The Future of E-Government

By Sharon S. Dawes
Director, Center for Technology in Government, University at Albany/SUNY

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The Center for Technology in Government has been active in digital government research and experimentation since 1996 when we worked with a handful of New York State agencies to develop their very first web sites. Since that time, the Center has worked with scores of federal, state, and local government agencies, including some here in New York City. These projects generated case studies, research reports, and practical guidelines on the strategies, policies, and technologies that contribute to effective e-government. We've also built e-government application prototypes, including one that is now the NYS Geographic Information System Clearinghouse.

All of these experiences have provided a rich body of knowledge about the public service advances made possible by emerging information technologies. We have learned that the traditional problems organizations face when they adopt new technologies (and new ways of working) still remain—and some new ones have entered the scene. I'd like to use my time with you this afternoon to outline a working definition of e-government, to present some of the overarching needs that government professionals face in creating e-government, and then to mention some effective practices that might serve as learning models.

A working definition of e-government

Many assume e-government is solely about delivering government services over the Internet. This popular assumption is very limited for two reasons. First, it narrows our vision for e-government because it does not allow for the wide range of governmental activities that are not direct services; nor does it recognize the essential use of technologies other than the Internet. Second, it grossly oversimplifies the nature of e-government, leaving the impression that a nicely designed, user-oriented web site is the whole story. This ignores the substantial investments that are needed in people, tools, policies, and processes. It fails to recognize that while the citizen sees e-government from the public side of a web site or email screen, the real *work* of e-government is on the other side, inside the government itself.

So let me begin with a working definition:

E-government is the use of information technology to support government operations, engage citizens, and provide government services.

While this definition is simply stated, it is actually quite broad. It incorporates four key dimensions, which reflect the functions of government itself:

- **E-services** -- the electronic delivery of government information, programs, and services often (but not exclusively) over the Internet
- **E-democracy** -- the use of electronic communications to increase citizen participation in the public decision-making process
- **E-commerce** -- the electronic exchange of money for goods and services such as citizens paying taxes and utility bills, renewing vehicle registrations, and paying for recreation programs, or government buying supplies and auctioning surplus equipment
- **E-managemen**t -- the use of information technology to improve the management of government, from streamlining business processes to maintaining electronic records, to improving the flow and integration of information

This last dimension of e-management is often slighted because it is mostly invisible to the public. But it is essential to every aspect of e-government. Without it we cannot have the services, public engagement, and high quality, low cost operations that e-government promises.

New York City is clearly in the first tier of jurisdictions in its development of e-government. NYC.GOV has received national recognition and numerous awards for its design and usability. After September 11, it was used with great resourcefulness and flexibility to provide New Yorkers with the best information available. In addition, the City's own definition of e-government is an expansive one that includes a variety of technologies (such as the 311 call center) and serious attention to the process re-engineering that has to accompany innovative web-based services. Given the City's existing experience and solid foundation, I'd like to focus not on what e-government is today, but on what is needed, in New York and everywhere else, to move it to the next level of performance.

Academic research and practical experience point to five fundamental needs:

1. **A comprehensive and coherent strategy for e-government.** Information, services, transactions are the outputs of e-government. Citizens, businesses, and government agencies are its customers. The Internet and other technologies are its delivery mechanism. Laws, rules, and processes are its nervous system. What ties all of these together is strategy. A comprehensive and coherent strategy for e-government treats a state or city as a single enterprise. It emphasizes the principles, standards, and infrastructure that make it possible for all agencies to work in consistent ways. This might include legal and policy infrastructure, telecommunications infrastructure, standards for data and technologies, rules and mechanisms for information use and sharing, and a host of other elements. A strategy has to account for reaching all the people who need government services regardless of their age, income, language, or access to the Internet. It also needs to assure that all agencies and all their private and nonprofit business partners are capable of engaging fully in using or delivering e-government applications. In the state of Washington, a State Digital Government Plan "treats the state, with all of its various components, as a single enterprise, and follows a 'build it once' strategy" to avoid duplication, honor common standards, and build a common infrastructure to serve citizens. In North Carolina, the state portal is actually a set of three

portals--one for citizens, one for businesses, and one for government employees, all built on the same principles, standards, and technical foundations.

2. **A transformation from our tradition of program-driven services to e-government's promise of integrated service.** Like any new technology project, electronic government is difficult, but it's made even more difficult because it places so much pressure on the entire enterprise. The e-government vision is a vision of integrated information and services. This means radical changes are needed in what happens behind the Web site that citizens see. New business processes, different information flows, changed policies, new kinds of records, advanced security measures, and new data management methods are all part of the integration story. This deeply transformational work is why leadership is so critical, and why a report from the Kennedy School of Government at Harvard University, "Eight Imperatives for Leaders in a Networked World," says "to be an effective leader in our networked world, you need to engage IT issues. You need to play a key role in establishing strategic direction, implementing specific projects, and formulating new public policies."

3. **A way to offer services that resolves the issues associated with privacy and data sharing.** Service and data integration projects are classic examples of being on the "bleeding edge" of technology. According to the National Electronic Commerce Coordinating Council, "Sharing data from multiple sources is a challenge that has become more fundamental as portal technology advances." Yet system architects continue to face "the same barriers that have plagued client/server and mainframe application developers." Data integration requires new business processes, increases technical complexity, demands reliable security, and presents serious data privacy, quality, and ownership issues. These issues are of deep concern to citizens as well. According to recent Hart-Teeter polls conducted for the Council for Excellence in Government, citizens are very interested in e-government, but prefer a slower development pace that pays close attention to their security and privacy concerns before investing in more service development. Citizens also want more than a convenient way to renew their auto registrations. They want e-government to help them become better informed, and they want it to make government more accountable by making processes and decisions more open and transparent.

4. **A shift from yesterday's static Web to the new dynamic and interactive Web.** The future of an agency's work now rests in new and evolving technologies that support real-time, dynamic interactions. The Web began in government as an exciting way to present static content to virtually anyone. It required new presentation skills and technologies that are now commonplace. In that early stage, an agency's business rules were applied before the content was posted on the Web site. Some e-government applications will still be of this type, but many will move to a dynamic state. In these new applications, the business rules must be applied "on the fly" as information from users interacts with agency databases to produce new services. These applications demand dynamic technologies involving data access, database management, authentication, and security of a very different nature from the old Web. The dynamic Web makes closer connections between an agency's internal systems and the outside world, presenting new risks and demanding new tools and techniques for managing them.

5. **New models for public-private partnerships and other networked organizational forms.** Given the diversity of players involved in delivering government services, effective e-government often requires coalitions of partners both within government and between government and the private and nonprofit sectors. The resulting organizational, legal, and technological relationships are complex and difficult to manage, yet they offer a way to harness resources that government cannot mount on its own. These partnerships may also be a way to deal with the chronic shortage of IT professionals interested in government careers. Competition between government and private companies for new graduates with new skills and for seasoned professionals with deep experience will continue to be a challenge everywhere but is particularly troublesome in places like New York with a vibrant private sector and fierce competition for IT talent. Here again, the City's experiences following September 11th, demonstrate the viability of such partnerships and offer a basis for further development.

To sum up, these five challenges hold the future of e-government:
- Comprehensive strategy
- Integration of information and services
- Privacy and data sharing
- Dynamic use of the Web
- Partnerships and other organizational networks

A look at New York City's current e-government initiatives should also look for ways to build these keys to its future.

Selected examples of effective practices:

Comprehensive Digital Government Strategy:

>State of Washington, (Digital Government Plan)
>http://www.wa.gov/dis/role/digitalgovguide/intro.htm

Public-private partnerships and networked organizations

>Indiana (Access Indiana)
>http://www.state.in.us/

>New York (GIS Coordination Program)
>http://www.nysgis.state.ny.us/gis_nys.htm

Accessibility:
>Texas (disabilities); http://www.nascio.org/scoring/files/texas1.doc
>Federal Government of Canada (multiple languages) http://www.canada.gc.ca/

Other References

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