destroyed. At each step, coupons had to be accounted for and tracked, making the process enormously complex and labor-intensive.

## Process Employed

Beginning in 1981, FNS conducted research to assess different technical approaches to EBT, measure their effects on stakeholders, and identify cost-effectiveness. In 1983, FNS began funding a pilot EBT system in Reading, Pennsylvania that was operated in-house by the state agency for a Food Stamp-only system. Specific project objectives included assessing administrative costs, benefit loss through error, instances of fraud and abuse, and the impact on retailers, recipients, and financial institutions. The results were promising, but not yet cost-effective. FNS announced a new set of demonstrations in 1987, integrating EBT for food stamps and other assistance programs. Two projects in Minnesota and New Mexico became operational in 1991.

Finally, FNS published demonstration guidelines for state welfare agencies interested in starting EBT projects. Several states received FNS approval for EBT test plans. The plans showed that turn-key systems for multiple benefit programs that were outsourced to companies with transaction processing services could be cost-neutral to the paper system. Based on the test results, FNS published final regulations in 1993, detailing EBT system standards the states could employ as an alternative to paper coupons. The regulations allowed online EBT systems for all recipients in a project area, as long as the state could operate them cost-effectively. By 1996, 14 percent of program benefits were issued via EBT, and all states were planning EBT systems. As a result of this success, Congress mandated EBT implementation nationwide by 2002.

## Discoveries Made

Studies that compared the costs of EBT and paper

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established that EBT is a viable, cost-neutral solution. Stakeholders prefer EBT for its more efficient operations, enhanced service, and security. Retailers and banks prefer EBT because it eliminates the need for separate business processes to redeem benefits. Recipients appreciate the improved service offered by convenient access to benefits and increased security. They no longer have to worry about late mail delivery of benefits or carrying around coupons, risking theft or loss, since benefits are electronically deposited the same time each month. Finally, EBT minimized the stigma attached to program participation because EBT cards look similar to commercial cards.

From a government perspective, EBT offers improvements in increased administrative efficiency and accounting. By eliminating coupons that could be lost, sold, or stolen, EBT helps reduce fraud and benefit diversion. An electronic record of each transaction permits easier identification and documentation of trafficking (the exchange of benefits for cash or other illegal goods). In a July 2003 report, FNS found trafficking in the program had declined. EBT also eliminates the need for cash change, along with the cumbersome and costly process required to maintain a paper system that includes printing, transporting, safeguarding, distributing, and accounting for coupons.

State costs vary according to the required state-specific level of service. Cost drivers include the number of retailers equipped with point-of-sale devices, training levels, card issuance, and customer service needs. These costs are included in the monthly case charge and include transaction fees. FNS and the states share the Food Stamp Program administrative costs equally.

## Quantification of Results

In 2004, the Food Stamp Program converted 100 percent to EBT in all 53 state agencies, including U.S. Territories and the District of Columbia. The cost-neutrality provision in the Food Stamp Act was removed in 2002; nevertheless, state agencies generally have been able to operate these systems at or below the paper system cost.

The use of EBT also has improved FNS financial management. FNS now knows that its federal obligations

are based on actual daily use rather than state estimates. Financial statements are also more accurate, because state account activity is fed directly into the FNS accounting system. Additionally, states' benefit management has improved, since EBT allows for daily reconciliation, up-to-date data on benefit usage, and automated monthly issuance on the same day.

EBT has also revolutionized the way FNS monitors retailer participation using data from the system. FNS receives transaction data from each state system and analyzes EBT transactions looking for suspicious patterns that might identify fraudulent store activity. The results are sometimes used directly to disqualify stores. More often, the results trigger the need for an undercover investigation of potential store fraud. In FY 2004, 841 stores were permanently disqualified based on EBT data.

## Hurricanes Katrina and Rita

In the past two months, the Food Stamp Program's EBT technology has played an important role in the aftermath of Hurricanes Katrina and Rita. Many EBT policy changes and waivers were implemented that could not have been handled as efficiently under the old paper system. In particular, states affected by the hurricanes were able to consult with FNS quickly to implement hot foods waivers, relax nationwide procedures for key-entered EBT transactions, and increase voucher-processing time from 30 to 60 days for Mississippi. As a result of increased issuance in the affected states, the EBT model has also allowed FNS to increase funding limits daily as needed. The EBT system has proved to be a win-win decision with many successful outcomes.

*This is a shortened and updated version of an article published by the National Electronic Commerce Coordinating Council. The Food Stamp EBT Program received an honorable mention for the "Effectiveness Through E-Payments" Awards. For additional information contact Lizbeth Silberman via email at: [lizbeth.silberman@fns.vgsda.gov](mailto:lizbeth.silberman@fns.vgsda.gov).*



## Improved Government Search Engine Services Deliver Value

By J.R. Murphy  
 Director  
 FirstGov Technologies  
 U.S. General Services Administration

### Background

WWW.FirstGov.gov is frequently referred to as “The U.S. Government’s Official Web Portal.” It’s an apt description: FirstGov.gov links to the web pages of every federal agency, as well as those of many state, local, tribal, and territorial governments.

When FirstGov was launched in 1999 it offered browsing functionality and a search engine provided through a gift from the Search Foundation and Inktomi. The search index supported FirstGov’s visitors and was also shared with other federal agencies. Eventually the service was outsourced to a hosting provider and supported by an Enterprise Search Engine company.

Over the next several years, however, as the amount of information available to search engines through the Internet grew at an unchecked pace FirstGov’s operation could not grow, scale, and deliver relevant information as effectively as commercial search engine companies. These companies were expanding dramatically and had the ability to generate huge amounts of advertising revenue, which they then invested in advanced technologies. As a result, FirstGov’s search product quality suffered.

### The FirstGov Solution Unfolded Over Time

In 2003, GSA engaged consultants with deep search expertise to assess

the FirstGov situation and recommend a plan to improve the FirstGov search. The outcome was expansion of the FirstGov staff to include individuals skilled at search engine strategies and operations. Initial work focused on cleaning up the existing index. While search results improved somewhat, continuing resource constraints still left FirstGov far behind in meeting citizen search expectations in comparison to commercial services.

Conquering this challenge required an innovative solution that had never been tried before in addressing a government-wide program—using the web as a platform for providing citizen services. This approach meant leveraging the features, functionality, and infrastructure of an existing commercial search engine. Major commercial search engines were already crawling and indexing federal, state, local, tribal, and territorial governments and were already leaders and innovators in developing citizen-centric search technologies.

FirstGov’s next began a competition to obtain expert search engine services from an outside, commercial party actively involved in crawling the Internet and providing search services on a wide scale. FirstGov required that the provider:

- Be actively engaged in providing Internet search services,
- Have an established minimum index size,

- Be willing to work with FirstGov to build value-added services and deliver FirstGov search results pages from its search engine infrastructure.

All requirements were established to create a first-class, up-to-date service for FirstGov visitors that would also mitigate FirstGov’s problem of resource constraints.

### The New Search Solution Was Launched

In January 2006, FirstGov launched a new government-wide search solution based on this innovative web-based paradigm. As of this date, the new search solution has successfully overcome all previous challenges. Instead of running its own operations, FirstGov utilizes the content, features, and functionality of major commercial web search engines. In concert with private sector partners Vivisimo, Inc. and Microsoft Corp., the government’s most powerful search engine has the following benefits:

- Vastly expands search to include a comprehensive database of federal, state, local, tribal, and territorial documents.
- Increases the universe of government documents from eight million to over 50 million.
- Searches more effectively by leveraging MSN Search, which returns relevant results using state-of-the-art algorithms.
- Leverages Vivisimo’s meta-searching technology, which is unique to the government, and provides citizens access to information that they cannot find on commercial search engines.
- Uses clustering technology to organize thousands of search results into categories to help citizens zero in on topics of interest.

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- Gives citizens search results they can trust by providing only official government information.
  - Costs taxpayers \$1.8 million annually, about half the cost of previous search services, generating savings that can be reinvested into further enhancements.
  - Has a preview function that allows users to determine the relevancy of an individual result before leaving the search page.
  - Provides enhanced search on Kids.gov, Consumer.gov, and Espanol.gov and over 150 federal agency websites.
  - Creates a more citizen-centric government by facilitating citizen access to government information—one of the President's E-Government pledges.
- In summary, the new generation of search services at FirstGov:
- Leverages the features, functionality, and infrastructure of two major commercial search engines: Vivisimo's award-winning Clusty.com meta-search engine and Microsoft's MSN Search.
  - Provides comprehensive access to all official federal, state, local, tribal, and territorial websites. A search service that focuses on accessing official government web resources is unprecedented in the public and private sectors.
  - Saves the taxpayer nearly \$1.4 million per year, while providing substantially more features and functions, including new government-wide News and Images search services—to be launched in summer 2006. The savings will be reinvested in new and unique government-wide search services covering different content types (e.g., video, auctions/shopping, FAQs).
  - Is having a broad, positive impact on all levels of government. Not only is FirstGov making content published on federal, state, local, tribal, and territorial websites more accessible, it is also making new types of content available that were previously difficult to access from a single source. Citizens can find official news from the government (press releases, podcasts, feature stories, etc.) without wading through an ocean of partisan third-party sources. Secondly, citizens

soon will be able to access image libraries and archives of government institutions responsible for recording the nation's cultural history and scientific discoveries.

## The Future

FirstGov search will continue to keep pace with the latest technology and functionality. Search engine operational savings mean FirstGov has the resources to continuously offer more and better features. That means more visitors can count on finding the information or support they need from their government online easily and successfully—making FirstGov a cornerstone of a citizen-centric government.

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## The National Infrastructure for Community Statistics: *America's Data Exchange*

By Andrew Reamer and Rebecca Blash  
Urban Markets Initiative  
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The mission of the National Infrastructure for Community Statistics (NICS) is to provide direct access to detailed community-level datasets from thousands of local, state, federal, and commercial data sources. Using a nationally available web-based utility, NICS offers tools that permit useful analysis of an array of publicly available datasets. In particular, NICS supports and enhances the work of local, state, federal, and private data intermediaries and other organizations (e.g., economic development research organizations) that seek to manipulate large datasets from multiple sources. The goal is to make these data sets more readily available for smaller organizations to:

- facilitate greater understanding of community socioeconomic conditions, trends, and opportunities;
- encourage more effective program and investment decisions;
- improve measurement of program and investment impacts; and
- support local and national indicators efforts.

In March 2004, a group of people pursuing the development of the next generation of community statistical systems conceived of NICS as a utility that could support the operations of data intermediaries. As currently envisioned, NICS will have three dimensions.

First, NICS will serve as a web-based exchange for thousands of community-level datasets, as well a tool for cleaning, integrating, visualizing, and analyzing these data, and creating metadata. NICS would provide its target audience—data intermediaries (serving “retail” users) and other organizations manipulating large datasets—with live access to the original source of each dataset. It should be noted that NICS is intended not to replace current “retail” statistical systems, but rather to support and enhance them.

Second, NICS is designed to guide strategic investments in the research and development of innovative tools that can be made available through NICS. Recent NICS workshops clearly indicate R&D opportunities in tools for visualizing and integrating data, protecting the confidentiality of microdata, and reducing the high labor costs associated with preparing metadata.

Third, NICS will host a Community of Practice (CoP). The CoP, comprised of NICS participants and other interested parties, will help develop NICS tools and innovations through quarterly meetings and web-based dialogues. The CoP also will serve as a means for promoting the creation and sharing of information relevant to NICS users, such as guides to making effective use of NICS and experiences with particular datasets and services.

The Urban Markets Initiative of The Brookings Institution agreed to serve as initial host for NICS and for a CoP to guide the conceptualization and development of NICS. The CoP now has over 150 participants representing governments and nonprofits at all geographic levels, as well as commercial organizations. The CoP first carried out a Concept Phase to determine the basic elements of NICS. It then held four public Learning Phase workshops to explore the desirability and feasibility of NICS.

Supported by grants from the Ford and Rockefeller Foundations, the NICS development process now is in the Initiation Phase (2005-2007), which aims to bring NICS to the point of full implementation. The technical and institutional foundation of NICS is being developed so that it may become independent of Brookings. NICS leaders will create a business model and plan and develop a prototype NICS gateway. Future CoP workshops will explore particular challenges faced in the development of NICS, such as the design of incentives to encourage participation in NICS, protecting data confidentiality, and managing intellectual property rights.

In the Implementation Phase, NICS would be spun out of Brookings as an independent, self-sustaining entity.

*Participation in the NICS CoP is welcome. Interested parties can contact Rebecca Blash, NICS Manager, Urban Markets Initiative, Metropolitan Policy Program, The Brookings Institution at (202) 797-6257 or at [www.blash@brookings.edu](mailto:www.blash@brookings.edu).*



## The Community Communication Network: *New Technology for Public Engagement*

By Louis Bezich  
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The British are coming, and this time they're bringing a new communications technology to help local officials with an age-old problem: getting important information to constituents accurately and conveniently. Newsletters, cable channels, and the Internet give local government officials a means of reaching their constituents. Still,



*This 42-inch plasma screen is found in a hospital in Doncaster, England.*

Residents continually complain about a lack of public information, and public engagement—particularly on key issues—remains a challenge. While the media are certainly available, they present their own set of issues that make most officials shiver. Officials in both urban and rural areas face additional problems like the “digital divide.” Residents of some larger cities or rural localities may not have access to computers or cable television. Language barriers further complicate the seemingly easy goal of public communication.

Community Communication Network (CCN) was developed in the United

Kingdom to address the same need as American officials have, namely, getting critical information to their constituents. Its success has been recognized by a number of leading British officials, including Prime Minister Tony Blair. Its creators are now bringing it to the United States.

Through plasma video screens placed in a variety of public and private venues, CCN helps local officials get their messages directly to the public in a relatively eye-catching manner. High-impact screens are installed throughout the local community at venues where people remain in place for a few minutes, becoming a “static viewing audience.” The screens are situated in positions that have been identified as giving maximum exposure and gaining maximum attention from members of the public within each venue.

The broadcast program plays public service announcements on a continuous 30-minute loop, interspersed with daily news, weather, and sports updates, as well as interesting facts and information relevant to the locality. Content is updated every 12 weeks to keep it fresh for those who are watching and to enable government or other agencies to ensure that any new initiatives or local news reaches their communities regularly.

Local leaders can tailor public-service announcements and promotional messages to a variety of constituents: seniors, parents, children, students,

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veterans, job seekers, or commuters. Through the networks' technology, the information on any one screen can be changed over the course of the day as the audience changes. A screen at a McDonald's, for example, can play senior-oriented messages in the early morning and switch to content aimed at teenagers after school. Each screen can be individually programmed to



*This 42-inch plasma screen is located at a McDonald's in Peterlee, East Durham, England. The flow of traffic through this McDonald's is approximately 20,000 people per week.*

meet the needs of its venue. So, whether managers need to air a Spanish-language message at one location or to alter the play list among locations, the technology is up to the task.

The system also has the capability to quickly broadcast emergency information, such as “amber” or terrorist alerts, on a local or regional basis. Emergency broadcast templates allow local officials to e-mail critical

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information, like photos, to the operations center to have alerts broadcast within minutes. Although content is typically silent to avoid fatigue for workers in the venues, CCN can remotely activate sound when required for emergency purposes.

Residents don't need to read a newsletter, punch in a cable channel, or hunt for a website. This system requires no effort on their part. Placing the video screens in convenient locations draws a captive audience to short, punchy, 30-second messages while people wait or are engaged in some short-term activity. Locations typically include public and private sector locations like waiting rooms, fast-food restaurants, recreation centers, shopping malls, and public buildings.

The system uses solid-state technology provided by a company that has given CCN worldwide exclusivity for government applications. The system has no spinning hard drives or mechanical disk engines. A dial-out mechanism ensures that units cannot be directly dialed into or attacked by hackers. Currently, all networks are supported by a U.K.-based network operations center offering day-to-day, proactive monitoring and customer help-desk service. Plans call for a U.S. center as new networks are established.

CCN grew out of a U.K. initiative called Public Safety Partnerships. In 1998, the Crime and Disorder Act required city councils, local police, and fire and emergency medical personnel to better coordinate their efforts to reduce crime in their constituencies. The initiative was successful and generated great results, but no one knew about it. Surveys showed that the fear of crime was rising when crime had actually fallen.

To combat this "information gap," local officials in Britain looked for a new way to convey their success stories and ensure future progress. The result was the Community Communication



*This 42-inch plasma screen hangs in a community library center in Sandwell, Midlands, England.*

Network (CCN). Soon after the launch of the first few systems for the Public Safety Partnerships, other agencies saw the value of this direct link to citizens. The scope of the CCN networks has grown exponentially, and these networks now carry messages for all sorts of public programs, like recreation, education, health, and environmental affairs. Today, these networks are becoming an integral part of local government in the United Kingdom. Most recently, they were used effectively to communicate emergency messages in a number of towns after the terrorist attacks in London. Today, more than a dozen British communities use this technology.

The CCN system costs between \$13,000 and \$18,000 per screen, depending on the length of a community's commitment. The costs include all hardware and programming for a year. A minimum of 10 screens is required, with the number of screens appropriate for a community being determined through a survey and assessment of local needs.

Content is controlled by the municipality or appropriate government agency. While the system's own producers create broadcast-quality product, the subject material is selected by local officials. As owners of the content, local government can also play messages on their local cable stations and on the municipal or government website, stretching the usefulness of the product.

In the United Kingdom, CCN is funded through a combination of national

government and local monies. To date, there has been no use of advertising to support program costs. To advance the concept in the United States, where there will not likely be federal or state funding (homeland security funding is being explored), company officials have begun a sponsorship model in which a business could sponsor a community's use of the technology, with recognition similar to that given on public television programming.

In addition to municipal governments, CCN-USA officials see widespread applications for county, state, and federal governments in the United States. Motor vehicle agencies, Social Security offices, rail-car installations, and intergovernmental partnerships that share a system are some of the possibilities under exploration.

Growing pressure to keep constituents informed, unprecedented public safety concerns, and an ever-increasing



*This 42-inch plasma screen is located in the Healthy Living Centre in Trafford, England.*

volume of public information have meant a demand for more extensive and diverse communications. New technology like CCN offers government leaders in U.S. communities a new means of getting accurate information directly to the public and meeting these critical needs.

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## E-Government in Norway

By Lise Lomo  
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Norway has been active in using Information and Communication Technology (ICT) since the 1970s. ICT has provided important tools for achieving government efficiency, for improving the quality of public services, and for modernizing government. In recent years, the national e-government focus of attention has moved from back-office efficiencies to front-line service delivery and information on the web. Now, our e-government strategy is focused on integration between back- and front-office systems, and our emphasis is on providing personalized service to citizens.

### The System for Basic Identification — The Pillar of Norway's E-Government

Since 1964, every citizen in Norway is given a unique number based on his/her date of birth and control numbers. Citizens are registered in "Folkeregisteret," along with their address and the names of their spouse, children, parents (all identified by their own numbers). A person's name, number, and address are automatically integrated in nearly every ICT-system in both the public and private sectors.

There is a similar register for companies and organizations. Each company has its unique organization number, which is also used in several other systems, such as banking systems, accounting companies,



and—of course—the tax authorities!

A third important system is the matricel system, which gives each piece of property a unique number that is recorded, along with the owner's unique personal number, in the official property record.

Together these three systems and the information they provide constitute the foundation of e-government in Norway. Once personal information is recorded in these registers, it can be provided automatically to other ICT-systems.

### Strategy for Integrating Systems to Provide E-Services

One of our successes is "AltInn"/"EverythingIn," a system for electronic reporting of accounting

data from business enterprises on convenient pre-filled-out "intelligent" forms. More than 50 percent of corporate VAT forms are submitted this way. The communication is interactive and bi-directional between agencies and users. For more information, please visit <http://www.brreg.no/english/>.

There is a similar system for citizens, based on personal income, spouse's income, children's allowances, and the value of a house/ car/ cabin, etc. The system provides a pre-filled-out tax form on paper which is sent to each citizen. The results can be confirmed or corrected over the Internet or SMS. In fact, one-third of the Norwegian population provided their confirmations electronically in

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2004.

MinSide/"MyPage" is an ongoing project for collecting all personalized information destined for the government using one portal. The idea is to give citizens easy and secure access to their personal information on the Internet, without them knowing necessarily what public office has collected or stored the data. Security will be handled by using E-Signature/E-ID. For more information, please visit <http://www.norway.no/>.

## Other Examples of E-Government in Norway

Norway has several e-health projects underway. For a population that is widely scattered, telemedicine enables electronic interaction that gives the patient more control of his/her own situation and makes it possible for a local doctor to discuss an x-ray with a specialist in a hospital in another part of the country.

There is also an ongoing project sampling health information for each patient—obtained from local doctors and hospitals—in a single system. While this will provide efficient treatment, the aspects of personal data protection are an issue. We hope to resolve that by restricting access to personal data to the doctor or nurse who treats the patient.

In Norway, the public sector is large and has the potential to achieve high cost savings. The government established a fully operational tool for electronic public procurement in 1999-2003; it offers the potential for a 20 percent to 40 percent time reduction in handling of orders, receipts, and invoices. The critical mass of users has been reached, but there may still be others left. In a study initiated by the European Commission, this solution (<http://www.ehandel.no>) is recognized as a leading solution for electronic public procurement in Europe.

In order to achieve administrative simplification, "Norway.no" (<http://www.norway.no>) was established in 1999 as a public information portal that also provides helpdesk service by telephone, mail, e-chat, and Short Message Service (SMS). "Norway.no" simplifies access to public information; serves as a catalyst for the organization of public sector; and use of a single gateway improves the quality of public information on the Internet. "MyPage," mentioned earlier, will be developed on "Norway.no."

The Norwegian Mapping Authority is responsible for geographical, geospatial, topographical, and cadastral information on land and sea, and coordinates map projects in both the public and private sectors. All users will get from GEOportal (<http://www.geonorge.no/gos/>) maps that are an important support for good decision-making. The maps can also provide information to citizens in a visual format. One goal is to provide maps of individual properties within the "MyPage" portal.

## Legal Framework

A critical element in the success of e-government is its legal framework. Norway has privacy laws focused on protecting personal data from unauthorized use or illegal processing and publishing. Norway's Data Protection Inspectorate (NDPI), enforces the law. An independent administrative body created in 1980, NDPI carries out inspections and provides advice to individuals and organizations on matters related to privacy protection. NDPI also cooperates with other public authorities to ensure that privacy and security issues are not set aside in developing e-government projects.

The Norwegian government has taken an active role in past years in setting up more legislative frameworks for e-government. For example, under the E-

Regulation Project, it has reviewed all laws and regulations in order to identify and remove obstacles to the use of electronic communication. As a result of legislative amendments, the word "written" as an administrative requirement for communication now encompasses both electronic and paper forms. In order to achieve electronic processes and communications, the government is developing common requirements, specifications, and framework agreements, anticipating an increase in the use of PKI in the public sector.

## Strategic Framework

In June 2004, Norway set the stage for a service-oriented architecture, working to achieve openness between technical platforms and the systematic protection of personal data under the highest principles of e-government. In 2005, the government released a new strategy focused on taking "the necessary steps to achieve the potentials that are inherent in the ICT and the knowledge society. Stronger coordination, identification of clear areas of investment, and concrete, ambitious, while realistic, goals will create results that make a difference." The fundamental features of the strategy have been accepted by the new government elected in September 2005.

*This article is based on "OECD e-Government Studies Norway" (<http://www.sourceoecd.org/governance/926401067X>) and "eNorway 2009" (<http://www.odin.dep.no/mod/english/doc/reports/bn.html>). Lise Lomo is an Advisor in Norway's Ministry of Modernisation ([lise.lomo@mod.dep.no](mailto:lise.lomo@mod.dep.no)).*

## The Use of Information and Communication Technologies to Improve Citizen Service Delivery Around the World

By James Mackison  
Contributor

*International Council for Information Technology in Government Administration (ICA)*

*Excerpted from an analysis of 18 countries' status reports prepared for the 39th ICA annual conference.*

Governments around the world have adopted a citizen-centric approach in providing services. The first era of Internet-enabled e-government saw the launch of transactional services and information online and national portals that present a seamless face to the citizen. Common services such as tax-filing, permit applications, fee payments, and government forms have been placed online by most governments. Governments also provide multi-channel services—integrating phone, web, e-mail, and in-person delivery channels to offer better and more consistent services.

Large investments in information and communication technologies (ICT) require a critical mass of citizen users. Take-up of government services has been uneven, but governments are working hard to market mature online services and improve the quality of citizen interactions. Citizens expect government to remain on the leading edge of technology. New devices and wireless technology will soon expand government services to channels beyond the current phone, e-mail, and web channels. Citizens view government as both a service provider, and a political entity, forcing governments to move from transaction to true interaction.

### **Status: Improving Citizen Services**

To increase take-up, many governments have increased the marketing of e-government to citizens and business. Wireless technologies and a proliferation of devices are prompting government to expand multi-channel services. Visions of ubiquitous government (u-gov) built on wireless access through new devices, also called mobile government (m-gov), are reframing how governments look at service delivery. Additionally, some countries view ICT as more than a means to becoming more efficient service providers, as shown by E-Democracy efforts to increase participation by and consultation with constituents.

Finally, despite the proliferation of Internet access, some governments lag behind, requiring initiatives to reduce the digital divide.

### **Marketing of Citizen Services**

The take-up of online service has been slow. Many countries are marketing online services to create a demand so that e-government investments pay off. Much research points to a lack of awareness. To address that, marketing efforts are underway to make citizens aware of available resources.

In Israel, nearly half of the citizens use government websites, however only 8 percent know of the government portal. This reflects a willingness to use online services, but a lack of awareness of the services available. To combat this, Israel is launching a large awareness campaign, with the goals of doubling the number of visitors (to 400,000) and online payments (to 20,000) per month from now until the end of 2006..

Taiwan surveys the public annually to measure the uptake of online services. Again, nearly half (46percent) of the public has used government websites in the past year. But only 22 percent have used online services (i.e., done more than look for information). With Internet penetration of 64 percent, the gap between use and access has led Taiwan to believe continued marketing of its services is needed to raise awareness.

Agencies in Singapore promote e-government services extensively, using media, public displays, and direct marketing to raise awareness and increase usage. Results from Singapore's 2004 survey of the public show an awareness of and willingness to use services. An impressive 88 percent of citizens that needed to transact business with the government did so on the Internet and 74 percent were aware of at least three government services.

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## Standard Policies for Online Information and Records

As part of the government-wide approach to e-gov and ICT, countries are also developing common-look, common-feel online information standards and record-keeping standards across government.

The U.S. Interagency Committee on Government Information (ICGI) issued recommendations to standardize records management guidance, integrate records management with the Federal Enterprise Architecture, and improve accountability for records management.

Many governments are adopting government-wide standards for websites and online services. In the US, recommendations of the ICGI's Web Content Management Workshop prompted government-wide web content standards to improve the accessibility and usability of government services. Policies based on these recommendations required agencies to comply by the end of 2005. Singapore has also implemented common standards for web interface so there is continuity to citizen services across agencies.

Australia has created a Government Service Delivery Access and Distribution Strategy to improve collaboration among agencies and realize integrated multi-channel services. It also launched a "Web Guide"—a one-stop shop for policies, requirements, and resources for government websites, including Better Practice Checklists and Online Information Service Obligations.

New Zealand is developing a web access strategy, with goals for 2007 and 2010 to improve online service delivery. Areas of emphasis are finding information and services, offering value-added services and government use of information and services. The goal is to make ICT and the Internet a major component of government services, information, and business processes. They envision a "no wrong door" approach to service delivery.

## Multi-channel

Perhaps the most important development in citizen services over the past few years has been the penetration of new devices and wireless access. Wireless technologies and the proliferation of access devices create new possibilities for interface that transcend the traditional sit-at-a-computer-and-surf approach to online services. Governments will soon move beyond the multi-channel approach of phone and web. Multi-channel will soon mean access anywhere via anything, including Internet, TV, cell phone, handheld, etc. With a robust electronic authentication system and adequate security

and authorization controls, online and in-person service could someday be indistinguishable from one another.

Hungary offers multi-channel services through its Governmental Customer Contact Centre. The Centre handles contacts by phone, fax, e-mail, and the Internet. Along with the government portal, the e-Government Backbone Network and Client Gate, the Contact Centre forms Hungary's Central Electronic Services System. Hungary is positioning itself to move beyond current channels with its m-government effort to utilize wireless technologies in a country where mobile phones have far greater penetration than computers. The government has already implemented some services through Short Message Service (SMS) and wireless access protocol. Among the services implemented for mobile phones are parking fine payment, notification of school results, applications for public facility use, and vehicle history reports. Many of these services charge fees. The overall goals of m-gov services for Hungary are to allow sign-in, payment, and interactive services through phones.

Wireless implementations are being piloted internally by Singapore's, "Technology Experimentation Programme," which has a Mobile Mail Solution that will allow government officials to securely access and use their e-mails, calendar, and contact lists anywhere in the world at any time.

## Civic Engagement

In many countries, e-government is expanding beyond the service provider model to be more responsive and interactive with citizens. Citizens desire not just to receive services, but to have input and consult on policies they deem important. For the most part, governments have simply placed existing processes for citizen consultation online. To achieve transformation, business processes must change to incorporate new types of input into policymaking, and consultation may go beyond the current formal means of engaging citizens.

Denmark's DanmarksDebatten is an important effort that is facilitating dialogue among citizens and government through an e-democratic debate resource on government policies. Politicians and authorities can use the forum as a way to engage and receive feedback from citizens. Because of an outreach effort in 2004 to raise awareness of the tool within government, the site has 100 government offices registered and 10,000 visitors have used the national debate homepage. Denmark is working with the County of North Jutland to implement e-voting along with local debates through the DanmarksDebatten tool.

Estonia offered e-voting in the local council elections of

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# International News

2005. The system utilized PKI enabled authentication using digital signatures and ID cards. By the election, the vast majority of citizens eligible to vote had an ID card.

## Digital Divide

Internet penetration is very high, making the disadvantages all the more stark for those without access. With the constant evolution of new devices and means of access, the digital divide could evolve as new delivery channels offer more service alternatives. As a result, many governments are still working on reducing the digital divide.

Taiwan has initiated seven concrete measures for Digital Opportunity, including:

- improving TV service coverage in remote areas;
- providing home computers for students in remote areas;
- providing broadband Internet for all villages;
- establishing digital opportunity centers in remote regions;
- promoting e-commerce among small- and medium-sized businesses;
- developing e-business applications among farmers; and
- implementing an APEC Digital Opportunity Center to enhance international IT capacity building.

Other governments have made removing the digital divide a priority. Malta's first strategic objective for 2004-2006 is

to "step up the fight against the digital divide across all levels of society." Sweden emphasizes an information society for all in proposed legislation that states the goal of Sweden's ICT policy as creating a "sustainable information society for all."

## Conclusion

After several years of placing services online and espousing citizen-centric government, ICA members are now looking inward to address the infrastructures, organizations, architectures, and business processes that use ICT to support citizen services. The focus has moved from the front-end to the back-end. Meanwhile, citizen preferences for access and interaction with government hardly remain static. The challenge for governments in the coming years will be to organize and manage service delivery while remaining attuned to the ever-shifting needs and preferences of their citizens.

This analysis is based on the observations, strategies, and initiatives of 18 ICA members who submitted Country Reports for the 39th ICA Conference: Australia, Austria, Belgium, Denmark, Estonia, Finland, Hungary, Israel, Japan, Malta, the Netherlands, New Zealand, Singapore, Sweden, Switzerland, Taiwan, the United Kingdom, and the United States.

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## Measuring and Benchmarking Client Satisfaction with Public Services: *The Common Measurements Tool*

By Charles Vincent and Wendy Paquette  
Program Managers  
Institute for Citizen-Centered Service (ICCS)  
Canada

In a growing number of countries, phrases such as “citizen-centered” or “client-focused” are becoming the buzz words when talking about public sector service quality and service improvement. Initiatives to improve service delivery are not simply designed to meet the needs and expectations of citizens, but are actually founded on feedback from clients about their recent service experiences.

There are many tools and strategies for collecting feedback from citizens, but one of the most popular is the client survey. Done well, a client survey can provide not only measures of client satisfaction, but also help in identifying priorities for service improvement.

As early as 1997, public servants across Canada began working together to develop a Common Measurements Tool (CMT) for assessing and benchmarking feedback from clients. Consisting of a uniform set of questions and response scales, the CMT is designed to help public sector managers create client surveys that will both assess client satisfaction and provide direction for improving service delivery.

### Understanding What Drives Client Satisfaction

At the heart of the Common Measurements Tool are the “drivers of

client satisfaction,” of most importance in determining whether a client is satisfied or dissatisfied. While many aspects of a service experience influence whether a client is satisfied or not, it is possible to identify a fairly short list of factors that are more important than others.

Based on a bi-annual survey of more than 6,000 Canadians called Citizens First, we know that client satisfaction is largely defined by five key factors: delivery of a service in a timely manner, by knowledgeable staff who treat clients fairly, go the extra mile when required, and provide the outcome the client is seeking. Satisfying those five drivers leads to a client satisfaction rating of 4 out of 5, or higher. Using these five drivers as a foundation, the CMT includes questions that address each of these drivers. For example, in addressing the timeliness of service, one question asks about the degree to which the client agrees that, “I waited a reasonable amount of time at the service location.” Similarly, in assessing the perceived outcome of the service experience, another question asks, “In the end, did you get what you needed?” These and other questions related to the drivers of satisfaction provide managers with information they need to focus their service improvement efforts. [Note: For a copy of the questions included in the CMT, please visit [www.iccs-isac.org/eng/cmt-pub.htm](http://www.iccs-isac.org/eng/cmt-pub.htm).]

While these five drivers are relatively consistent across service types, they do vary in some situations. With the growth of electronic service delivery (ESD), the questions in the CMT were expanded to address factors that specifically drive satisfaction with online service delivery. As the service delivery environment continues to evolve, the CMT will continue to evolve to meet the needs of public sector managers. The 4th iteration of Citizens First highlights whether the drivers of satisfaction identified above continue to hold, or whether public sector managers need to begin measuring new factors in order to respond to the needs and expectations of clients.

### A Case Study in Service Improvement: Veterans Affairs Canada

In 2001, Veterans Affairs Canada (VAC) launched a client survey as part of the government of Canada’s broader Service Improvement Initiative. Mixing CMT questions with more specific questions about the unique aspects of their services, VAC surveyed 1,200 clients and asked them about both their experiences and the relative importance of various parts of the service experience. In doing so, VAC identified eight priorities for service improvement, including:

- the wait time for a written decision;
- the ease in finding information on programs;
- the ability to access benefits;
- the knowledge of staff on specific programs;
- the ability of staff to answer questions on specific topics;
- the sensitivity of staff to certain situations; and
- the wait time for appointments.

Over the next two years, VAC

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## Citizens First and the Drivers of Satisfaction with Online Service Delivery

**Citizens First** is a bi-annual survey designed to provide public sector managers with insight into citizens' views of public services and direction in improving service quality. Sponsored by federal, provincial, and municipal governments across Canada, **Citizens First** asks Canadians what they think about the delivery of public services, what expectations they hold, and what they see as the priorities for improvement. In going directly to Canadians in this way, **Citizens First** has been able to identify the drivers of satisfaction with service delivery, dispel myths about the relative quality of public services, and highlight the importance of concepts such as service standards and accessibility.

While **Citizens First** includes a core set of questions designed to track trends over time, it also seeks to uncover new insights in an ever-changing service environment. For example, **Citizens First 3** included a specific focus on Internet-based services, uncovering that the factors that drive satisfaction with online service delivery include:

- Navigability** → It is easy to find what I'm looking for
- Outcome** → In the end, I got what I needed
- Visual Appeal** → The web site is visually appealing
- Completeness** → The web site has all the information I need

In addition to the **Citizens First** studies, the Institute for Citizen-Centred Service also co-ordinates a parallel study called **Taking Care of Business** that explores the experiences and expectations of the business community in accessing public services. For more information about either of these projects, or for copies of the reports, please visit: [www.iccs-isac.org/eng/pubs.htm](http://www.iccs-isac.org/eng/pubs.htm)

designed service improvement initiatives to directly address these client priorities. For example, clients were experiencing difficulty in finding information on programs and in accessing benefits. To address this issue, VAC developed an integrated service delivery framework that:

- redeployed staff in interdisciplinary client service teams;
- launched an Internet site called Seniors Canada On-Line in collaboration with other government organizations serving seniors; and
- redesigned the quarterly newsletter, "Salute," to better meet client needs.

Similarly, to provide staff with the knowledge needed to address questions on specific programs, staff orientation programs were updated and specialized training programs

were developed in areas such as post-traumatic stress. Through these targeted service improvement efforts, VAC managed to increase satisfaction with some of these priorities by as much as 10%. In turn, the already impressive VAC 85 percent overall satisfaction rating rose to 87 percent.

## Benchmarking Client Satisfaction

As valuable as the CMT is in focusing service improvement initiatives on citizen priorities, one of the real benefits of using a common set of questions lies in the ability to then compare or benchmark the results against those of peer organizations and services. For organizations such as Veterans Affairs Canada, this ability to compare has become particularly important because their client satisfaction results are now part of a broader Management Accountability Framework.

To facilitate benchmarking, the Institute for Citizen-Centered Service (ICCS) recently launched a CMT Benchmarking Database. Users of CMT questions can now submit their survey data to a central repository and compare their results with those of organizations with similar characteristics such as size, mandate, service, or client-type. Furthermore, they can do so anonymously to ensure their results are not made public.

For example, Veterans Affairs Canada can now measure its results against other organizations in the federal government, other organizations that work with seniors, other organizations that deliver financial benefits, or any combination of those. In reviewing these comparisons, VAC can look at both high-level measures of overall client satisfaction, as well as question-by-question comparisons on factors such as timeliness, fairness, or the navigability of their website.

## Summary

Client surveys are certainly not new to the public sector. That said, by designing questions to directly address the drivers of client satisfaction, the Common Measurements Tool has helped Canadian organizations target their service improvement efforts. At the same time, by enabling organizations to benchmark their results against others, a community of practice is growing in Canada in which service champions from across the public sector are coming together to learn and share.

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## Enhancing the Security of America's Transportation System

# Transportation Worker Identification Credential (TWIC): Phase III Prototype Case Study

By Michael Palmer  
Managing Director  
BearingPoint

The U.S. Department of Homeland Security's Transportation Security Administration (TSA) launched a program in August 2004 that is designed to prevent unauthorized individuals from gaining access to secure areas at seaport, airport, rail, pipeline, trucking, and mass transit facilities across the United States. Under the Transportation Worker Identification Credential (TWIC) program, the TSA is issuing a uniform credential to transportation workers that improves security and minimizes the need for redundant credentials and background checks, as well as streamlines commerce and protects personal privacy.

The project objectives were to:

- Design a solution that positively and securely links each individual to his or her credential and provides background information on the claimed identity of that individual.
- Ensure that the TWIC solution is compatible with existing facility systems to leverage prior security investments.
- Ensure the system's ability to immediately revoke or suspend access privileges to anyone identified as a threat or anyone with a lost, damaged, stolen, or compromised credential.

Within 96 days, BearingPoint—a global management and technology consulting firm—had helped TSA provide credentials to transportation workers in California, Florida, and Pennsylvania. When fully implemented, an estimated six million credentials (up to 200,000 for the prototype phase) may be issued and maintained for transportation employees who have unescorted access to secure locations in transportation facilities across the United States.

### A Secure, Scalable Solution

Capable of supporting more than 10 million workers when fully developed, the TWIC solution is reliable, secure, robust, highly scalable, and also meets the requirements of the Federal Information Processing Standard (FIPS) 201 mandated by Homeland Security Presidential Directive 12 (HSPD 12). With a single credential that allows workers to access multiple facilities, it eliminates the need for multiple credentials and background checks. Because the system is based on commercial off-the-shelf (COTS) technology, components are interoperable and nonproprietary. Thus, the TSA avoids being locked into a proprietary design, ensuring enormous flexibility and vendor choice in the future. The solution also allows for centralized

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(or decentralized) credential issuance and management, while supporting diversified and distributed applications.

At the core of the TWIC program are the development and deployment of tamper-resistant identification credentials that protect the individual's personal information and contain a representative template of each worker's biometric information. This unique, standards-based, biometric data allows each transportation facility to quickly verify each worker's identity, thus preventing unauthorized access. The system incorporates six key processes:

- sponsor registration (by a transportation facility, employer, etc.);
- pre-enrollment;
- enrollment background checks;
- credential production;
- issuance of a credential; and
- granting of access privileges.

The project team implemented the solution via web-based, user-friendly interfaces to facilitate the pre-enrollment process, lower administrative costs, and make the system available 24/7 across the United States.

During online pre-enrollment, the worker provides personal information

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that is securely transmitted to a centralized identity management system. The worker can schedule an appointment for physical enrollment, locate the closest enrollment center, retrieve directions to the enrollment center, and confirm that he or she has the proper documents needed for proper identification on line. Personal and biometric information (facial and fingerprint) provided during enrollment is converted to a standards-based representative format and stored on the credential. The credential is issued only after the individual's sponsorship is confirmed and the identity is authenticated with biometrics, security threat checks and secure documents. Once the transportation worker's TWIC is activated, local facilities can grant logical and physical access to specific areas.

## **Making the U.S. Transportation Infrastructure More Secure Today and Tomorrow**

With the TWIC prototype in place, the TSA has already started enhancing the level of security in America's

national transportation system. By relying on multiple authentication methods (credential, personal identification number/password, and bio-metric information), as well as strong application authentication, the TWIC provides a higher level of security than verification methods currently in use.

Biometrics used for a secure, positive match of an individual to specific, authorized areas significantly reduces the risk of fraudulent or altered credentials and unauthorized access. System-wide encryption and the use of a minimal amount of data ensure maximum protection of personal information. The operational enrollment supports both physical and logical access to secure facilities. Because there is no longer a need for multiple credentials or multiple background checks each time a worker visits a different facility, efficiency and productivity increase significantly.

At the same time, the solution reduces the administrative burden on transportation facilities and staff. With its COTS design, the solution

can be leveraged and integrated easily with existing security systems to minimize impact and expense for supporting TWIC. Further, the TWIC infrastructure was designed to meet the FIPS 201 directives.

This system can be used as a completely outsourced capability for a site that desires to quickly credential a designated population. It was designed for maximum flexibility and scalability and can be used for many different populations and credentials.

*To learn more about this security and identity management solution, contact Michael Palmer, Managing Director, at (703) 747-6748 or [Michael.palmer@bearingpoint.com](mailto:Michael.palmer@bearingpoint.com) or visit: [www.bearingpoint.com|securityingovernment](http://www.bearingpoint.com|securityingovernment)*

## The Enterprise: *Optimizing Search Capabilities for the Government Information Worker*

By Carolyn Brubaker  
E-Government Manager for the Federal Sector  
Microsoft Corporation

### Microsoft's commitment to Supporting Search

Searching for information isn't just about the Internet and providing a long list of web links. It's also about making connections, answering questions, and providing relevant information to decision-makers. The average government information worker is required to search through multiple channels of information to get answers and solve problems on a daily, hourly, and even minute-by-minute basis. One of these important channels is the Internet, and Microsoft's MSN is the critical search engine behind FirstGov.gov, the Official web portal for the United States Government. Other important and more structured channels for searching information include the desktop, internal portals, and across-government repositories.

### What are the Challenges?

The amount of content in the enterprise is exponentially growing. Based on recent growth trends, it is likely that the amount of content being searched and shared over the Internet will double over the next two years. Content is scattered throughout the enterprise over employee hard disks, in databases, e-mail, line of business (lob) applications, file shares, and more. Furthermore, the types of content in the enterprise vary from unstructured content, like word documents and excel spreadsheets,

to more structured content, like customer contacts and sales data in line-of-business systems. With this explosion of content, customers want to improve overall enterprise productivity by providing the right tools, processes, and services to manage and find the content.

Another challenge for enterprises today is compliance and policy. Content created cannot simply be destroyed on an ad hoc basis. In many enterprises, content must be retained for a certain period of time before it can be disposed of. This adds complexity to the content explosion issue and requires processes and technology. Enterprises must not think simply about how information workers will find content in their enterprise, but also about how this content can be tracked and managed from creation to retention.

### Enterprise Search – What is it?

Enterprise Search is a very important service that improves individual and organizational productivity by allowing enterprises to deal with a vast amount of content. Enterprise search enables information workers to make informed decisions more quickly and find the information they want. It also prevents the creation of duplicate information so that information workers do not create the same content over and over again. Enterprise Search can be defined as the practice of identifying and

enabling specific content across the enterprise to be indexed, searched, and displayed to authorized users.

The most common misperception of Enterprise Search is to think of it as one big box with "keyword search". Enterprise Search is a service that improves worker productivity. It's important for search to be available in different contexts to address the following common search scenarios.

### Searching the Desktop

Desktop search has been a really tough problem for PC users since the onset of widespread PC adoption. This nagging problem has only gotten worse with the average High Definition (HD) size increasing everywhere. Today the average HD shipping with a desktop PC is 80+ gb. Users not only want to find information stored on their PC, but they want to be able to easily preview, filter, and manage search results, as well as perform deep searches into critical business documents. Furthermore, search on the desktop must be easy for the IT department to manage.

### Searching the Portal

Faced with the need to locate information, people will often not know where to look or where to start. Even people who know broadly where the answer lies may find it too

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burdensome to navigate to that location manually. For these cases and others, enterprises seek to deploy search systems that, from a single interface, provide access to all of the information the organization has to offer. This information set typically spans structured and unstructured internally produced content, and may often include selected content from external sources such as industry research.

## Searching the Internet

MSN Search includes a new search engine, index, and crawler, all built from the ground up on Microsoft technology. With this new service, users are able to find information faster. This new search capability is the back engine to FirstGov.gov and is helping citizens and government information workers alike to more quickly find relevant, official government information. An Internet strategy alone is often not sufficient, however. Multiple channels of information are critical for successful information sharing and search for both citizens and government information workers.

Every search solution has to crawl and index the content. Internet search crawls billions of web pages and documents, taking a look at the content and metadata as well as how relevant content is linked.

## Searching for Everything

Because information is stored everywhere, it's important for information workers to have one place from which to search. In the case of Internet search, this is the "search box." While this is also true for the Enterprise, most Information workers want a unified search result set right on their desktop.

## Searching Across Repositories

Every organization has multiple repositories that collectively store the information that drives the business. These repositories come in all shapes and sizes, ranging from simple file shares to line of business applications to collaborative websites to published websites directed at employees, partners, and customers. When workers interact with these repositories directly, whether through rich clients or web applications, they expect to find the search capabilities built right into the experience.

## Searching for People

When an organization grows in size, not only does its amount of content grow, but the number of employees grows as well. When there are twenty people or less in an organization, it's not difficult to find the right person. But when the number of people is several hundred, the ability to locate experts becomes extremely important. Enterprise Search should enable employees to find other employees very easily.

## The Sum of the Parts

For Enterprise Search, it's not just about one of these search categories, but about all of them combined. Relevant Enterprise Search is not just about web pages and documents. It's about the ability to index content in different line of business applications, e-mail, collaborative workspaces, file shares, and customer repositories such as those highlighted in the examples below.

- A government scientist wants to find the latest data that supports his agency's research and development efforts.
- A federal healthcare worker needs to find clinical trial data for a

related study from the early 1990s.

- A data center manager wants to quickly locate all of the trouble ticket escalations corresponding to the last system upgrade.
  - An acquisition official needs to look up the agency's preferred suppliers for anti-virus software.
- Enterprise Search is more than just a "big box". It should encompass the entire lifecycle of content; not just the search component:
- How are information workers creating content?
  - How are information workers sharing it with others across the Enterprise?
  - What are the common applications and solutions needed to share pertinent information?

In summary, to optimize the performance of today's government information worker, an ample supply of structured and unstructured data needs to be made available across multiple channels to ensure success and to maximize efficiencies and effectiveness of the Enterprise Search.

As the E-Government Manager for the Federal Sector at Microsoft Corporation, Ms. Brubaker is dedicated to the alignment of Microsoft's capabilities and technologies with the requirements, missions, and vision of federal government agencies. She works with the leadership of federal agencies, as well as the leadership of Microsoft, to ensure that technology is optimized and fulfills the needs of e-government.

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## Engaging Citizens Beyond “American Idol”

News From Think Tank  
By The IBM Center for the Business of Government

Changes to the traditional process of seeking, reviewing, and incorporating public comment into policy-making is being driven by citizens' expectations for better, faster, and more transparent processes. After all, why can't feedback to government be as easy as voting for the next American Idol?

A new report—“*Public Deliberation: A Manager's Guide to Citizen Engagement*”—by Carolyn J. Lukenmeyer and Lars Hasselbad Torres of “*AmericaSpeaks*” serves as a guide for government managers on how they can create a framework using modern techniques to facilitate real dialog between citizens and their government about a wide range of issues.

Voting for your favorite singer on American Idol is akin to traditional, one-way approaches to citizen participation, such as testifying at hearings. Citizen engagement, on the other hand, refers to a shift from an information exchange model to an information processing model of citizen engagement. It is a shift from citizens as consumers of government information to citizens as active shapers of government policies and programs.

### Engaging Citizens Improves Success of Initiatives

A recent report, sponsored by the IBM Center for the Business of Government, documents a spectrum of tools and techniques to increase citizens' involvement in their communities and government. “When implemented effectively, the use of meaningful dialogue has led to greater community consensus around results, oftentimes speeding actions because there are fewer efforts to use legal proceedings to stymie initiatives,” notes Jonathan D. Breul, Senior Fellow for The IBM Center for the Business of Government. For example, in the case of a major, multi-year highway project in Australia, a citizen engagement effort costing about \$500,000 yielded \$2.5 million in overall project savings that came from the elimination of costs associated with delays and litigation.

So how can government managers better engage citizens in a deliberative process? The authors recommend that public managers clearly define the role they want the citizen to play in a public initiative and then select

techniques that will most likely engage citizens in the process. The role of the citizen is largely driven by the goal that the agency is trying to accomplish. Agencies can use face-to-face techniques, as well as online techniques.

### Face-to-Face Citizen Engagement Now Supported by Technology

An example: Beginning in 1999, Mayor Anthony Williams of Washington, D.C., sought to address the distrust between District citizens and their government by engaging citizens face-to-face in deliberations about the city's spending priorities and integrating their recommendations for change. The technique employed was a series of 21st Century town hall meetings. These meetings were intense, two-day sessions held every other year and involved more than 10,000 residents. At each meeting, thousands of citizens were seated at hundreds of small round tables. Through the integration of networked laptop computers at each table and wireless keypad polling, results from the small group conversations were shared with the entire group, prioritized, and reported to decision-makers at the end of the day. In 2001, in response to the first meetings, District residents helped secure an additional \$710 million for education, \$10 million for senior services, and 1,000 new drug treatment slots.

### Online Citizen Engagement Expands Participation Opportunities

In addition to face-to-face deliberation forums, managers can now choose from several online techniques, such as Neighborhood America. Its “Public Communications Management” platform enables information communication, public input, and back-end support for administrative processes to support public engagement efforts. For example, Neighborhood America supported the design selection process for the memorial recognizing the 9/11 crash victims of Flight 93 in Pennsylvania ([www.flight93memorialproject.org](http://www.flight93memorialproject.org)). It also supported multi-jurisdictional collaboration and public involvement in the Florida Everglades in one of the largest environmental restoration efforts of its kind [www.xlr8.sfwmd.gov](http://www.xlr8.sfwmd.gov).

Throughout the report, the authors are upfront about the institutional and cultural challenges inherent in face-to-face and online deliberation. Barriers include: (1) low levels of administrator trust in the quality of what the public can contribute; (2) uncoordinated, often inconsistent, policy guidelines that do not provide sufficient direction on the use of deliberative engagement techniques; and (3) limited use of cross-agency knowledge building and information sharing about citizen engagement approaches.

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## Government Managers' Role Defined as Convener

As a means of overcoming these obstacles, the report authors view government's role as a "convener" and challenge managers to think about ways agencies can contribute to the growth of an infrastructure for engagement. They provide two sets of recommendations. The first set relates to agency-based improvements that agencies can begin to implement on their own. The second set describes governmentwide reforms that would require senior-level action.

For agency managers, the authors recommend:

- conducting a top-to-bottom review of existing policies and practices;
- designating management-level staff positions that would focus on improving agency citizen participation efforts;
- ensuring funds are budgeted for participation efforts in targeted programs and projects;
- promoting experimentation;
- measuring benefits, not just costs; and
- incorporating citizen engagement practices into managers' performance management reviews.

The report's proposed strategies for creating a governmentwide "infrastructure for engagement" include:

- establishing an interagency task force to review existing policy guidelines;

- adopting consistent federal guidelines for public involvement;
- adapting administrative processes to encourage citizen engagement;
- developing assessment frameworks; and
- encouraging exchanges of innovations and successes across agencies.

While 21st century town-hall meetings may not get the same primetime coverage on network channels as American Idol, this report provides government managers with leading practices in effective citizen engagement through the use modern techniques. Implementing these practices will surely have a more lasting impact on our lives than deciding who will be America's next rock star!

The IBM Center for the Business of Government is dedicated to providing cutting edge knowledge to government leaders. The Center sponsors research and facilitates discussion of new approaches to improving the effectiveness of government in the United States and across the world.

*To order a free hard copy of [Public Deliberation: A Manager's Guide to Citizen Engagement](#), contact Alex Turman at [alex.turman@us.ibm.com](mailto:alex.turman@us.ibm.com), or (202) 515-4504. You can also download a copy at <http://www.businessofgovernment.org>.*





# Wireless Strategies for Healthcare Provider Organizations

By Peter Groen  
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## Introduction

As the American population increasingly carries portable telephones and personal computer devices, federal agencies are continually seeking new, cost-effective ways to bring government to the people rather than making people come to “fixed” government offices during “normal business hours”. Whether it involves using mobile van offices at shopping centers or setting up additional government portals for citizens to use on the Internet, wireless communications will play a key role in providing improved services to citizens across the country in the coming decade.

The scope of wireless and/or mobile computing is expanding daily. It is no longer enough to just know about available mobile devices and applications to upgrade an organization’s **wireless strategy**. One must now be aware of the **wireless architecture**, wireless standards, special security needs for wireless devices, the growing range of application choices, and the unique support and maintenance requirements needed for wireless systems and for users of mobile devices.

The use of wireless modalities in settings such as hospitals, clinics, long-term care facilities, and home care is becoming well established.

Healthcare professionals are seeing the benefits that wireless devices

offer. Beyond providing clinical decision support through time-sensitive diagnostic tests, wireless technology applied to handheld devices can strengthen care continuity when patients receive care from alternative or remote sites and from teams of providers.

One of the greatest risks related to the acquisition and implementation of wireless technologies is to focus on technical features before addressing privacy and security. Healthcare organizations need to become knowledgeable about privacy and security issues, balancing them with the benefits of wireless systems.

## What is Wireless Communication?

Wireless communication is currently one of the fastest growing technologies in the information technology (IT) industry. Wireless communications can be further divided into two major categories: **wireless voice** and **wireless data**. Wireless voice includes cordless/cellular telephones and mobile phones. Wireless data includes cellular digital packet data (CDPD) and Wireless Local Area Networks (WLAN).

## Background on the Wireless Sector

The whole wireless sector is under close scrutiny from research agencies, analysts, consultants, and

enterprises keen to implement some sort of wireless solution. While the discussion related to Return-On-Investment (ROI) continues, it now appears that wireless technology will deliver on its promises over time.

Many companies have already chosen to move forward and are using wireless networks to connect portable computing devices to enterprise applications. Possible business process improvements exist in the following areas:

- **Cost reduction.** Activities and resources can be removed from existing processes.
- **Cycle time reduction.** Sales, service, expense, and billing cycles can be reduced.
- **Increased revenue.** Revenue-generating activities can be introduced that wouldn’t otherwise be possible.
- **Optimal use of time.** At points in a business process where there is a wait, workers can perform other useful tasks.
- **Increased customer satisfaction.** The quality of the service to the customer is maximized.
- **Increased employee satisfaction.** Tedium, unnecessary trips to the office, and paperwork can be reduced.

## Mobile Health Applications Software

Most technology tools available to physicians today are complicated and cumbersome and do not yet fit easily into the flow of patient care. However, a new generation of information systems and technologies are changing the way physicians practice. For example, physicians today can acquire a mobile practice companion, or PDA device, that offers immediate and secure access to critical clinical information no matter where or when

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physicians need it to help them provide patient care. Just as important, these types of portable wireless tools should improve practice efficiency and may potentially increase patient satisfaction.

Coordinating care for complex public health issues, such as responses to bioterrorist events, requires collaborative planning and defined protocols of communication. The wireless handheld device will become a crucial tool linking care teams that are conducting bio-surveillance. As such, clinical reminders and health alerts can be streamed in real-time over a wireless medium to keep providers well-informed about specialized critical care techniques.

Currently these mobile applications focus primarily on tasks at the point of care and do not require a sophisticated data transfer infrastructure back to the organization's main computer system. Using these mobile applications in conjunction with wireless technologies, the following benefits have been realized within the healthcare setting:

- convenient access to patient data;
- accurate and timely entry of data;
- installation cheaper than wired networks;
- more efficient utilization of provider time;
- reduced medical errors;
- elimination of duplicate data entry;
- improved patient care;
- decreased operating cost;
- improved workflow;
- decreased patient and clinician wait times

## Business Drivers

Some of the most widely noted drivers in the growth of enterprise mobile computing are:

- need for faster, decentralized decision-making;

- need to be closer to beneficiary population;
- availability of better mobile computing technology;
- increased responsiveness to beneficiary service needs;
- need for real time medical decision-making;
- need to decrease medical errors;
- need for bedside standardized protocol;
- increased industry pressure for better data quality & efficiency.

One of the biggest challenges for mobile computing vendors is to provide deeper and broader functionality. Expect mobile computing vendors to continue to expand their functional capability from solely writing prescription to clinical documentation or charge capture in the coming years, especially as they merge with or acquire other mobile computing application vendors.

In fact, healthcare is re-engineering its workplace and provision of care utilizing wireless information technology to achieve many of its business objectives.

## Technology Drivers

High-speed Internet and portal technologies will dramatically transform the delivery of health care. Portals will be accessed ubiquitously via computers, wireless devices, and telephone (using voice recognition and speech synthesis applications). Patients and providers will have the capability to collaborate in real time, search, publish/subscribe, or even obtain personal information. Portal infrastructures will also enable an environment that promotes customer service.

## Core Recommendations

Business needs are evolving daily, as are the solutions within the wireless landscape. Knowing the business

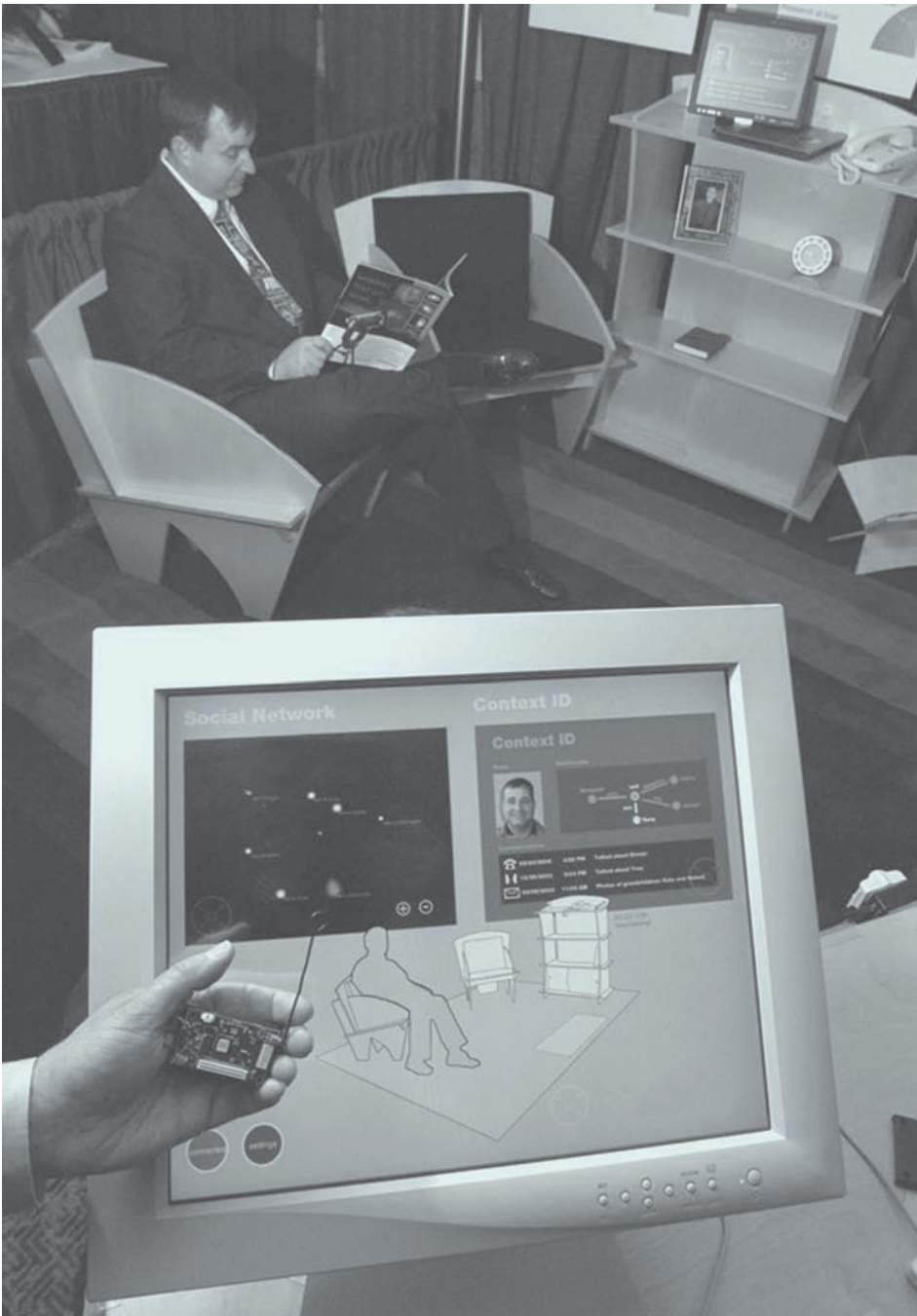
needs of one's organization will help tailor the recommendations that are essential to the success of any wireless technology implementation effort. During implementation and deployment, security issues and concerns must remain visible. Every decision must address how it will affect the security integrity of the enterprise. The following is a list of basic recommendations:

- standardize wireless devices and application solutions whenever possible;
- maintain a comprehensive security protocol;
- enable connectivity to the Intranet and legacy systems;
- purchase products centrally to secure volume pricing;
- deploy wireless systems management tools from the outset;
- begin to build key skills now with pilot deployments in the field;
- document procedures for testing and design of wireless infrastructure and applications;
- ensure your enterprise Help Desk can respond to wireless technology questions;
- implement a robust personnel training program to support end-users in their adjustments to streamlined business procedures, including security and enhancements in network communications.

## Resource Analysis

All healthcare organizations need to do a resource analysis prior to undertaking any major project to implement wireless solutions. They need to determine what resources they will need to aggressively pursue wireless communication opportunities. Moreover, they will need to understand how to use existing resources to get up and running quickly with wireless tactics.

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## SENSORS TO HELP PEOPLE WITH DEMENTIA

A researcher holds a tiny battery-powered device that wirelessly collects data from sensors embedded in household items such as a floor mat or chair. The device transmits data back to a home PC to alert a caregiver that a patient is trying to stand and leave the room. Wireless sensor networks could help people with illness maintain their independence, prevent disease and increase their quality of life. (Feature Photo Service)

## Trends and Future Direction

For the foreseeable future, wireless technology will complement wired computing in enterprise environments. Even new buildings will continue to incorporate wired LANs. In addition, wired networks offer greater bandwidth, allowing for future applications that may be beyond the capability of today's wireless systems.

The complexity of mobile and wireless applications, combined with a lack of standards, will continue to make mobile and wireless an area of overdue innovation. Risk remains—more than 50 percent of mobile applications deployed at the start of 2005 will be obsolete by the end of 2005. The real question about the future of the wireless enterprise network is not whether it is here to stay, but rather the extent to which we have the foresight to fully exploit it, while preserving the privacy and security of the individual's health information.

## Next Steps

Although the implementation of wireless computing can potentially provide enticing dividends, its full value cannot be recognized without proper planning and extensive forethought on the wireless enterprise design. Strategic next steps are:

- Understand clearly the organization's business objectives and business processes. Healthcare organizations should consider wireless applications in the context of a larger business process re-engineering and enterprise-wide IT effort.
- Establish an enterprise wireless working group to develop a long range strategy and plan.
- Conduct an enterprise technology assessment. Complete a thorough technical analysis on which to base

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the decision to install wireless solutions. Avoid choosing a technology that fails to meet your organization's business and clinical needs.

- Identify the type of data to be transmitted. Determine whether it is text intensive and/or graphics-intensive. Determine the physical parameters of the proposed installations, because wireless networks are limited in range. Note the span and throughput of wireless networks offered by competing manufacturers.
- Conduct detailed on-site analyses of critical physical and clinical problems at healthcare facilities to determine if wireless computing offers the right answers.
- Ensure that the design of the

selected wireless infrastructure products and components comply with your Enterprise IT Architecture and Standards.

- Choose the right vendor. In addition to their product line, the chosen wireless product vendors need to be able to provide training and support to the organization over time.
- Secure data everywhere. Wrap security around the information, internally and externally, regardless of when, where, or how it is created, stored, processed, or transmitted. Be mindful of ever-occurring security threats and create centralized policies.
- Consider acquiring and deploying an enterprise-wide "mobile infrastructure" solution. Deploying

one integrated mobile computing suite across the enterprise will provide a range of benefits, e.g. one vendor, one contract, less training, simplified architecture, and lower support costs.

- To achieve the most positive impact for your business, determine how to quickly and cost-effectively integrate wireless technology into your current environment

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