

Realizing the Promise of Digital Government: It's More than Building a Web Site

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Images of the brave new world made possible through digital government are everywhere. Many of us have already experienced the potential of the Web to change our relationships with other individuals, with the business community, and more recently with government. Getting citizens "out of line" and "getting them online" are phrases that are being used to create visions of the new relationship between citizen and government. These images allow us as citizens and as business and government employees to think about 24 x 7 access to information, about filing taxes electronically, about registering cars and paying fees from our location of choice, and about participating in a new democracy.

The momentum for new service delivery models is building throughout government. Elected officials at all levels are making this a high priority. President Clinton has required that all federal agencies provide electronic access to all previously printed material over the Web through Firstgov.gov [1]. Governors from states such as New York [2], New Jersey [3], Washington [4] and Texas [5] have all placed digital government at the top of their priority lists. Digital government initiatives are being launched daily across the country. No government wants to be left behind in the movement to improve government through electronic delivery of information and services to citizens.

The vision of digital government created by these images is powerful and compelling. We must keep our eyes on the vision, but also pay attention to the complex realities of implementing that vision. Digital government initiatives, of whatever type, are complex mixtures of technological, managerial and policy related challenges. The risk of not understanding and addressing these complexities is costly failure.

Yes, yes, my daughter can build a Web site, too, but digital government is more than that. The more of us who understand that digital government isn't about building a Web site,

that it's not about technologies, that it is about transforming government service delivery through the use of the technology, the better off we'll all be. Realizing the promise will require vision balanced with realistic expectations, foresight balanced with 20/20 hindsight and an expectation that some failures will inform our successes. This article discusses some of the challenges those engaging in digital government initiatives are facing and highlights some current efforts to build understanding and appreciation for the opportunities -- and the risks.

What is Digital Government?

To understand *digital government*, you must understand government in general. According to a 1999 report issued by the Center for Technology in Government [6], **Some Assembly Required: Building a Digital Government for the 21st Century** [7], government is actually a dynamic mixture of goals, structures and functions.

Digital government initiatives are complex change efforts intended to use new and emerging technologies to support a transformation in the operation and effectiveness of government. One of the challenges to these efforts is maintaining a primary focus on the business of government and *not* on the technologies. To do this, public leaders must be convinced that digital government requires their serious and sustained attention.

It is not about putting in a few computers or building a Web site for information access; it is about transforming the fundamental relationship between government and the public.

Government agencies must keep asking themselves three questions: What government business functions are we responsible for? How can we responsibly transform our current business models while incorporating new and emerging technologies? Are these new business models reflective of the collective concerns and priorities of the public; or do they threaten the public trust? As more and more agencies are delivering digital government services, clear types are emerging, and each type has its own array of policy, management, and technology implementation issues. By looking at each type, we are building an understanding of those that involve new ways of doing business such as integrating information in new ways and making it accessible over the Web, new ways of engaging in procurement and new ways to deliver services.

What is Government

The means by which society pursues essential objectives

- maintaining collective security
- administering justice
- providing the institutional infrastructure of the economy
- ensuring that vital social capital is enhanced through improvements in health and education and through strong families and communities

Elected officials in Washington and state capitals

Local officials such as the tax assessor, town clerk, or tribal council

The array of government agencies that

- watch over the environment
- collect taxes
- build road
- fight crime
- conduct a host of other activities

Citizen access to government information.

Providing access to government information is the most common digital government initiative. There are many benefits both to the public and to government of this kind of service: reducing distribution costs for government agencies, ensuring 24 x 7 access to information, removing the delay between production of and access to information, and more timely update of materials. This type of initiative includes establishing mechanisms, such as portals, that deliver information based on the customer's perspective rather than an agency or functional perspective. Many states and local governments including Washington [8], Indiana [9], Texas [10] and Virginia [11] are moving forward in these efforts.

Types of Digital Government Initiatives

Citizen access to government information
Facilitating compliance with rules
Citizen access to personal benefits
Procurement including bidding, purchasing, and payment
Government to government information and service integration
Citizen participation (voting, etc)
Others

Facilitating general compliance. Digital government can also mean providing electronic access to services that facilitate compliance with a set of rules or regulations. Good examples include driver's license renewal, hunting and fishing licenses, and business permits. This is the second most common form of digital government citizens will find. Texas recently won an award from the National Association of State Information Resource Executives (NASIRE) [12] for its project to develop an Electronic Compliance and Approval Process [13] that converts the filing, review and approval of a well-drilling permit application to a completely electronic process.

Citizen access to personal benefits. Electronic benefits transfer and online application for public assistance and worker's compensation are examples of services that provide the citizen with electronic access to personal benefits. This form of digital government serves specific groups of citizens and organizations rather than the public at large.

Procurement including bidding, purchasing, and payment. Procurement applications allow government agencies to reap the benefits being realized in the private sector through electronic commerce applications. Electronic vendor cataloging, bid submissions and tabulations, electronic purchasing, and payment are government-to-government and government-to-business transactions that serve both the needs of government agencies as well as their private trading partners.

Government-to-government information and service integration. Integrating service delivery programs across government agencies and between levels of government requires electronic information sharing and integration. Often called "horizontal government" these efforts support initiatives to provide citizens, most often communities of interest, with an integrated set of services. Good examples of these efforts are found in child welfare, in service programs for the aging and in economic development.

Citizen participation. Online democracy includes access to elected officials, discussion forums, “town meetings,” voter registration, and ultimately online voting. These services are intended to serve the community at large. Governments considering the implementation of this flavor of digital government must face issues of the digital divide [14] and security. A number of experiments with digital democracy have been conducted. Four California counties will test voting over the Internet this October [15].

What do Citizens Want?

The pressure to implement digital government in its various forms, is being felt at all levels of government. But where is this pressure coming from? Are citizens really demanding digital government? If so, what do they mean when they say “digital government?” What do citizens and businesses really want? Do they expect digital government initiatives from their local governments, from their states or from Washington? Are they demanding access to information or access to services so that they can be online rather than in line? Does “demand” really exist, or are we being led to believe this by carefully crafted marketing from information technology vendors and reelection campaigns? What role does the information technology vendor community play in building expectations? Does the public really expect, or want, online democracy? If so, how do we define it; what does it mean?

A number of states have decided that having the answers to these questions is critical to the success of their efforts. They recognize the need to identify and understand public expectations before moving forward on digital government initiatives. The Center for Technology in Government recently asked states about their efforts to identify what citizens and businesses want from digital government. **What Citizens Want from E-Government** [16] outlines the efforts taken by the 14 states that responded. A number of different approaches were taken by states to this information, some very formal and statistically reliable, others much more informal and anecdotal.

Overall, the list of what citizens want is highly predictable: information access and transaction support. Many states have implemented these basic transactional type services. Developing citizen-focused portals for access to government information is also a growing area of emphasis. Voting on the Internet and access to one-stop shopping are more difficult to achieve.

Assessing E-Government: The Internet, Democracy, and Service Delivery by State and Federal Governments [17], a recent study conducted at Brown University [18], presents a review of the current condition of digital government. A review of 1,813 Federal and state Web sites found that 22 percent contained one or more online services. The most frequent service found was the ability to order publications.

What Citizens Want from E-Government

- Renewing a driver’s license
- Voter registration
- State park information and reservations
- Voting on the Internet
- Access to one-stop shopping (one portal for all government services)
- Ordering birth, death and marriage certificates
- Filing state taxes
- Hunting and fishing licenses

Services Offered on Current Government Web Sites	
No Services	78%
One Service	16%
Two Services	3%
Three or More Services	2%

These two studies provide insight into what is on the minds of citizens and government agencies. Both seem to be focusing on “the low hanging fruit, ” the easy wins. Implementing a basic transaction, such as an information request or a printable form, is a very straightforward process that raises few questions

about the business of government. However, this is a very small part of the vision of digital government.

The Council for Excellence in Government [19] has been engaging in investigations that go beyond this focus and into the broader and more complex issues of digital government. The Council sponsored a series of surveys with the general public, government officials, and institutional customers to explore direct experience with and involvement in e-government, as well as expectations of it and goals for its future. In **E-Government: The Next American Revolution** [20] the Council reported the results of a Hart-Teeter poll. They emphasize three central conclusions: citizens are positive about e-government; they are more concerned for safeguards on privacy and security than with rapid implementation, and, when all is said and done, they expect more than an efficient and cost-effective way to renew a driver’s license.

One finding in this study is that the “public is still learning about e-government.” They found that only half of the adults who participated say they are at least slightly familiar with the concept of e-government. Internet users are more familiar with the concept (64 percent). The study found that by a margin of two to one, Americans want to proceed slowly (65 percent) rather than quickly (31 percent) because of concerns about security, privacy, and access. Citizens are concerned about privacy and security more than they are about access, and as a result speedy implementation is not a priority. By contrast, government officials hold the opposite view; they want to move more quickly to establish e-government.

**E-Government:
The Next American Revolution**

Americans believe that e-government will mean better government. The public wants to proceed carefully down the road toward digital government, saying that safeguarding security and privacy is their top priority. The public’s vision of e-government extends beyond efficient and high-quality services to a more informed and empowered citizenry and a more accountable government.

How to Get from Here to There

There have been many digital government successes at all levels of government. Local governments have provided increased information access and services to their citizens. Good examples include the cities of Boston [21], New York [22] and Chicago, as well as counties such as San Diego [23]. Many government sites have been successful in presenting online services. However, many sites are carefully crafted front-ends that mask a myriad of disparate agency processes. The realization of the full potential of

digital government rests in the same goals that government agencies have been pursuing for many years: true horizontal and vertical integration of programs and services.

Early estimates of how long it will take to realize the promise of digital government were very optimistic. As governments are recognizing the full complexities of the transformation required, these estimates are becoming more conservative. Most estimates are moving from one year to five years and beyond. The more governmental transformation required to effect real change, the longer the estimate. Placing government information on the Web for public access can be done sooner. Providing government to government information sharing to support improved service delivery, basically creating cross program integration, will take longer. True digital democracy may take even longer.

Appreciation for the specific implementation challenges and a growing public understanding of the risks are two factors that have contributed to these more conservative estimates. Legislators, governors, and other governmental leaders need to understand the potential and the risks of digital government. In a recent article in **Government Computer News** [24], "Road to Digital Government is Flecked with Potholes," Charles F. Gerhards, Pennsylvania's deputy secretary for IT, captured the essence of this challenge. "This is broader than just e-government. What this is about is transforming government. We are in an e-frenzy now, but reorganizing procedures is where we will put most of our time."

A number of efforts have been organized to manage the frenzy, to build the necessary understanding of digital government and its inherent complexities and risks. These forums have pulled together some of the best and the brightest in government, the private sector, and the research community to consider the short term and long term challenges that government and the public will face. Two efforts in particular have provided guidelines for policy makers and planners. The first was designed to identify a research agenda to further government efforts in digital government; the second is crafting a set of guidelines for public leaders about how to successfully provide leadership in this critical period.

Some Assembly Required: Building a Digital Government for the 21st Century was produced by the Center for Technology in Government on behalf of the National Science Foundation (NSF) [25] to frame a research agenda that would be of pragmatic use in government. The work focused on the environment in which government information services are developed. It recognized that government programs and service delivery mechanisms are developed in a complex, multi-layered Federal-state-local system in which many organizations play significant and different roles. It also emphasized that

**What Government Program Managers
Need to Implement E-government**

Interoperable systems that are trusted and secure
Methods and measures of citizen participation in democratic processes
Models of electronic public service transactions and delivery systems
New models for public-private partnerships and other networked organizational forms
Intuitive decision support tools for public officials
Archiving and electronic records management frameworks and tools
Better methods of IT management
Matching research resources to government needs

development efforts must deal with interactions among political, organizational, technological, economic, and human factors. The participants in this effort identified eight specific needs of government program managers that must be met to realize the promise of digital government.

Considering these needs in the complex environment, the group made six recommendations to NSF about the nature of the research activities that should be supported to ensure that these needs are met.

The Harvard Policy Group on Network-Enabled Services and Government (HPG) [26] engaged in a three-year effort to develop pragmatic guidelines for “those who seek to lead in this critical period.” This effort focused on providing leaders with a set of imperatives that must be considered in order to ensure that the opportunities offered by technology are realized.

HPG includes legislative and executive leaders, private and public sector leaders, technology and general managers, and public officials from federal, state, and local governments in the United States and Canada. The eight imperatives HPG identified are designed to support those who have “too often ignored technology-related issues or have delegated them to others.” This effort was undertaken based on the belief that these views are changing and that the “need for skillful and committed leadership has become obvious.”

Changes are occurring much faster than most analysts ever anticipated, and as a result basic civil and social values are at stake. **Eight Imperatives for Leaders in a Networked World: Guidelines for the 2000 Election and Beyond** by HPG is a resource for leaders and the public at large. The report builds appreciation for the unprecedented opportunities presented by information technologies, for what is at stake, and for providing guidelines for moving forward.

Six Digital Government Program Recommendations	
	Support research at the Federal, state, and local levels, as well as investigations into intergovernmental and public-private interaction.
	Attend to issues of “governance” as well at “government” in the digital age.
	Encourage social science and technology research, multidisciplinary projects, and research designs and methods that address service and system integration and environmental complexity.
	Seek innovative funding models that build a larger resource base for digital government initiatives.
	Link research and practice in an ongoing exchange of knowledge, needs, and experiences.
	Create a practitioner advisory group for the program and include practitioners in the review panels.

What’s at Stake? Basic Civil and Social Values of Particular Significance	
Service effectiveness and efficiency	Economic productivity is at stake
Privacy and security	The constitutional balance between individual liberties and civil order is very much at stake
Equity and community	Social justice and cohesion are at stake
Governance	Government’s legitimacy and our ability to govern ourselves are at stake

The eight imperatives provide guidelines for leaders to manage the risks of digital government. They also provide the public with a framework to assess the progress of government in managing the risks, and in ensuring that basic civil and social values are not threatened in the pressure to move to a digital government. HPG will be producing a series of papers to provide a fuller exploration and more specific guidelines on each of the imperatives.

Striking the Balance Between Digital and Government

The critical question is, what does all this tell us? We hear daily now about “what citizens really want,” about the digital government priorities of elected officials, about the success and failures of digital government initiatives, and about how leaders should lead. Each study, each project report, is a piece of the story. Government officials and the public alike must critically assess these pieces, and those that come after them. They need to create a shared understanding of digital government’s benefits and risks so that we may realize the promise and not regret what we have overlooked or sacrificed along the way.

Eight Imperatives for Public Leaders and Their Followers

Focus on how IT can reshape work and public sector strategies
Use IT for strategic innovation, not simply tactical automation
Utilize best practices for implementing IT initiatives
Improve budgeting and financing for promising IT initiatives
Protect privacy and security
Form IT-related partnerships to stimulate economic development
Use IT to promote equal opportunity and healthy communities
Prepare for digital democracy

Links:

[1] Firstgov

<http://www.firstgov.gov>

[2] New York

<http://www.oft.state.ny.us/ecommerce/index.htm#plan>

[3] New Jersey

<http://www.state.nj.us/cio/stratplan/stratplan2k.pdf>

[4] Washington

<http://www.wa.gov/dis/e-gov/plan/dgplan2toc.htm>

[5] Texas

<http://www.governor.state.tx.us/e-government/index.html>

[6] Center for Technology in Government

www.ctg.albany.edu

[7] Some Assembly Required: Building a Digital Government for the 21st Century

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<http://www.ctg.albany.edu/research/workshop/dgfinalreport.pdf>

[8] AccessWashington portal site
<http://access.wa.gov/>

[9] AccessIndiana portal site
<http://www.state.in.us/about.html>

[10] Texas portal site
<http://texasonline.state.tx.us/>

[11] About Virginia's portal site
<http://www.vipnet.org/vipnet/history.html>

[12] National Association of Information Resource Executives
<http://www.nasire.org>

[13] Electronic Compliance and Approval Process
<http://www.rrc.state.tx.us/ecap/>

[14] Digital divide
<http://www.ntia.doc.gov/ntiahome/digitaldivide/>

[15] Test voting over the Internet
<http://www.mercurycenter.com/svtech/news/indepth/docs/vote100300.htm>

[16] What Citizens Want from E-Government
http://www.ctg.albany.edu/resources/htmlrpt/e-government/what_citizens_want.html

[17] Assessing E-Government: The Internet, Democracy, and Service Delivery by State and Federal Governments
http://www.brown.edu/Departments/Taubman_Center/polreports/egovtreport00.html

[18] Brown University
<http://www.brown.edu>

[19] Council for Excellence in Government
<http://www.excelgov.org/egovpoll/index.htm>

[20] E-Government: The Next American Revolution
http://www.excelgov.org/techcon/media/pr9_28.htm

[21] Boston
<http://www.cityofboston.com>

[22] New York City

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<http://www.ci.nyc.ny.us/>

[23] San Diego

<http://www.co.san-diego.ca.us>

[24] Government Computer News

http://www.gcn.com/state/vol6_no6/news/754-1.html

[25] National Science Foundation

<http://www.nsf.gov>

[26] The Harvard Policy Group on Network-Enabled Services and Government

<http://www.ksg.harvard.edu/stratcom/hpg>