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State and Federal E-Government

in the United States, 2004

by

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September, 2004

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Executive Summary

This report presents the fifth annual update on the features that are available online through American state and federal government websites. Using a detailed analysis of 1,629 state and federal government sites, we measure what is online, what variations exist across the country, and what differences appear between state and national government. We compare the 2004 results to 2000, 2001, 2002, and 2003 (also see my forthcoming book, Digital Government: Technology and Public Sector Performance, Princeton University Press, 2005).

Among the more important findings of the research are the following:
1) 42 percent of federal sites and 37 percent of state sites meet the World Wide Web Consortium (W3C) disability guidelines.
2) The presence of online services has improved over the last year. This year, 56 percent of state and federal sites have services that are fully executable online, compared to 44 percent last year.

3) One percent of government sites are accessible through personal digital assistants, pagers, or mobile phones, the same as last year.
4) A growing number of sites offer privacy and security policy statements. This year, 63 percent have some form of privacy policy on their site, up from 54 percent in 2003. Forty-six percent now have a visible security policy, up from 37 percent last year.
5) government websites have a number of quality control issues, such as broken links, missing titles, missing keywords, and warnings and redirects to new pages.
6) 21 percent of sites offered some type of foreign language translation, up from 13 percent last year.
7) 62 percent of government websites are written at the 12th grade reading level, which is much higher than that of the average American.
8) The highest ranking states include Tennessee, Maine, Utah, New York, Illinois, Massachusetts, Indiana, Texas, Delaware, and New Jersey. The most poorly performing e-government states are West Virginia, Mississippi, Wyoming, and Nebraska.
9) Top-rated federal websites include FirstGov (the U.S. portal), Social Security Administration, Department of Education, Federal Communications Commission, Department of Agriculture, Internal Revenue Service, Federal Reserve, General Services Administration, Postal Service, and the House of Representatives. At the low end of the ratings are the various circuit courts of appeals.

A Note on Methodology

This project is based on a comprehensive analysis of 1,629 government websites (1,569 state government websites, 47 federal government legislative and executive sites, and 13 federal court sites). The list of web addresses for the 50 states can be found at www.InsidePolitics.org/states.html, while the federal government sites are located through the national portal, FirstGov.gov. Among the sites analyzed are portal or gateway sites as well as those developed by court offices, legislatures, elected officials, major departments, and state and federal agencies serving crucial functions of government, such as health, human services, taxation, education, corrections, economic development, administration, natural resources, transportation, elections, and agriculture. An average of 31.4 websites is studied for each individual state so we could get a full picture of what is available to the general public, plus all the major federal government sites. Tabulation for this project was completed at Brown University in Providence, Rhode Island by Jonathan Ellis, Brian Wood, Kelly Donnelly, Adelaida Vasquez, and Ruth Brown during June, July, and August, 2004.

Websites are evaluated for the presence of a number of different features, such as online publications, online databases, audio clips, video clips, foreign language or language translation,

advertisements, premium fees, user payments or fees, disability access, several measures of privacy policy, multiple indicators of security policy, presence of online services, the number of online services, digital signatures, credit card payments, email addresses, comment forms, automatic email updates, website personalization, PDA accessibility, and readability level.

Online Information

In looking at the availability of basic information at American government websites, we find that access to publications and databases are excellent. Ninety-eight percent of sites provide access to publications (the same as last year), while 87 percent have databases (up from 80 percent in 2003).

Similar to the patterns found in previous years, most websites do not incorporate audio clips or video clips into their sites. Seventeen percent provide audio clips, up from eight percent last year, and 21 percent have video clips (up from 10 percent last year).

Percentage of Websites Offering Publications and Databases

	2000	**2001**	**2002**	**2003**	**2004**
Phone Contact Info.	91%	94%	96%	--	--
Address Info	88	93	95	--	--
Links to Other Sites	80	69	71	--	--
Publications	74	93	93	98	98
Databases	42	54	57	80	87
Audio Clips	5	6	6	8	17
Video Clips	4	9	8	10	21

Electronic Services

Fully executable, online service delivery benefits both government and its constituents. In the long run, such services offer the potential for lower cost of service delivery and it makes services more widely accessible to the general public, who no longer have to visit, write, or call an agency in order to execute a specific service.

Of the web sites examined this year, 56 percent offer services that are fully executable online, up from 44 percent last year. Of the sites this year, 44 percent have no services, 18 percent offer one service, 11 percent have two services, and 27 percent have three or more services. Clearly, both state and federal governments are making significant progress at placing fully executable services online.

Percentage of Government Sites Offering Online Services

	2000	**2001**	**2002**	**2003**	**2004**
No Services	78%	75%	77%	56%	44
One Service	16	15	12	15	18
Two Services	3	4	4	8	11
Three or More Services	2	6	7	21	27

Among the most common online services provided by states were: renewal of motor vehicle registrations and driver's licenses, job applications, filing taxes for both individuals and businesses, filing consumer complaints, renewal of professional licenses, registration with the national "Do Not Call" listing, purchasing or renewing hunting and fishing licenses, applying for

unemployment benefits, and submitting annual reports and Uniform Commercial Code filings for businesses.

Several states offered novel services. Many states, including Alabama, Arkansas, Delaware, Hawaii, Maine, Utah, and Virginia, incorporate live online help into their portal pages. The service commonly uses a chat-room style interface to connect users to a technician for person-to-person support. While most states offered hunting licenses online, both Alabama and Florida had pages which offered online hunting education courses. California offered an online ethics course that fulfills a requirement for employment as a state official. Delaware and Iowa offered an online boating safety course as well as a sample test that can be taken prior to certification. Both New Jersey and Iowa's judicial websites allowed for the payment of traffic and misdemeanor fines online. South Dakota has a "Lifespan Timeline" which allows citizens to access services and activities by age group (birth, child, youth, early adult, adult, and senior citizen).

One area where government sites are making progress is in offering the ability to make credit card purchases online. Of the government websites analyzed, 25 percent accept credit cards, nearly double the 19 percent found last year. With the increase in online services, more and more sites have created a means for credit card payments. In addition, more sites are allowing digital signatures for financial transactions. We find that 11 percent are set up for digital signatures, up from less than one percent last year. A number of the places where digital signatures were authorized were services allowing citizens to access birth or death certificates.

Of the 50 states and the federal government analyzed, there is wide variance in the percentage of states' web sites with online services. We computed the average number of online services found in various states and in the federal government. Massachusetts is the leader, with an average of 25.0 online services across its websites. This is followed by Utah (20.3 services), Tennessee (19.5 services), Maine (18.2 services), and New York (14.7 services).

Privacy and Security

A growing number of sites offer privacy and security statements. In 2004, 63 percent have some form of privacy policy on their site, up from 54 percent in 2003. Forty-six percent now have a visible security policy, up from 37 percent last year.

	2000	**2001**	**2002**	**2003**	**2004**
Privacy Policies	7%	28%	43%	54%	63
Security Policies	5	18	34	37	46

The state with the highest percentage of its sites showing a visible privacy policy is Illinois with 97 percent of its sites, followed by New Jersey (97 percent), Texas (91 percent), Indiana (90 percent), and South Dakota (90 percent).

New Jersey is doing the best job in showing a security policy as 93 percent of its sites have a visible security policy that visitors can read. This is followed by Indiana (90 percent), Michigan (87 percent), South Dakota (87 percent, and New Hampshire (84 percent).

In order to assess particular aspects of privacy and security, we evaluate the content of these publicly posted statements. For privacy policies, we look at several features: whether the privacy statement prohibits commercial marketing of visitor information; use of cookies or individual profiles of visitors; disclosure of personal information without the prior consent of the visitor, or disclosure of visitor information with law enforcement agents.

In this analysis, we found that 40 percent of government websites prohibited the commercial marketing of visitor information. Sixteen percent prohibited the use of cookies or individual profiles. Thirty-six percent say they do not share personal information, and 39 percent

indicate they can disclose visitor information to law enforcement agents. Twenty-eight percent indicate they use computer software to monitor website traffic.

Assessment of E-government Privacy and Security Statements

	2001	2002	2003	2004
Prohibit Commercial Marketing	12%	39%	32%	40%
Prohibit Cookies	10	6	10	16
Prohibit Sharing Personal Information	13	36	31	36
Share Information with Law Enforcement	--	35	35	39
Use Computer Software to Monitor Traffic	8	37	24	28

Broken Links and Anchors

With government websites regularly being changed and updated, it is no surprise that most pages have quality control issues. Links to other parts of the site get broken when the site is redesigned and navigation problems can emerge when different sections of a portal are upgraded. However, these problems make it difficult for visitors to effectively navigate a site. When there are broken links, broken anchors, or other navigational difficulties, people get frustrated at their inability to move around a site easily and effectively and will often abandon the site. In addition, the perception of an organization is often impacted by the experience it delivers online. For a website to serve as an effective channel, the user experience and the online content must be continuously monitored, measured and improved.

To measure these problems, we used the quality module of WebXM, Watchfire's enterprise platform to analyze each of the 50 state government portals. The WebXM platform scans enterprise websites regardless of size or complexity, and identifies compliance, quality and risk issues. For this project the WebXM technology was used to scan and identify quality issues that can impact the user experience, such as broken links and anchors, broken links, missing titles, missing keywords, missing descriptions, warnings and redirects and poor search functionality. Among other online issues, WebXM identifies the number of broken links and broken anchors on each site. Broken links refer to URL's that are literally broken and do not connect properly, thereby preventing the visitor from being able to see the page that is listed. Anchors benefit site visitors by providing simple navigation through hypertext links between documents or parts of the same document. Broken anchors are a special type of broken link and present difficulties going back and forth across pages.

The analysis drew a random sample of 5,000 pages accessible through each of the 50 state government portals. From August 10 to 19, 2004, WebXM was used to analyze the number of broken links and anchors in each state employing this random sample. Based on this analysis, the state with the largest number of broken links was Michigan (2,757 broken links), followed by Rhode Island (2,340), Massachusetts (2,245), Maine (2,188), and Hawaii (2,174). The state with the largest number of broken anchors was Illinois with 4,218. This was followed by Montana (with 2,087 broken anchors), Oklahoma (1,305), Kentucky (1,046), and South Dakota (979). The Appendix lists the number of broken links and anchors for each of the 50 states.

Search Problems

Visitor expectations are high, and they're quick to reject websites that don't measure up. Websites need good search engines to help visitors quickly and easily find the information they want. As government portals have grown more extensive and more complex, it has become even more important to be able to search a website efficiently and effectively. WebXM provides an

analysis of critical search and navigation problems which can make it difficult to search websites: the number of missing titles, missing keywords, missing descriptions, and missing Alt Text descriptions.

Using the random sample of 5,000 pages from each state government, the jurisdiction with the largest number of missing titles was Florida (1,070), followed by Colorado (794), Virginia (554), Utah (413), and New Jersey (382). The state with the largest number of missing keywords was Mississippi (5,001), followed by Alabama (4998), New Mexico (4,979), Arkansas (4,970), and Rhode Island (4,952). The area with the largest number of missing descriptions was Georgia (4,999), followed by Alabama (4,992), Mississippi (4,977), Arkansas (4,976), and Rhode Island (4,958). The state with the largest number of Missing Alt Texts was Louisiana (4,906), followed by New Mexico (4,886), Ohio (4,108), Illinois (3,626), and Montana (3,229). The Appendix lists the number of search problems for each state.

Design Problems

Design problems plague some government websites. Among other issues, WebXM identifies the number of page warnings and redirections on a website that redirect visitors to sites that have changed or no longer exist in addition to providing information about any links on the website that point to files on a local server. There may be absolute URLs that point to files on your local server that users outside your network cannot access. These will appear as broken links to users. Redirects can slow down the performance of a website since the web server must do more work to process these requests from the browser. Using the random sample of 5,000 pages from each state government, the state having the highest number of warnings and redirections was Pennsylvania (24,164), followed by Florida (9,226), Massachusetts (5,373), Missouri (5,212), and Minnesota (4,953). The state with the largest number of links to local files was New Jersey (133), followed by Missouri (106), Arizona (98), Delaware (97), and New Hampshire (80). The Appendix lists the number of these kinds of design problems for each state.

Readability

Literacy is the ability to read and understand written information. According to national statistics, about half of the American population reads at the eighth grade level or lower. A number of writers have evaluated text from health warning labels to government documents to see if they are written at a level that can be understood by citizens. The fear, of course, is that too many government documents and information sources are written at too high of a level for citizens to comprehend.

To see how government websites fare, we use a test of the grade-level readability of the front page of each state and federal government website that we studied. Our procedure is to employ the Flesch-Kincaid standard to judge each site's readability level. The Flesch-Kincaid test is a standard reading tool evaluator and is the one used by the United States Department of Defense. It is computed by dividing the average sentence length (number of words divided by number of sentences) by the average number of syllables per word (number of syllables divided by the number of words).

As shown below, the average grade readability level of American state and federal websites is at the 10.8th grade, which is well above the comprehension of the typical American. Sixty-two percent of sites read at the 12th grade level. Only 12 percent fell at the eighth grade level or below, which is the reading level of half the American public.

	Percentage Falling within Each Grade Level
Fourth Grade or Less	2%
Fifth Grade	1

Sixth Grade	2
Seventh Grade	3
Eighth Grade	4
Ninth Grade	7
Tenth Grade	9
Eleventh Grade	10
Twelve Grade	62
Mean Grade Level	10.8

Disability Access

This year, we tested disability access using automated "Bobby" software provided by the firm, Watchfire, Inc. (see http://bobby.watchfire.com). This software judges whether sites are in compliance with the Priority Level One standards recommended by the World Wide Web Consortium (W3C). Sites are judged to be either in compliance or not in compliance based on the results of this test. In this year's study, 37 percent of state and federal (up from 33 percent) sites satisfy the W3C standard of accessibility. Forty-two percent of federal sites meet the W3C standard, down from 47 percent last year.

Percentage of State and Federal Sites Meeting W3C Disability Accessibility		
	2003	**2004**
Federal	47%	42
State	33	37

When looking at disability access by individual states, there is tremendous variation in the percentage of each state's sites that are accessible. The states doing the best job on disability access are North Dakota (91 percent of its sites are accessible using the W3C standard), Kansas (74 percent), Texas (64 percent), and New Hampshire (61 percent). The poorest states when it came to W3C accessibility are West Virginia (7 percent), New Jersey (13 percent), and Iowa (13 percent compliance).

Foreign Language Access

Government sites are making steady progress in providing foreign language accessibility. In our analysis, 21 percent of sites offer any sort of foreign language translation feature, up slightly from the 13 percent last year. By foreign language feature, we mean any accommodation to the non-English speaker, from a text translation into a different language to translating software available for free on the site to translate pages into a language other than English.

	2000	**2001**	**2002**	**2003**	**2004**
Foreign Language Access	4%	6%	7%	13%	21

Texas leads the list with 64 percent of its sites having foreign language adaptability; followed by California (59 percent), Delaware (58 percent), Indiana (58 percent), and Arizona (47 percent).

Ads, User Fees, and Premium Fees

The fiscal problems facing state and national government appears to be increasing the use of ads to finance government websites. Nine percent of sites have commercial advertisements on their sites, meaning non-governmental corporate and group sponsorships, compared to one percent last year. When defining an advertisement, we eliminate computer software available for free download (such as Adobe Acrobat Reader, Netscape Navigator, and Microsoft Internet Explorer) since they are necessary for viewing or accessing particular products or publications. Links to commercial products or services available for a fee are included as advertisements as are banner, pop-up, and fly-by advertisements.

The websites that most often featured advertisements were tourism sites, where links to hotels, means of transportation and state tourist features were plentiful. Alabama went so far as to advertise US Airways as its "official airline" on its tourism page. Some sites had banners and other advertisements for unrelated entities. Hawaii's portal page offered a link to AtoZKidsStuff.com, a site that offered resources for children as well as a host of its own advertisements. Idaho's portal site contained a link to the Boise Online Mall, while the Illinois' education website offered a link to alfy.com, a site oriented towards children containing games and an online store.

Percentage of Sites with Ads, User Fees, and Premium Fees

	2001	2002	2003	2004
Ads	2%	2%	1%	9%
User Fees	2	2	3	19
Premium Fees	--	1	0.4	4

Nineteen percent of state and federal sites require user fees to access information and services, including archived databases of judicial opinions and up-to-the-minute legislative updates. This is much higher than the three percent we found last year.

Some states had services involving a convenience fee or other surcharge for the use of the services. Most states' health department pages used VitalChek, a private vital records resource, which charged a fee that varied by location and item. Convenience fees were common for most forms of online credit card transactions. While most fees were flat rate, some involved a percentage surcharge for online transactions. Iowa, Idaho and Kentucky all used this practice with online hunting license purchases, for example. California charged a 2.5 percent fee on the payment of taxes online with a credit card, while Florida levied a 3.2 percent fee on online child support payments.

Four percent of government websites require premium fees to access portions of the e-government site. By a premium fee, we mean financial charges that are required to access particular areas on the website, such as business services, access to databases, or viewing up-to-the-minute legislation. This is not the same as a user fee for a single service. For example, we do not code as a fee the fact that some government services require payment to complete the transaction (a user fee). Rather, a charge is classified as a premium fee if a payment is required in order to enter a general area of the website or access a set of premium services. Subscription services are considered a premium fee if there is a cost associated with the subscription.

Public Outreach

One of the most promising aspects of e-government is its ability to bring citizens closer to their governments. In our examination of state and federal government websites, we determine whether a visitor to the website can email a person in the particular department other than the

Webmaster. In 2004, we found that 93 percent have email addresses, up from 91 percent last year. Other methods that government websites employ to facilitate democratic conversation include areas to post comments (other than through email), the use of message boards, surveys, and chat rooms. This year, we found that 29 percent of websites offer this feature, up from 24 percent in 2003.

	2000	**2001**	**2002**	**2003**	**2004**
Email	68%	84%	81%	91%	93%
Search	48	52	43	--	--
Comments	15	5	10	24	29
Email Updates	5	9	5	12	24
Broadcast	2	7	4	--	--
Personalization	0	1	2	2	3
PDA Access	--	--	--	1	1

Twenty-four percent of government websites allow citizens to register to receive updates regarding specific issues, double the 2003 percentage. With this feature, web visitors can input their email address, street address, or telephone number to receive information about a particular subject as new information becomes available. The information can be in the form of a monthly e-newsletter highlighting an attorney general's recent opinions to alerts notifying citizens whenever a particular portion of the website is updated. Three percent of sites allow for personalization of the site in order to tailor the website information directly to the individual viewer. Some state portal pages are beginning to apply this technology to allow users to customize the site to highlight the information that they indicate is important and useful to them.

State E-Government Ranking

In order to see how the 50 states rank overall, we created a 0 to 100 point e-government index for each website within that state. Four points are awarded each website for the following features: publications, databases, audio clips, video clips, foreign language access, not having ads, not having user fees, not having premium fees, W3C disability access, having privacy policies, security policies, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, areas to post comments, option for email updates, allowing for personalization of the website, and PDA or handheld device accessibility. These features provide a maximum of 72 points for particular websites.

Each site then qualifies for up to 28 additional points based on the number of online services executable on that site (zero for no services, one point for one service, two points for two services, three points for three services, four points for four services, and so on up to a maximum of 28 points for 28 services or more). The e-government index therefore runs along a scale from zero (having none of these features and no online services) to 100 (having all 18 features plus at least 28 online services). This total for each website is averaged across all of the state's web sites to produce a zero to 100 overall rating for that state. On average, we assess around 31.4 government websites in each state across the executive, legislative, and judicial branches of government.

The top state in our ranking is Tennessee. Looking across all of its websites on the dimensions we analyzed, it scores an average of 56.5 percent. It is followed by Maine (55.2 percent), Utah (54.6 percent), New York (53.6 percent), Illinois (51 percent), Massachusetts (51 percent), Indiana (46 percent), Texas (44.5 percent), Delaware (44.2 percent), and New Jersey

(41.3 percent). The most poorly performing e-government states are West Virginia (26 percent), Mississippi (26.8 percent), Wyoming (28.4 percent), and Nebraska (28.5 percent).

Overall State E-Government Performance, 2004

TN	**56.5**	*ME*	**55.2**
UT	**54.6**	*NY*	**53.6**
IL	**51.0**	*MA*	**51.0**
IN	**46.0**	*TX*	**44.5**
DE	**44.2**	*NJ*	**41.3**
CA	**41.2**	*CT*	**40.3**
FL	**39.9**	*KS*	**39.9**
PA	**39.3**	*AR*	**39.2**
KY	**39.0**	*AZ*	**38.8**
OR	**38.6**	*OH*	**38.5**
LA	**38.2**	*MI*	**38.0**
WA	**37.8**	*VA*	**37.7**
GA	**36.9**	*NH*	**36.0**
CO	**35.5**	*SD*	**35.5**
RI	**35.4**	*ND*	**35.3**
NC	**34.8**	*MD*	**34.4**
MT	**34.1**	*MN*	**34.0**
NV	**33.7**	*ID*	**33.7**
IA	**33.3**	*MO*	**33.0**
AK	**32.8**	*HI*	**32.3**
VT	**31.3**	*SC*	**30.6**
WI	**30.0**	*AL*	**29.9**
OK	**29.8**	*NM*	**28.8**
NE	**28.5**	*WY*	**28.4**
MS	**26.8**	*WV*	**26.0**

Federal Agency E-Government Ranking

Federal sites are rated by the same criteria as the 50 states. An identical e-government index is devised that rated federal websites on contact information, publications, databases, portals, and number of online services. The unit of analysis is the individual federal agency.

The top e-government performers are Firstgov, the United States national government portal, which scores an 88 out of 100. It is followed by the Social Security Administration (65 percent), Dept. of Education (61 percent), Federal Communications Commission (60 percent), Department of Agriculture (56 percent), Internal Revenue Service (56), Federal Reserve (54 percent), General Services Administration (54 percent), Postal Service (54 percent), and the House of Representatives (53 percent).

At the low end of the ratings are the various circuit court of appeals and the U.S. Supreme Court. Ten of the 11 lowest performers on our e-government index come in the federal judiciary. Their score ranges from a low of 17 percent (Sixth Circuit Court of Appeals) to 30 percent (Ninth Circuit).

Overall Federal Agency E-Government Performance, 2004

Firstgov Portal	88.0	Soc Security Admin	65.0
Dept of Education	61.0	Fed Comm Com	60.0

Dept of Agriculture	56.0	Internal Revenue Ser	56.0
Fed Reserve	54.0	Gen Services Admin	54.0
Postal Service	53.0	House of Rep.	53.0
Dept. of Defense	52.0	Housing/Urban Dev	52.0
NASA	52.0	Dept Transportation	51.0
Dept of Treasury	50.0	Dept. of Interior	50.0
Dept of Energy	49.0	Gov't Printing Offic	49.0
Library of Congress	49.0	Gen Account Office	48.0
Natl Endow Arts	46.0	Sec/Exchange Comm	46.0
Veterans Affairs	46.0	Cent Intelligence Ag	45.0
Cons Product Safety	45.0	Dept of State	45.0
Health/Human Serv	45.0	Natl Science Found	45.0
Small Bus Admin	45.0	White House	45.0
Food Drug Admin	42.0	Homeland Security	42.0
Env Protect Agency	41.0	Fed Trade Comm	41.0
Cong Budget Office	40.0	Natl Transpt Safety	40.0
Dept Commerce	39.0	Fed Deposit	39.0
Dept of Justice	37.0	Eq Employ Opp	37.0
4th Circuit Ct App	36.0	Office Man Budget	36.0
Senate	36.0	Natl Labor Relations	35.0
5th Circuit Ct of App	33.0	Dept of Labor	33.0
Fed Elect Comm	33.0	Supreme Court	33.0
US Trade Rep	32.0	9th Circuit Ct of App	30.0
Natl Endow Human	30.0	Fed Circuit Ct App	26.0
11th Circuit Ct App	25.0	3rd Circuit Ct of App	24.0
1st Circuit Ct of App	21.0	2nd Circuit Ct of App	20.0
7th Circuit Ct of App	20.0	8th Circuit Ct of App	20.0
10th Circuit Ct App	18.0	6th Circuit Ct of App	17.0

State-Federal Differences

Since we examine both state and federal government websites, we compare the two levels of government to see how each is faring. In general, federal sites are systematically ahead of the states. For example, there are substantial differences in the area of citizen access to online databases. Whereas 95 percent of federal government sites have databases, 87 percent of state sites do. On electronic services, 77 percent of federal government sites offer some kind of services, compared to 55 percent of state sites. The federal government also has made greater progress in the area of privacy (82 percent) compared to state government (62 percent). Sixty-seven percent of federal sites have a visible, online security policy, compared to 46 percent of those in the states.

	Federal Sites			State Sites		
	2002	2003	2004	2002	2003	2004
Database	90%	95%	95%	55%	79%	87%
Services	44	68	77	22	44	55
WC3 Disability Accessibility	--	47	42	--	33	37
Privacy Policy	76	75	82	42	53	62
Security Policy	54	62	67	33	36	46
Publications	100	100	100	93	98	98

Comment	14	52	33	10	23	29
Foreign Language	44	40	40	5	12	20
Email	90	93	93	80	90	93
Ads	0	2	0	0	1	9
User Fees	7	0	8	2	3	19
Premium Fees	0	0	10	1	0	4
Credit Cards	10	32	22	10	19	25
Email Updates	15	32	48	5	11	23
Website Personalization	5	5	7	2	2	3
PDA Access	--	0	2	--	1	1

Differences by Branch of Government

There are differences in e-government across branches of government. Legislative sites have the greatest percentage of audio clips and video clips. Executive sites are more likely to have privacy and security policies, and online services.

	Executiv	**Legislative**	**Judicial**
Publication	98%	97%	98%
Database	87	82	94
Audio Clip	13	46	16
Video Clip	19	34	16
Foreign Lang	22	6	18
Ads	8	4	5
Premium Fee	2	4	13
User Fees	19	1	14
Privacy	66	40	46
Security	49	24	27
WC3 Disability Access	36	34	40
Services	61	12	39
Digital Sign.	12	0	3
Credit Cards	25	3	16
Email	94	88	84
Comment	30	20	18
Updates	22	28	18
Personalization	2	6	0
PDA Access	1	5	0

Conclusions

To summarize, considerable progress has been made in placing services and information online. But several areas exist in which states need to improve the quality and ease of use with their websites. One area is the way in which departments field online questions and receive feedback. Sometimes, help features and email addresses are hidden in small font at the bottom of pages. This makes it more difficult to get help at the very time when websites are incorporating more complex applications on their sites.

Some sites include feedback and question forms instead of an email address. This is certainly an improvement, as it is usually easier to find and allows users with no email capabilities to send feedback to a technician. However, these people still cannot receive responses

without an address of their own, and as a result webpage forms are only more useful than address links for sending unidirectional feedback to the site.

One solution to this problem is to incorporate a help forum into the site, which would allow questions and responses to be publicly posted rather than sent to a mailbox. Not only would this allow people with no email capabilities to be included in the help process, but it allows questions and responses to be viewed by all people, such that frequent user problems need not be constantly attended to. Agencies would benefit from following the example of those who have incorporated a live help feature to their portal website. Chat room-style live dialogue with a technician is the most user-friendly way to address the questions and concerns of users.

Another area that can be improved by many states is ease of navigation. Most people will come to state portal sites in search of specific services. It can be assumed that many of these individuals are not aware of which department or agency is responsible for the service they are looking for. Portal sites should be organized by services and needs, not according to bureaucratic hierarchy. Most portal sites now have a consolidated list of online services offered by all departments. This is an important first step in the restructuring of state websites. Several states, including several of the top ranked, now include a link to this list in a toolbar that exists on nearly all of the departmental pages. This single feature increases citizen usability by making it easy to access services from any point on the site.

Agency sites should be organized in such a way that key constituent groups can access relevant features with ease. For example, a department of labor typically serves several groups: workers, employers, and job seekers. Tennessee's Department of Labor website includes a page for each of these groups that incorporates information and links to services relevant to those specific groups. Following these guidelines improves navigation abilities and makes it easy to find relevant information targeted on particular visitors.

Appendix

Table A-1 Overall State E-Govt Ratings, 2003 and 2004 (2003 ranking in parentheses)

Rank	State	Rating Out of 100 Pts	Rank	State	Rating Out of 100 Pts
1.(4)	Tennessee	56.5(41.4)	2.(25)	Maine	55.2(37.4)
3.(17)	Utah	54.6(38.1)	4.(8)	New York	53.6(40.5)
5.(11)	Illinois	51.0(39.7)	6.(1)	Massachusetts	51.0(46.3)
7.(3)	Indiana	46.0(42.4)	8.(4)	Texas	44.5(43)
9.(24)	Delaware	44.2(37.4)	10.(13)	New Jersey	41.3(39.6)
11.(5)	California	41.2(41.1)	12.(22)	Connecticut	40.3(37.9)
13.(9)	Florida	39.9(40.3)	14.(21)	Kansas	39.9(38)
15.(7)	Pennsylvania	39.3(40.5)	16.(37)	Arkansas	39.2(34)
17.(10)	Kentucky	39.0(40)	18.(15)	Arizona	38.8(39.1)
19.(34)	Oregon	38.6(34.9)	20.(26)	Ohio	38.5(37.4)
21.(28)	Louisiana	38.2(36.6)	22.(6)	Michigan	38.0(40.6)
23.(16)	Washington	37.8(38.6)	24.(19)	Virginia	37.7(38.1)
25.(31)	Georgia	36.9(35.8)	26.(23)	N. Hampshire	36.0(37.6)
27.(39)	Colorado	35.5(33.1)	28.(14)	S. Dakota	35.5(39.5)
29.(33)	Rhode Island	35.4(35.3)	30.(29)	N. Dakota	35.3(36.4)

Rank	State	Rating	Rank	State	Rating
31.(20)	N. Carolina	34.8(38)	32.(18)	Maryland	34.4(38.1)
33.(43)	Montana	34.1(32.7)	34.(27)	Minnesota	34.0(36.8)
35.(32)	Nevada	33.7(35.7)	36.(30)	Idaho	33.7(35.9)
37.(35)	Iowa	33.3(34.6)	38.(12)	Missouri	33.0(39.7)
39.(50)	Alaska	32.8(30.3)	40.(45)	Hawaii	32.3(32.1)
41.(44)	Vermont	31.3(32.3)	42.(42)	S. Carolina	30.6(32.7)
43.(36)	Wisconsin	30.0(34.2)	44.(46)	Alabama	29.9(31.9)
45.(38)	Oklahoma	29.8(33.2)	46.(49)	New Mexico	28.8(30.3)
47.(48)	Nebraska	28.5(31.3)	48.(40)	Wyoming	28.4(33)
49.(47)	Mississippi	26.8(31.5)	50.(41)	West Virginia	26.0(32.7)

Table A-2 Overall Federal Agency E-Govt Ratings, 2003 and 2004 (2003 ranking in parentheses)

Rank	Site	Rating Out of 100 Pts.	Rank	Site	Rating Out of 100 Pts.
1.(1)	FirstGov portal	88(84)	2.(3)	Soc Security Admin	65(69)
3.(21)	Dept of Education	61(51)	4.(2)	Fed Comm Com	60.0(73)
5.(11)	Dept of Agriculture	56(56)	6.(4)	Internal Revenue Serv	56(68)
7.(31)	Fed Reserve	54(45)	8.(13)	Gen Services Admin	54(56)
9.(6)	Postal Service	54(68)	10.(35)	House of Rep.	53(42)
11.(12)	Dept of Defense	52(56)	12.(9)	Housing/Urban Dev	52(62)
13.(33)	NASA	52(44)	14.(22)	Dept of Transportation	51(51)
15.(7)	Dept of Treasury	50(64)	16.(45)	Dept of Interior	50(36)
17.(25)	Dept of Energy	49(49)	18.(38)	Govt Printing	49(41)
19.(5)	Library of Congress	49(68)	20.(27)	Gen Account Office	48(47)
21.(53)	Natl Endow Arts	46(32)	22.(8)	Sec/Exchange Comm	46(64)
23.(28)	Veterans Affairs	46(47)	24.(30)	Cent Intelligence Ag	45(45)
25.(10)	Cons Product Safety	45(57)	26.(16)	Dept of State	45(54)

27.(20)	Health/Human Serv	45(52)	28.(14)	Natl Science Found	45(56)
29.(15)	Small Bus Admin	45(56)	30.(18)	White House	45(53)
31.(17)	Food Drug Admin	42(53)	32.(43)	Homeland Security	42(38)
33.(24)	Env Protect Agency	41(50)	34.(19)	Fed Trade Comm	41(52)
35.(32)	Cong Budget Office	40(44)	36.(42)	Natl Transp Safety	40(40)
37.(23)	Dept of Commerce	39(50)	38.(40)	Fed Deposit	39(40)
39.(39)	Dept of Justice	37(49)	40.(37)	Eq Employ Opp	37(41)
41.(59)	4th Circuit Ct Appeals	36(24)	42.(34)	Office Man Budget	36(44)
43.(46)	Senate	36(36)	44.(44)	Natl Labor Relations	35(38)
45.(36)	5th Circuit Ct Appeals	33(41)	46.(26)	Dept of Labor	33(49)
47.(29)	Fed Elect Comm	33(46)	48.(47)	Supreme Ct	33(36)
49.(48)	US Trade Rep	32(36)	50.(55)	9th Circuit Ct Appeals	30(29)
51.(41)	Natl Endow Human	30(40)	52.(51)	Fed Circuit Ct Appeals	26(33)
53.(49)	11th Circuit Ct Appeals	25(34)	54.(52)	3rd Circuit Ct Appeals	24(32)
55.(54)	1st Circuit Ct Appeals	21(29)	56.(57)	2nd Circuit Ct Appeals	20(25)
57.(56)	7th Circuit Ct Appeals	20(28)	58.(60)	8th Circuit Ct Appeals	20(24)
59.(50)	10th Circuit Ct Appeals	18(33)	60.(58)	6th Circuit Ct Appeals	17(25)

Table A-3 Number of State Website Quality Problems (based on random sample of 5,000 pages through state portal)

	Broken Links	Broken Anchors	Missing Titles	Missing Keywords	Missing Descript	Warning Redirects	Missing Alt Text	Local File Links
AL	711	12	45	4,998	4,992	167	2,785	10
AK	1,534	116	202	3,000	3,040	1,172	2,572	16
AZ	949	261	234	3,686	3,623	2,968	2,721	98
AR	747	18	132	4,970	4,976	3,995	492	8
CA	149	43	353	1,557	1,351	2,651	1,525	0

CO	1,903	166	794	4,141	4,601	925	1,900	23
CT	409	111	195	3,740	3,606	2,385	1,371	3
DE	1,356	148	93	3,186	2,479	2,209	1,423	97
FL	1,172	204	1,070	2,535	2,300	9,226	1,355	3
GA	169	42	46	76	4,999	907	1,659	0
HI	2,174	121	92	4,508	4,587	1,567	2,905	68
ID	1,855	131	211	4,338	4,251	1,102	1,766	75
IL	447	4,218	57	4,323	1,687	459	3,626	1
IN	1,539	119	142	4,716	3,522	2,979	3,208	32
IA	1,284	112	208	4,456	4,445	1,755	2,447	50
KS	2,016	239	207	3,939	3,771	1,861	1,586	21
KY	847	1,046	111	3,106	2,611	2,909	1,292	2
LA	52	1	58	4,878	4,655	380	4,906	0
ME	2,188	265	169	4,383	4,720	697	1,333	26
MD	1,072	463	287	4,230	4,276	1,131	1,329	3
MA	2,245	311	197	4,242	3,571	5,373	2,307	32
MI	2,757	261	235	1,710	1,343	919	1,173	2
MN	1,469	369	372	4,607	3,417	4,953	1,171	9
MS	25	4	3	5,001	4,977	112	42	0
MO	650	687	74	4,305	4,255	5,212	1,786	106
MT	473	2,087	362	3,881	3,726	2,184	3,229	4
NE	1,225	134	44	3,883	3,835	799	1,620	19
NV	1,949	118	261	4,107	4,301	2,464	1,240	15
NH	660	429	66	3,201	3,138	666	1,277	80
NJ	1,696	172	382	4,410	4,409	884	3,127	133
NM	55	32	1	4,979	4,892	180	4,886	0
NY	476	87	140	2,043	2,351	4,340	2,001	10
NC	974	70	91	2,870	2,036	3,627	3,202	6
ND	520	295	14	731	638	658	330	2
OH	513	42	10	784	4,836	1,051	4,108	23
OK	819	1,305	45	3,497	3,089	733	2,056	28
OR	542	53	20	4,178	3,639	1,992	2,674	4
PA	406	539	5	4,817	146	24,164	0	0
RI	2,340	58	25	4,952	4,958	3,164	1,787	8
SC	721	355	268	3,872	3,723	2,889	3,156	23
SD	433	979	75	1,349	1,997	805	1,000	14
TN	1,537	488	71	3,566	3,155	1,541	2,327	73
TX	1,054	67	110	3,510	3,167	1,006	2,248	8
UT	515	17	413	4,463	4,388	1,812	2,249	6
VT	1,448	50	191	1,339	1,328	894	1,039	10
VA	901	94	554	4,873	4,680	969	3,204	45
WA	491	253	63	2,822	2,797	1,901	2,406	16
WV	1,174	92	278	4,951	4,947	629	2,386	11
WI	1,029	91	41	3,234	3,059	4,219	1,783	4
WY	1,222	20	53	4,648	4,602	876	1,391	0

Table A-4 Individual State/Fed Profiles for Publications, Databases, Foreign Language, and Services, 2004

	Pubs	*Data*	*Audio*	*Video*	*For Lang*	*PDA*	*Has Services*	*User Fees*
AK	94%	85%	24%	33%	15%	0%	52%	6%
AL	100	97	19	19	16	0	47	19
AR	90	83	21	24	14	3	59	14
AZ	100	88	6	31	47	0	69	13
CA	100	78	22	34	59	6	56	9
CO	100	77	26	32	42	3	55	16
CT	96	85	23	35	42	0	73	0
DE	100	84	19	23	58	0	68	6
FL	100	87	35	55	29	0	68	10
GA	94	77	29	45	26	3	55	10
HI	100	82	12	29	0	0	56	26
IA	100	80	37	17	30	0	60	10
ID	93	83	17	33	20	0	67	3
IL	97	94	47	53	44	0	81	13
IN	100	90	26	48	58	0	68	10
KS	100	94	39	19	23	13	52	13
KY	100	91	34	26	17	0	46	14
LA	97	90	61	55	6	3	65	16
MA	100	88	0	6	3	0	73	58
MD	100	97	13	16	23	0	45	23
ME	100	97	9	13	9	0	75	72
MI	100	90	7	13	0	0	57	27
MN	91	94	16	19	13	0	38	19
MO	97	97	13	13	13	0	52	16
MS	90	77	0	16	6	0	29	13
MT	97	93	0	3	0	0	53	33
NC	100	94	13	3	26	0	42	19
ND	100	88	28	19	0	0	41	13
NE	100	93	3	7	7	0	34	14
NH	97	87	10	0	3	0	32	19
NJ	100	97	13	23	13	0	53	23
NM	100	97	3	10	26	0	42	19
NV	100	93	3	13	43	0	37	20
NY	100	94	13	10	29	0	81	77
OH	100	100	13	22	6	0	59	31
OK	100	90	20	3	10	0	53	10
OR	100	100	17	13	30	0	50	20
PA	97	97	9	19	16	0	63	22
RI	100	67	17	13	23	0	57	3
SC	100	65	10	13	6	0	35	6
SD	100	80	20	10	0	0	47	3
TN	97	90	16	23	13	0	77	74
TX	100	97	30	30	64	6	67	21
US	100	95	32	35	40	2	77	8

UT	100	100	6	11	6	0	77	71
VA	96	85	0	4	33	4	67	0
VT	100	63	6	3	6	0	69	0
WA	100	84	3	28	31	13	63	6
WI	89	65	16	14	19	0	46	14
WV	87	67	0	10	0	0	63	0
WY	95	83	5	5	0	0	18	0

Table A-5 Individual State/Fed Profiles for Disability Access, Privacy, and Security, 2004

	Email	Comment	Update	Personalization	Disabil	Privacy	Security	Ave Numb of Disab Error	
AK	94%	12%	18%	3%	27%	27%	9%	9.2	
AL	91	9	16	0	25	28	16	15.4	
AR	90	28	34	10	38	83	79	2.3	
AZ	91	44	19	0	28	88	72	10.2	
CA	88	34	34	3	34	88	78	6.5	
CO	100	16	23	6	52	71	45	14.7	
CT	100	27	35	4	58	77	69	3.5	
DE	100	19	39	3	42	77	58	4.8	
FL	94	26	48	3	52	65	6	6.1	
GA	100	6	32	6	32	61	55	10.8	
HI	82	9	18	6	56	44	29	6.7	
IA	100	13	27	0	13	50	10	16.4	
ID	97	7	7	0	30	50	40	3.5	
IL	91	63	72	16	22	97	72	6.3	
IN	100	90	35	3	42	90	90	5.3	
KS	97	39	45	3	74	42	39	1.8	
KY	100	14	17	6	37	83	60	3.0	
LA	97	39	42	6	23	32	26	11.0	
MA	94	36	3	0	27	76	76	19.6	
MD	94	26	13	0	23	74	3	9.9	
ME	100	28	13	3	47	72	72	2.0	
MI	97	37	23	0	50	87	87	1.3	
MN	94	19	25	9	44	63	34	6.7	
MO	97	26	13	0	48	68	16	6.3	
MS	74	13	23	3	16	29	6	11.4	
MT	93	50	3	0	57	60	50	6.7	
NC	94	45	26	3	32	48	35	5.8	
ND	100	22	13	0	91	53	25	.2	
NE	97	24	3	0	28	28	3	8.4	
NH	87	26	23	0	61	84	84	2.9	
NJ	97	80	30	3	13	97	93	15.9	
NM	90	19	6	0	26	16	3	3.9	
NV	97	27	10	0	40	70	3	8.3	

NY	97	42	19	0	52	77	68	5.2	
OH	97	59	16	3	25	56	44	10.6	
OK	97	27	10	0	20	27	13	14.0	
OR	100	37	17	0	47	70	47	3.1	
PA	100	50	53	3	47	63	59	3.8	
RI	93	20	13	7	43	47	37	12.3	
SC	100	16	13	10	32	26	13	8	
SD	87	17	23	7	37	90	87	4.0	
TN	90	39	10	3	16	84	81	4	
TX	97	33	52	0	64	91	52	3.5	
US	93	33	48	7	42	82	67	4.0	
UT	94	17	9	0	17	77	74	9.5	
VA	100	22	33	4	22	78	74	11.3	
VT	88	31	22	3	31	50	47	9.1	
WA	91	19	38	6	28	75	59	11.6	
WI	62	16	11	0	43	46	41	5.3	
WV	73	37	10	3	7	33	3	4.3	
WY	80	10	3	0	25	50	40	6.6	

Table A-6 Best Practices of Top Federal and State Websites, 2004

I. Top Five States

1) Tennessee http://www.state.tn.us/
        Tennessee was our most highly ranked state in 2004. Rather than force the user to
browse through different departments to search for the service they needed, Tennessee had an
Online Services menu front and center on the portal page. This page lists all the online services
and also includes an option to be notified by email when a new service is available. Also right on
the portal was a link to see the page in Spanish, and a button to make Park reservations online.
The department pages off the portal each had a menu that displayed the Online Services specific
to that department as well as a link back to the department's portal page. Each page also had a
sign menu with links that also featured colorful pictures signifying where each link led. On the
bottom of each page was a user survey, links to email, and a clear privacy policy. The site
frequently utilized multimedia technology, offering demonstrations of many government services.

2) Maine http://www.state.me.us/
        Maine, the number-two ranked site, centered its page around helping the user. Not only
did it have an easy Online Services menu, it also featured Live Help Online, where the user could
chat with a real person at a help desk. Up-to-date weather was displayed on the portal, as well
answers to frequently asked questions, online postcards, and current news. The site allowed the
user to personalize it, and featured a permanent menu with a user survey, search engines, and a
privacy and security policy. Maine's site was uncluttered, informative, and easy to use.

3) Utah http://www.utah.gov/main/index
        Utah's site featured a quick link to all of its online services right on the portal page. The
portal displayed its most popular online services in the center of the page, as well as a user survey
and an option for the user to chat live with online support. The portal had links to
business.utah.gov, which has online services specifically for businesses, and jobs.utah.gov, a site
that allows the user to search for jobs or file for unemployment benefits. Each department site

had the same link to all state online services, allowing the user to access them for any page off the portal.

4) New York   http://www.state.ny.us/
New York's site provided multiple links to online services and transactions, allowing the user to search for the desired service by category or by department. In addition, there was an interactive map that allowed the user to click on the region he wished to find a service. New York's site had a task bar that remained on each page, providing a link to each service, as well as back to the portal, the interactive map, and a search engine. The privacy and security policy was also displayed on each page. The user could personalize the page to his or her own preferences, as well as select a text-only option.

5) Illinois http://www.illinois.gov/
The Illinois page featured colorful buttons that linked the user to many different departments or services. Featured right on the portal were links to many online services, such as filing taxes online, purchasing a hunting or fishing license, prescription assistance for seniors, planning an Illinois trip, renewing a professional license, or even taking a college course online. Not only did the site have a prominent privacy policy displayed, but it also featured a special privacy policy for children under the age of thirteen. Many pages gave the user the option to subscribe to an e-newsletter. The site displayed winning lottery numbers and recent weather for different areas of the state, and easy access to each state department.

II. Top Five Federal Agencies

1) Firstgov.gov Portal   http://www.firstgov.gov
This federal website, Firstgov, has an abundance of online transactions. It incorporates all sorts of different services in an easy to access manner. One can find services directly by looking at the list, by clicking on a related department, or by program audience. In addition, it offers several languages in which one can view the site along with a privacy statement. The federal government's portal provides viewers with publications and databases, and presents them with the option of signing up to receive email notifications. Even with all this information included on the page, the federal government's portal is clear and simple, and easy to use.

2) Social Security Administration   http://www.ssa.gov/
The Social Security Administration website is ranked number two because of a number of special features. Not only does the site offer different languages in which it can be viewed, but it also gives one the option to make the words on the page bigger for easier viewing. This is a big help to senior citizens who are likely to be accessing this agency site. Services are easily conducted and are listed in clear order. The site provides a thorough privacy statement, important publications, and a number of different databases. Visitors can sign up for email notifications of any changes or new publications.

3) Department of Education http://www.ed.gov/index.html
When viewing this site, it is apparent that one can view all sorts of publications and databases in an instant. One can sign up to receive notifications of any new information. The site has links directly related to administrators, teachers, parents, and even students. Questions can be answered via the site for both parents and students alike. Homework help is available as is an enormous amount of college information. There are several other online services offered on this site and it also provides Spanish translation.

4) Federal Communications Commission   http://www.fcc.gov/

This site was impressive in several respects. Every document can be opened either with Word or Adobe Acrobat software, which helps those who do not have PDF capability. The agency page lists Commissioners along with their bios and email addresses. There are audio/video options for the public to view meetings, speeches, and forums as well as a privacy statement prominently displayed. The site can be viewed in different languages, and services, publications, and databases also are listed. In general, the site is organized so that it makes online information and services easily accessible.

5) Department of Agriculture   http://www.usda.gov/
This site provides a list of different subjects one would want to access. There is considerable information of interest to the public, agricultural constituents, and the press. The Department of Agriculture page also has a list of the online services it provides. There are several recent publications shown in the center of the website, making it easy to find important information. The agency page also provides a Spanish translation along with a clear privacy statement.