

Managing Citizen-Centric Web Content
State of the Practice White Paper



Prepared by:
The Industry Advisory Council
eGovernment Shared Interest Group
Best Practices Subcommittee

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EXECUTIVE SUMMARY

THE PRACTICE OF MANAGING CITIZEN-CENTRIC CONTENT IS EVOLVING AS WEB SITES ENTER THE NEXT GENERATION OF OPERATIONS

The technical barriers to entry that agencies, programs, and organizations face for developing and publishing a Web site are minimal; today there are more than 75 million government Web pages. However, the barriers to entry that citizens face in finding government information online are quite significant: no two Web sites are alike; search functions vary in depth, breadth, and quality; and navigation and information architectures are widely inconsistent. Federal Web sites are on a path to becoming more and more citizen-centric through continuous improvement, and Web managers are looking for proven practices to help them achieve the next generation of Web sites.

With the objective of developing broad understanding of how different citizen-focused Web sites are designed and operated—and attempting to identify and explain corresponding similarities and differences—the Industry Advisory Council (IAC) Government Advisory Board representatives requested a study of citizen-centric Web content management practices, strategies, and solutions. In response to this request, a Study Group was formed in March 2004 with broad representation from the IAC, the IAC eGovernment Shared Interest Group (SIG), and Best Practices Subcommittee.

The Study Group identified and interviewed eleven federal agencies and two nonfederal organizations and conducted in-depth interviews with each of their Web managers. This white paper presents the findings from these interviews.

Several initiatives are under way in the area of managing citizen-centric Web content that the Study Group has identified as the mark of the “next generation” of public Web sites. In preparing to capture value in the next generation of Web sites, Web managers are seeking ways of eliminating the online barriers to entry faced by citizens seeking government information and services. In addition to finding ways to eliminate barriers, government agencies and their Web managers are pursuing a multilateral agenda to identify, create, and capture new value for their Web sites and the citizens that use them. Key components of this agenda are the Interagency Committee on Government Information’s (ICGI) Content Management Working Group, created as part of the eGovernment Act of 2002, and increased solicitation of citizen satisfaction data.

The ICGI Web Content Management Working Group is working collaboratively with Web stakeholders to help U.S. Government Web sites become the most citizen-centric and user-friendly in the world. In pursuing this goal, the Working Group established a set of working assumptions, such as the following: “display information to the public in a manner that is different from categorizing all government information and data for internal business operations”; “assume a ‘no wrong door’ policy; multiple organizational principles are expected and preferred”; “provide more standardization and overall quality of federal Web sites”; and “assume that user-centered approach is crucial but will not succeed unless the Web sites have an organizational infrastructure to support them.” The ICGI Web Content Management Working Group recommendations were used by the Office of Management and

Budget (OMB) to develop a new Web policy, released in December 2004. The OMB policy, ICGI recommendations, and implementation guidance can be found on the recently launched Online Web Content Managers Toolkit (www.webcontent.gov). Having this toolkit helps federal Web managers keep up with the policies, guidance, best practices, and shared resources across the Government.

Ongoing, quarterly customer satisfaction surveys, which use the ForeSee online survey data capture tool to collect citizen satisfaction measurements, are gaining popularity across the Federal Government. Fifty-four federal Web sites participated in the September 2004 survey. This increased reliance on citizen feedback mechanisms is an important indicator that we are entering the next generation of Web sites; Web managers are actively soliciting citizen feedback, and the data is providing greater clarity regarding what citizens expect from government Web sites.

At a tactical level, and as a complement to the governmentwide initiatives, Web teams and Web managers at the agency, program, or organization level are seeking specific operating practices or guidance for achieving next generation value for Web sites. In preparation for their data collection effort, the Study Group performed preliminary interviews with Web managers and found the two most pressing questions they face are “what more should we be doing to get to the next generation of public Web sites,” and “how should we be doing it to take advantage of proven practices?”

To help the Web managers identify, create, and capture new value for their Web sites, and to answer their two most pressing questions, the Study Group developed a framework to guide the data collection. The study framework focused on three topics: Citizen-Centric Content Governance, Citizen-Centric Content Design, and Citizen-Centric Content Value. Specific practices and trends are highlighted and organized in this white paper using the study framework as a guide.

In summary, the findings revealed the following regarding the current state of government Web site content governance, design, and value:

- Federal Web managers are actively preparing for the next generation of citizen-centric public Web sites.
- The results of the interviews paint a developing picture of governance for citizen-centric content. Web managers generally recognize the potential of broad-reaching steering groups; however, strategic plans and steering committee structures and charters that incorporate the needs of program areas with Web operations are all needed to gain the full benefit of these groups. Although executive-level support is generally strong, there is no “one-size-fits-all” governance model. Most federal Web sites are now managed from Public Affairs or Communications offices, but some are managed by Chief Information Officers (CIO) or others within an agency. The multitude of implementation differences suggests that it is less important to have a common reference governance model than it is to have a model that meets the needs of the Web site, agency, and stakeholders.

- One of the biggest challenges facing almost all of those interviewed is designing content to meet the needs of a wide range of citizens. Most interviewees have combined visual design and content design to enhance the usability of the content; others have complemented their online content design by publishing through other Web sites and channels, and adopting various content formats. Interview respondents indicated that they are gaining greater familiarity with more structured and advanced Web site information architecture strategies and the automated tools that are available to help with this level of advanced content design. The Study Group expects that sites will be measured as significantly more usable as Web managers fully adopt these content design strategies and position core content in multiple formats for multiple users.
- Often, the only true way to measure value is time—if Web content has survived, is used, and evolves, it can be considered to be valuable. Although there are many approaches to determining Web content usefulness, it is often only by a combination of intuition and statistics that the value of true citizen-centric Web content can be determined. Web content must be updated or reviewed frequently to ensure freshness and should be monitored for relevance to different groups of constituents. As Web teams increasingly rely on rapidly evolving processes and technologies to facilitate current and tailored content management, policies and guidelines must be developed that ensure accuracy, enable auditing, and improve usability of public Web sites.

In addition to these findings, the Study Group formulated three of its own answers to the questions of what more Web managers should be doing and how should they be doing it to improve the value of their Web sites to citizens. These answers, presented in the form of actions and benefits, are based on the interviews the Study Group members conducted, and their own research and experience with citizen-centric Web sites and Web programs.

1. Gain a deeper understanding of agency/mission services and user segments and how the Web sites can be used to achieve the agency's mission while meeting user needs

Action: Facilitate the strategic mapping of business services and processes (based on knowledge and experience owned by the agency, program, or organization) to the Web site customer needs, based on knowledge and experience owned by the Web team.

Benefits: The Web site is comprehensive; represents the full portfolio of agency, program, or organization services; and meets the discrete and crosscutting needs of Web site customers. The Web site is a tool that agencies can use to accomplish their mission.

2. Formalize the content capture, update, and expiration process

Action: Deploy a content management technology that cuts across organization boundaries to automate the content maintenance process.

Benefits: Automating the content maintenance process ensures timely, accurate, and tailored content from across the agency, program, or organization and strategically repositions Web team resources to become enablers of citizen services and needs.

3. **Develop more intuitive user interfaces**

Action: Leverage analytical skills, deep understanding of business services and customer needs, and usability expertise to improve user interface and site usability regularly as user needs and expectations change over time.

Benefits: Web team resources are fully utilized; the Web site is more fully integrated with the business of the agency, program, or organization; and the Web site becomes easier to use for citizens and easier to maintain for the agency.

The Study Group interviews revealed that Web managers understand that establishing a substantive and valuable citizen-centric Web site requires a combination of business awareness, customer and citizen insight, Web team energy, dedication and vision, and smart applications of new technologies. Through their interviews, the Study Group found numerous employees that are capable of matching this profile and leading their Web sites into the next generation.

This white paper represents the efforts of a broad range of IAC members, with input from industry and government representatives. The paper includes data from interviews with Web managers, references to secondary research, and commentary and insights from the Study Group. The lessons and experiences shared in this paper provide the federal information community with the state of the practice of managing citizen-centric content on public Web sites. It also provides any Web manager moving the government Web site to the next generation of citizen-centric content a picture of what the state of the practice is in a select number of agencies.

I. BACKGROUND

FEDERAL WEB MANAGERS SEEK GUIDANCE ON MANAGING CONTENT TO ACHIEVE CITIZEN-CENTRIC OBJECTIVES

PROJECT BACKGROUND

Federal Web managers are challenged to improve the citizen focus of agency Web sites and are seeking real-world examples of successful, public-facing Web content management practices, strategies, and solutions. Web managers are proactively seeking this assistance in response to expectations of an increasingly Web-savvy citizenry and legislative mandates designed to make “citizen-focused” and “results-oriented” a central tenet of the business of government. The eGovernment Act of 2002 acknowledges citizen needs and makes these objectives a priority for agency managers by setting forth an agenda for federal agencies to improve the accessibility, usability, and preservation of government information.

In a March 2004 meeting with the Industry Advisory Council’s (IAC) Shared Interest Group (SIG) Best Practices Subcommittee, IAC Government Advisory Board representatives requested a study designed to help agencies implement citizen-centric Web content management practices, strategies, and solutions. In response to this request, and in support of government efforts to achieve the objectives and goals of the 2002 eGovernment Act, a Study Group was formed with broad representation from the IAC, eGovernment SIG, and Best Practices Subcommittee to provide insights into the state of the practice of managing citizen-centric Web content.

STUDY GROUP BACKGROUND

The IAC was organized in 1989 as a nonprofit advisory group within the American Council for Technology (ACT). See <http://www.iaconline.org>. The mission of the IAC is to bring industry and government executives together to exchange information, support professional development, improve communications and understanding, solve issues, and build partnership and trust, thereby enhancing the government’s ability to serve the nation’s citizenry. Consistent with the mission and charter of the IAC, this white paper presents the major facts, findings, and conclusions of the Study Group.

IAC wishes to ensure that its white papers reflect a broad, comprehensive industry view of the topic. Accordingly, this white paper is presented in a reasoned and objective factual manner with maximum attention and respect paid to minority and dissenting opinions of Study Group members.

Although this white paper presents a consensus viewpoint of the Study Group members, it does not seek to provide a formal IAC proclamation or set a standard, i.e., no formal votes were taken on content. In addition to incorporating the Study Group viewpoint, the final version of this white paper incorporates the review comments, suggestions, and recommendations of another group: an independent peer-review panel of industry and government reviewers. Finally, although several government representatives participated in the study, the white paper does not reflect an official U.S. Government position.

The Study Group consisted of volunteers from IAC member firms as well as ex officio representatives from several government agencies, who also attended meetings. All industry members of the Study Group were volunteers. Table 1 identifies members of the Study Group, who attended at least one Study Group meeting, and their respective IAC member affiliations.

Table 1. Members of the Study Group and Their IAC Member Affiliation (presented alphabetically)

Study Group Member	Affiliation
Alex, Jiji	Pearson Government Solutions
Barrett, John	Industrial Medium
Bhatia, Sonny	Unisys
Dodge, Catherine	Impact Innovations
Federowicz, Patrick	Pearson Government Solutions
Fleckenstein, Steve	Unisys
Godwin, Bev	GSA/FirstGov, <i>IAC Study Sponsor</i>
Hanger, Sharon	Booz Allen Hamilton
Homme, Karina	Unisys
Iveson, Tricia	SI International
Lerner, Ifat	Booz Allen Hamilton
Linza, Joe	Software Performance Systems, <i>IAC Study Sponsor</i>
Lubran, Bernie	Federal Consulting Group
McCormick, Caroline	BearingPoint
Neely, Sheri	SRA
Nelson, Christina	Digital Government
Sabharwal, Raj	Silosmashers
Swanson, Dan	Mindbank
Webner, Bill	Booz Allen Hamilton, <i>Report Coordinator</i>
Zapfel, Gene	Unisys, <i>IAC Study Sponsor</i>

PRIMARY AUTHORS OF WHITE PAPER

In any study effort of this type, there is always a dedicated “core team” of members, whose service and contributions deserve to be recognized. The IAC wishes to specially recognize the contributions of the following individuals, who endured through multiple team meetings, phone calls, and e-mails; conducted interviews; and functioned as the major authors of this white paper:

- John Barrett, Industrial Medium
- Steve Fleckenstein, Unisys
- Ifat Lerner, Booz Allen Hamilton
- Bill Webner, Booz Allen Hamilton; *Report Coordinator*
- Gene Zapfel, Unisys; *IAC Study Sponsor*

The IAC wishes to thank and recognize the following independent peer reviewers, whose beneficial suggestions and recommendations are incorporated in the final white paper:

- Bev Godwin, General Services Administration (GSA)/FirstGov
- Carolyn Quinn, Booz Allen Hamilton

II. METHODOLOGY

THE STUDY GROUP IDENTIFIES AND PUBLISHES COMMON PRACTICES THAT ADDRESS THE “WHAT” AND “HOW” OF MANAGING CITIZEN-CENTRIC WEB CONTENT

TIMELINE

The Study Group developed this white paper in four distinct phases, presented in Table 2, over a total project period of performance of 9 months, starting June 2004 and concluding February 2005. Project activities and time frames are as follows:

Table 2. Study Timeline

	Activity	Completion Date
I.	Plan (Concept, Vision, Strategy)	June 30, 2004
II.	Collect (Interview, Research, Analyze)	October 31, 2004
III.	Develop (Write, Edit)	January 31, 2005
IV.	Launch (Publish)	February 28, 2005

SCOPE

The Study Group conducted preliminary interviews with federal Web stakeholders in spring 2004. These interviews provided context to the initial request as identified by the IAC SIG and helped the study group develop consensus on the overall scope and definition of the study. Federal Web stakeholders identified two types of needs that helped shape the scope of this study:

1. **“What more should we be doing to get to the next generation of citizen-centric Web sites?”** Interviewees expressed a desire to learn the practices used by federal organizations in establishing standards for citizen-centric Web content, including navigation standards, search, and common look and feel.
2. **“How should we be doing it to take advantage of proven practices?”** Interviewees expressed a desire to learn the common practices used by other federal organizations in managing the creation, approval, and publication of citizen-centric Web content, including governance structure and process management.

To begin the search for answers to these key questions, a target framework was developed through which each organization and interview data and research data were studied. The framework provided the Study Group with a common, unbiased perspective, gave an indication to candidate organizations of the type of manager(s) to be interviewed, and became the basis for creation of an interview guide. The framework, presented in Table 3, creates three focus areas for citizen-centric Web content.

Table 3. Citizen-Centric Content Management Framework

Focus Area	Elements
1. Citizen-Centric Content Governance	Roles And Responsibilities: <ul style="list-style-type: none"> • Web Manager • Public Affairs • Program Areas • CIO
2. Citizen-Centric Content Design	Taxonomy and Information Architecture Nomenclature/Terminology Meta Data Search Usability Tests/User-Centered Design Policies And Procedures: <ul style="list-style-type: none"> • Official Guidelines, Standards, and Activities High-Level Enablers: <ul style="list-style-type: none"> • Technology and Processes
3. Citizen-Centric Content Value	Business Needs: <ul style="list-style-type: none"> • Program Area Service Delivery Processes • Program Area Information vs. Program Area Services • Program Area Business Measures Customer Needs: <ul style="list-style-type: none"> • Customer Segmentation • Customer Satisfaction Measures Business-Customer Integration: <ul style="list-style-type: none"> • Feedback to Program Areas

DATA COLLECTION

Data needed for exploring the framework was collected from two sources: interviews and reports. The first source of data centered on interviews with Web managers. With the assistance of the government sponsor of this study, more than a dozen federal agencies and Web managers—those personnel with accountability for key decisions regarding the public-facing Web presence for an agency—were identified as interview candidates. The final list of federal Web manager interviewees represented a cross-section of Web sites and business environments; the interviewees represented a mix of agency size, constituent size, and mission focus. An interviewee profile is presented in Table 4. The government study sponsor initially contacted the agency interview candidates, and the Study Group performed follow-up activities to coordinate the interview logistics. Ultimately, eleven federal agencies volunteered their valuable time and experiences; in addition, the Study Group identified and interviewed two nonfederal organizations. The data collected through interviews with these organizations is parsed throughout this white paper. This data provides the Study Group and reader with deep and valuable insight into specific federal and nonfederal Web teams and operations and forms the basis for observations, vignettes, and summary comments. However, this data is not intended to be a statistically representative sample of the broader population of Web teams and operations.

Table 4. Interviewee Profile

Organization Name	Interviewee
AARP, formerly American Association of Retired Persons (www.aarp.org)	Beth Mazur, Web Strategy & Operations
U.S. Department of Agriculture (www.usda.gov)	Gina Pearson, Web Manager, ERS Janet Stevens, Director, Web Services, FSIS Mike Panchura, APHIS Doug Parry, Intranet Web Manager, ERS
U.S. Department of Homeland Security (www.dhs.gov)	Gwynne Kostin, Director, Web Content
U.S. Environmental Protection Agency (www.epa.gov)	Jeffrey Levy, Senior Web Advisor, Office of Public Affairs Chris Tirpak
Federal Aviation Administration (www.faa.gov)	Phyllis Preston, FAA Web Manager
FirstGov.gov (www.firstgov.gov)	Bev Godwin, Director, FirstGov.gov— <i>IAC Study Sponsor</i> Sheila Campbell, Senior Content Manager, FirstGov.gov
Freddie Mac (www.freddiemac.com)	Owen Malone, Web Manager
U.S. Department of Interior (www.doi.gov)	Julia Laws, Acting Deputy CIO
U.S. Department of Labor (www.dol.gov)	Kate Donohue, Co-Web Manager, Web Communications Services, Office of Public Affairs
Library of Congress (www.loc.gov)	Kevin Novak, Director, Web Services Division Joe Pagano
U.S. National Archives and Records Administration (www.archives.gov)	Jennifer Nelson, Web Program Manager, Policy and Communications Staff
National Aeronautics and Space Administration (www.nasa.gov)	Brian Dunbar, Internet Services Manager, Media Services Division, Office of Public Affairs
U.S. Social Security Administration (www.ssa.gov)	Renee Trujillo Lockhart, Internet Customer Services Center Director

All interviews were scheduled for 1 hour, and a scripted list of questions was provided to the interviewees in advance of the meeting. With few exceptions, the interviews took place in person, and several lasted for more than the single hour that had been allotted. Interview topics covered the “focus areas” and “elements,” identified in the framework above, used by each Web manager to ensure a highly effective citizen-centric Web solution. Interview topics did not specifically focus on commercial or proprietary Web technologies; however, a high-level discussion of how technology supports policy or enables procedures was sometimes addressed. In addition, interview topics did not explore the important role of information technology (IT) security and privacy in managing citizen-centric Web sites. Although the Study Group acknowledges this critical function, it also recognizes that it is a topic worthy of an entire white paper. For this purpose, the Study Group refers the reader to the March 2004 IAC resource paper, *Privacy Practices that Work: Eight Federal and Non-*

Federal Examples. A complete list of interview questions is included as Appendix 1 to this white paper.

The second source of data centered on existing literature, research, and reports published on individual or groups of related “focus areas” and “elements.” These resources are referenced throughout the white paper, and a reference list is included as an appendix to this white paper.

REPORT ORGANIZATION

Section III, Findings, contains findings resulting from the interviews and is organized by the focus areas from the framework. This includes a section on Demographics to provide the reader with an overview of the different Web site sizes, scopes, and personnel and technical resource support.

The Study Group used the framework outline primarily to organize the data collected from interviews with Web managers and the secondary research of literature and reports. In addition, the study framework was used to facilitate detailed analysis of the data by providing a common index by which data from multiple sources could be compared and contrasted.

Finally, the white paper contains four appendices: Appendix 1, the complete interview guide used by the Study Group; Appendix 2, a Spotlight on the U.S. Department of Agriculture (USDA); Appendix 3, References; and Appendix 4, Glossary of Key Terms.

III. FINDINGS

WEB MANAGERS ARE ACTIVELY PREPARING FOR THE NEXT GENERATION OF CITIZEN-CENTRIC WEB SITES

INTRODUCTION

Today an estimated 75 million government Web pages are available to the user population (FirstGov.gov and National Archives and Records Administration [NARA]—www.webharvest.gov—that conducted a Web harvest of federal Web sites as they existed prior to January 20, 2005). Many of these pages and sites were developed and managed independently and without a set of guiding principles that would ensure value to the people. The effect is that no two sites are alike: navigation between sites is inconsistent, search utilities require different skills, and some sites speak to citizens while others speak to experts. An orchestrated attempt to drive common practices and quality is under way to ensure that the “next generation” of Web sites identifies and delivers meaningful citizen value. Governmentwide standards bodies are being established to help guide this evolution, and Web managers are increasingly in tune with user feedback.

Overall, 63 percent of adult Americans use the Internet. The online population expanded from roughly 86 million Americans in March 2000, to 126 million in August 2003. (Pew Internet and American Life Project, December 2003)

Cross-Government Collaboration

The Study Group found that a great deal of cross-government collaboration is under way to improve government Web sites. The eGovernment Act of 2002 acknowledges citizen needs and makes meeting these needs a priority for agency managers by setting forth an agenda for federal agencies to improve the accessibility, usability, and preservation of government information. Section 207 of the eGovernment act requires the Director of the Office of Management and Budget (OMB) to establish and lead the Interagency Council on Government Information (ICGI) to develop and share effective practices for access to, dissemination of, and retention of federal information. Upon its creation, the ICGI, led by Glenn Schlarman, Branch Chief, Information Policy and Technology, OMB, and Karen Hogan, Deputy Chief Information Officer of the Department of Commerce, established a set of working groups, including the Web Content Management Working Group, led by Bev Godwin, Director of FirstGov.gov at GSA.

The ICGI Web Content Management Working Group is tasked with helping U.S. Government Web sites to become the most citizen-centric and user-friendly in the world. The CMWG is driving this effort with the following assumptions:

- Do what is right for the American public to make it easier to find the government information and services they want and need.
- Display information to the public in a manner that is different from categorizing all government information and data for internal business operations.

- Assume Americans do not usually know, or want to know, how government is structured.
- Assume a “no wrong door” policy; multiple organizational principles are expected and preferred.
- Create and improve a public domain directory: FirstGov.gov.
- Build on FirstGov, cross-agency portal, and government and outside expertise regarding what Americans want from government Web sites.
- Provide more standardization and overall quality of federal Web sites.
- Assume that user-centered approach is crucial but will not succeed unless the Web sites have an organizational infrastructure to support them.

*Fully 77 percent of Internet users—or 97 million Americans—have at some time gone online to search for information from government agencies or to communicate with them. As of the middle of 2003, use of the Internet to interact with government had grown 50 percent since the middle of 2002.
(Pew Internet and American Life Project, May 2004)*

In December 2004, OMB issued Policies for Federal Web Managers using the recommendations of the ICGI Web Content Management Working Group. The policies fulfill the requirements of section 207(f) of the eGovernment Act of 2002 and federal Web managers are expected to make any necessary changes to their Web site to be fully compliant with the policies by December 31, 2005. To assist Web managers in implementing the policies and achieving compliance, the ICGI has developed recommendations and identified best practices; this information is posted on the Web Content Managers Toolkit at www.webcontent.gov. The Web Content Management Working group also holds workshops to assist agencies.

In addition, an active interagency Web Content Managers Forum exists with more than 450 members who communicate by listserv and meet monthly to share knowledge, best practices, and resources to improve all government Web sites. Additional information about this forum can be found at www.firstgov.gov/webcontent/forum.shtml. In addition, the Department of Health and Human Services (HHS) and GSA co-sponsor usability.gov (www.usability.gov) and Usability University share resources and help agencies improve the usability of their Web sites.

Citizen Feedback

Another sign of improved focus on the needs of citizens is the increasing popularity of online feedback tools, such as the ForeSee Results survey, among federal Web managers. Fifty-four federal Web sites participated in the September 2004 quarterly customer satisfaction survey and used the ForeSee online survey data capture tool to collect citizen satisfaction measurements.¹ About one-third of the participants, many of whom are included in our

¹ The American Customer Satisfaction Index (ACSI) tracks trends in customer and citizen satisfaction with, among other things, government services. The ACSI is produced through a partnership of the Stephen M. Ross Business School at the University of Michigan, the American Society for Quality (ASQ), and the international consulting firm, CFI Group. As part of the partnership, ForeSee Results sponsors the online satisfaction measurements. Participation in the survey requires an annual subscription fee.

white paper, reported that satisfaction rates increased over the past year. At the same time, 44 percent reported decreased satisfaction rates. The survey managers attribute decreased satisfaction rates to sites that have not made significant site or content changes over the past year (*Federal Computer Week*, October 4, 2004). The survey managers also attribute this to reported dissatisfaction with search functions and overall navigation (*Govexec.com*, December 14, 2004). The increased reliance on citizen feedback mechanisms is an important indicator that we are entering the next generation of Web sites: Web managers are actively soliciting feedback; the data is providing greater clarity regarding what citizens expect from government Web sites; and Web managers are using the data to make Web site improvements.

MOVING FORWARD

As we enter this next generation of Web sites, we see meaningful change as evidenced by the collaborative working groups and Web managers that listen for, and react to, evolving citizen needs. To build on the momentum provided by these initiatives, federal Web managers are seeking guidance and examples of how to enact the practices that will ensure evolving citizen needs are met, specifically—

- **“What more should we be doing to get to the next generation of citizen-centric Web sites?”** What are the common or proven practices for managing citizen-centric Web content, including navigation standards, search, and common look and feel?
- **“How should we be doing it to take advantage of proven practices?”** What are the common or proven organizational and process management practices required for managing the creation, approval, and publication of citizen-centric Web content?

In this section, we answer these key questions by identifying the state of the practice of delivering citizen-centric content via the Internet and highlighting practices that are proven to be especially valuable for the citizen, agency, program, or organization. The state of the practice is evolving, and our account of this status is at times objective and subjective, reflecting the science and art that defines this craft. We conclude with observations and findings developed by the Study Group. The result is a picture of what the next generation of Web sites holds for Web managers and citizens alike.

WEB SITE DEMOGRAPHICS (AMONG INTERVIEWEES)

INTRODUCTION

A broad range of Web stakeholders was interviewed as the basis for this white paper. Many of the interviewees volunteered to participate in this study, and others were selected based on interviewee references and IAC member relationships. The demographics data revealed that size, scope, and staffing of Web programs varied greatly, driven by who created the site and when it was created, the target audience, and the business objectives of the site. The following is a summary of the main demographics data and profile of Web staffs.

ANALYSIS

Size of Site

Reflected in this study were eleven federal department and agency Web sites and two nongovernment Web sites. The size of sites ranged from approximately 500 to 3 million pages, with a mean of 1.3 million and a median of 171,000. Beyond the page count was the number of files that were attached, which went up to 9 million for the Library of Congress and was next to none for FirstGov.gov. File attachments included everything from simple MS Word or PDF files, to more complex digital media assets such as video, audio, and images.

Scope of Site

Although all of the federal stakeholders and nongovernment Web sites included in this study were agency or enterprisewide in scope, some were more distributed than others. A few of the agencies such as the USDA and NARA, not including the Presidential libraries, which are managed separately, had made a concerted effort to organize their Web sites on an enterprise level and eliminate stovepipes. However, most agencies were more fragmented, with the subagencies running their own sites. The challenge most often observed with the more distributed informational sites was a lack of consistent messaging and branding between the parent agency and the subagency sites.

FirstGov.gov was designed to direct citizens to the right place, so the focus is on linking to other sites, which is the reason it has few attached files. In that respect, FirstGov.gov links to approximately 2,000 second-level federal, state, and local sites and about 22,000 third-level sites and in 2004 over 73 million visitors visited FirstGov.gov.

Size of Web Staff

The number of full-time employees (FTE) and contractors retained by each agency and enterprise did not seem to fully correlate with the size of the site. Most of the participants in this study had a mix of central management staff with content managers distributed over the business units. The central staff sizes ranged from 1–32, with a mean of 14 and a median of 1, and the distributed staff ranged from 0–1,500, with a mean of 235 and a median of 60.

The Social Security Administration (SSA) employed two key Web managers and four staff that drove oversight and coordination of the site centrally. They relied on 87 Web managers across the agency (63 at headquarters and 24 in SSA's 10 regions) to manage program and location-specific content and maintenance.

The National Aeronautics and Space Administration (NASA) relied on a central staff of eight, consisting of seven content managers and one technical staff. Its decentralized support comprised 25 staff and technical support (mainly contractors) located within field centers.

Freddie Mac's eBiz Marketing and Communications office had about 15 staff that performed some type of role in maintaining the content, look and feel, and functionality for the main

Web site. Distributed in business units were about 25 subject matter and technical staff that provided specific customer and stakeholder online content and services.

Existing Content Management System

Eight of the 13 participants in our study have an existing automated content management system (CMS). There was no correlation between size/type of site and existence of CMS or type of CMS deployed. There appeared to be no prevailing technology preference across the interviewees; for example, FirstGov.gov used Vignette, Freddie Mac used Interwoven, AARP used ZOPE, USDA used Stellent and is moving to a common look and feel across the Department, Economic Research Service (ERS)—an agency within USDA—used a custom-built application, and the Department of Homeland Security (DHS) used Documentum. Agencies that did not have an automated CMS supporting their Web site used other ways to manage content development, approval, quality assurance, and publishing. They expressed a heavy, and generally successful, reliance on standard templates; link monitoring tools; and policies, procedures, and governance to help control what content is posted and where it is to be posted on the site.

MAIN LESSON LEARNED

Decentralized versus centralized, and size and scope of staff may be associated with the autonomy of program areas or business units and their need to interact directly, or indirectly, with citizens and stakeholders. The following sections present practices or actions that Web managers can pursue, regardless of the business model and technology support, to ensure that the Web site visitors are receiving the best value and experience when visiting a Web site sponsored in part, or entirely, by an agency or organization.

CITIZEN-CENTRIC CONTENT GOVERNANCE

INTRODUCTION

Executive support for online initiatives in the reporting agencies is strong, implying that upper management recognizes the Web as a critical component to delivering citizen-centric content and helping accomplish the agency's mission. Implementation of this support, however, is not consistent, and no one specific governance model is evident across the board. Generally, a "Web council" of some sort is popular, but participation and authority of these varies greatly. The variety of governance bodies appears to be a function of each organization's internal structure, and no one-size-fits-all model has been developed and adopted throughout the surveyed agencies.

Each organization has pursued its online activities differently, and this is most evident in the management of its online properties. Some sites are managed and maintained by a small staff, and others are the culmination of management by many different players at all levels of the organization.

Funding and standards, however, stand out as two areas in which there seems to be a common theme that is independent of the agency's size and mission. Over the past several

years, management of many federal Web sites has moved from the CIO's office to the Office of Public Affairs or Communications. With the notable exception of the National Archives, where the Web program reports directly to the agency head (National Archivist), the CIO's office or the Office of Public Affairs typically funds the online initiatives and maintains management control over the team and operations. Although not interviewed as part of this study, Housing and Urban Development's (HUD) Web team reports directly to the Deputy Secretary, while the Department of Justice's (DOJ) Web site is within the DOJ library. In addition, the development and enforcement of site-specific standards is a common method for unifying the branding and messaging of sites, though the level of defined standards varies greatly across the organizations.

ANALYSIS

Executive Support/Sponsorship

Executive support for online initiatives is strong, with 75 percent of interviewees describing upper level support as strong or very strong. Executive support, however, is not always a required component for success, at least for one agency, which characterized management as taking a "hands-off" approach. Online initiatives within this agency are not outwardly supported, nor are they inhibited. More often, executive support is necessary to obtain the funding, staff, and training necessary to maintain and improve citizen-centric Web sites as the volume of content grows, governance and policies expand, and citizen expectations evolve.

Executive sponsorship is most commonly coordinated via one of two models, with 63 percent employing a Web council and 37 percent using a specific office (most commonly the Office of Public Affairs). These Web councils include a mix of formally sanctioned Web-centered groups and larger groups whose focus includes more than Web initiatives.

Direction-Setting

The development of the online strategy and content strategy for an agency most commonly (72 percent) falls to a Web council (usually the same group responsible for coordinating the executive sponsorship). Interestingly, the specifics of these groups run the spectrum from "grassroots" to an agencywide executive council. In addition, one agency actually has three different groups that address different aspects of their online strategy.

Funding

Despite the many governance models, the funding sources for online activities are fairly common. Most commonly (78 percent), funding comes through the CIO's office (or IT group), and 12 percent responded that the Office of Public Affairs furnishes funding. The Library of Congress operates under a blended funding approach that includes appropriated funds, trust funds, public and private funding, donations, and multiple enterprise funds (e.g., merchandise sales).

Online Content Management Via Steering Groups

Some agencies (approximately 60 percent) report the involvement of a content steering committee or other organization in managing information architecture development, ongoing content strategy decisions, and implementation issues. The level of organization for these groups, however, is all over the map. Some are very well defined and appear to have a clear mission, while others appear to be ad hoc, or focused exclusively on one issue, such as implementation.

There is no common trend in the makeup or mission of the steering groups. And likewise, the authority of these groups is not well defined, as some simply make recommendations to upper management for endorsement. It is noteworthy that most respondents claimed that nearly all recommendations get approved, inferring that the steering groups have a fair amount of apparent authority or valued opinion.

Site Ownership

The notion of site ownership stands independent of all other internal organization and governance factors. In fact, all respondents stated that their sites are owned by whoever creates and posts the content. In some cases, it is the Director of Communications, while in others it is the Web team for the agency, but in all cases, those who control the content own the site.

NASA has a progressive view of site ownership, which some other agencies have also adopted. The Office of Public Affairs and the centers operate the main portal site, while missions and other groups autonomously manage their own sites. The agency is trying to get away from the idea of individual “owners” and is promoting the concept that NASA owns the sites. NARA also operates in this model and is ultimately responsible for overall management, usability, and supporting governance of the site.

Web Teams

The structure of each agency’s Web team is different. From the 3-person team at DHS, to the 87 Web managers at the SSA, there is no particular trend. Generally though, there is some central core structure plus a distributed network of content creators, publishers, and technologists.

Overall Success

Most agencies feel that they have been successful in ensuring that their governance process is citizen-centric, but they are also quick to point out that there is room for improvement. No one stated that his or her agency’s governance model was “done.”

MAIN LESSON LEARNED

The results of the interviews paint a developing picture of governance for citizen-centric content. Web managers generally recognize the potential of broad-reaching steering groups; however, strategic plans and steering committee structures and charters that incorporate the

needs of program areas with Web operations are all needed to gain the full benefits of these groups. While executive-level support is generally strong, there is no “one-size-fits-all” governance model. The multitude of implementation differences suggests that it is less important to have a common reference governance model than it is to have a model that meets the needs of the Web site, agency, stakeholders, and the citizens that agency serves.

CITIZEN-CENTRIC CONTENT DESIGN

INTRODUCTION

Federal Web sites are now viewed as an integral part of an agency’s communications, education, and outreach efforts and are beginning to be seen by agencies as a powerful tool to accomplish their missions. Rapid change and the sheer size of the sites make it impossible for all revisions to flow through one or two people. Complexity and speed have created the demand for automated ways to effectively manage and publish Web content. The increased demand for more information, services, and relevance dictate creative content design solutions.

Not all Web content management solutions are created equal. The design philosophy adopted by the respondents, as well as the technical architecture employed, directly impacts the suitability of a Web content management product for the agency’s sites. In addition to relying on Web content management technologies, some interviewees rely on e-mail response, e-newsletters, and stand-alone kiosks for designing and publishing citizen-centric content. Many agencies also have adopted “information partnering” using the design standards and services of other government entities, nonprofit organizations, and commercial organizations. Coordination of content design and strategies in this fashion provides timely and cost-effective measures across agencies.

ANALYSIS

Choosing the right Web content management technical solution requires a good understanding of the capabilities needed to meet an agency’s current and future operational needs and the needs of citizens served by that agency. Knowing how and when the site should deliver content and to whom can guide the creation of clear front-end site requirements. But that is only half of the equation. The “back-end” of the site also has to be considered. Site deployment, management, maintenance, and infrastructure requirements also must be met. Key components of a Web content management solution used by respondents are as follows:

- Integrated support for desktop authoring and third-party Web and XML environments
- Template-based contribution for nontechnical users
- Browser-based Web site administration
- Built-in workflow and life-cycle management
- Integrated support for all content types
- Automated tagging, categorization, and classification of content
- Link management

- Site editions and rollback
- Robust application program interface (API) and support for J2EE development
- Automated conversion to HTML, PDF, or other formats
- Scalable platform
- Native, standards-based integrations
- Servers, personalization servers, portals, directories, and databases
- Secure delivery and distribution (including search results)
- Powerful, integrated search capabilities
- Dynamic page creation and assembly
- Support for established and emerging industry standards.

Standards, Information Architecture, and Taxonomy

The use of standards for content strategy, information architecture, usability, and visual design is widespread, and many organizations claimed that their standards development process is ongoing. Seventy-five percent of the agencies indicated that they have some form of written standards, though the extent of the standards varies greatly. DHS, for example, has a focused effort on developing scalable standards for style, information architecture, and content creation. In the DHS's case, these standards are used as the integration tool to incorporate the previously independent component agencies.

One agency cited a workflow process that reviewed content before posting to ensure consistent information architecture (IA), visual design, and usability; they pointed out that the standards were consistently followed, although they were not documented.

Seventy-five percent of the agencies reported using some form of template-based production system to help enforce their standards. Sixty-two percent of these groups use a content management system, and 38 percent rely on Dreamweaver-based templates.

Design Parameters

All the respondents have responded to Section 508 accessibility guidance in varying degrees. In addition, several have devoted staff and resources to usability and accessibility testing to adhere to Web standards mandated by laws and regulations and to make their Web sites very usable and accessible to their audiences. Every respondent has attempted to ensure the widest possible dissemination of information across all content formats and all levels of users.

Visual Design

Ninety percent of the respondents interviewed use both internal and external designers. Quality control is tracked through the use of templates and other visual standards. One exception is an agency that is decentralized in its ownership and content, making

Giga Information Group researchers note in Best Practices in Taxonomy Development and Management that taxonomies "represent agreed-upon terms and relationships between ideas or things and serve as a glossary or knowledge map helping to define how the business thinks about itself and represents itself, its products, and services to the outside world." (Laura Ramos and Daniel W. Rasmus, December 31, 2001)

enforcement difficult. Branding is also a common objective described by the interviewees. Creating a consistent look and feel while delivering a high-value message is a high priority as it is one aspect of branding a Web site and also contributes to better usability. Other aspects of branding include domain name, identification as an official government Web site, showing who sponsors the Web site, and logos, colors, and graphics.

MAIN LESSON LEARNED

Almost all interviewees indicated that one of their biggest challenges is designing content to meet the needs of a wide range of citizens and needs. Most have combined visual design and content design to enhance the usability of the content, and others have complemented their online content design by publishing through other Web sites and channels and adopting various content formats. Respondents are gaining greater familiarity with more structured and advanced Web site information architecture strategies and the automated tools that are available to help with this level of advanced content design. The Study Group expects that sites will be measured as significantly more usable as Web managers fully adopt these content design strategies and position core content in multiple formats for multiple users.

CITIZEN-CENTRIC CONTENT VALUE

INTRODUCTION

The idea of tailoring content to citizens' needs is important when managing online government information and can be key to improving adoption and customer satisfaction. Knowing who is reading the information provided, determining the applicability of the information to the user, and tracking visits to sites by specific individuals or demographic groups, common search terms, and the frequency of site returns for new information must all be considered in determining the value of a citizen-centric content management practice.

ANALYSIS

The first step in determining value is determining need. Needs analysis can be accomplished through a variety of mechanisms and approaches from automated to manual, from scientific to intuitive. Those organizations interviewed use a variety of approaches to determine the information needs of various citizen groups. Some organizations focus on a combination of online and offline user interviews and surveys while others rely on the analysis of user conduct via search analysis and log file analysis. Each of these approaches has merits because they provide different information about a Web site's audience and their needs.

User needs can be assessed at all levels of an organization. In general the approach taken by most organizations is to provide an overall agency-level look and feel while allowing individual organizations the autonomy to address the specific needs of their target audiences. This leads to a process that requires the evaluation of actual content usage and information value.

Determining which information is used and valued by citizens requires that decisions on value be made. In general, organizations tend to use log file analysis, public e-mails, and

citizen feedback as tools for determining content value. Freddie Mac has found that log file analysis and site visitor feedback have led to improvements on a section-by-section basis over time. In addition, agencies and organizations are increasing their dependence on the use of customer satisfaction surveys to guide the value of their content.

A great example of audience and needs analysis that combines approaches is the USDA ERS group. The agency has, through user interviews, created five virtual users (personas) that reflect the “personality” of the identified five target audiences in an attempt to assist Web planners, developers, content providers, and designers to ensure that online services are tailored specifically to meet the core needs of the agency’s most important users. The personas are representative of USDA ERS Web users, although these are not real people and describe general characteristics, needs, and tasks of a specific group of users. This has allowed the USDA to adapt how it looks at its user population and product development process to ensure that it is citizen-centric. Appendix 2 presents the USDA approach in more detail.

FirstGov.gov takes a comprehensive approach to defining its audience through market research and audience segmentation analysis. FirstGov.gov then determines the needs of its various audiences through a variety of techniques, including—

- Log analysis of Web site usage and patterns
- Search statistics and common terminology
- Online customer satisfaction surveys
- Independent surveys
- External research
- Frequently asked questions by e-mail and by phone to the call centers
- Link suggestions from the public and government partners
- Benchmarking against other best-in-class Web sites
- Focus groups
- One-on-one usability testing
- Partnering with other government organizations to discuss the same types of research being done on their specific audiences.

Content Strategy

Content strategy is the foundation for shaping content value. Determining what content should be delivered to users is the only way to ensure that value is being provided. Here, as above, a variety of approaches can be taken. The NASA citizen-centric approach is well defined. Over the years, NASA has determined that Web content can be driven by NASA’s mission and initiative schedules. It has a distinct advantage because these are usually known well in advance. In addition, through the years (including pre-Web), NASA has found that its missions and initiatives are what citizens want to see as Web content.

There has too often been a philosophy that anything in print is worthy as Web content. This, while convenient, is often not true. Citizen-centric content must be based on testing, market research, and user feedback. One of the requirements of Section 207 of the eGovernment Act of 2002 is that agencies must develop priorities and schedules for making government

information available and accessible to the public, in accordance with public comment, and to post this information on the agency's Web site. The Online Web Content Managers Toolkit provides implementation guidance for this requirement as well as examples of how some Departments have posted their inventories (www.firstgov.gov/webcontent/req6g.shtml).

Another important aspect of content strategy is determining and documenting a Web site's linking policy for both internal and external links. For agencies not already doing this, it is now a requirement in the OMB Web Content Policy issued in December 2004. The requirement is that agencies must establish and enforce agencywide linking policies. The Online Web Content Managers Toolkit also provides guidance for implementing this requirement. One example of a written linking policy posted to the Web site comes from FirstGov.gov at www.firstgov.gov/About/Linking_Policy.shtml.

Overall Success

For the most part, organizations stated that the value of their Web content to citizens is high, and they have the capability to use metrics and other measures to support that observation:

- AARP has seen satisfaction metrics increase. Visitors describe the breadth and depth of the Web content as being “more than you expect.”
- EPA feels that the awards received by its Web designers and managers along with positive feedback from user surveys underscore its ability to deliver content of value.
- The Federal Aviation Administration (FAA) has been receiving “going through the roof” praises from its main site constituent, pilots.
- Freddie Mac believes that key indicators (steady site usage, lack of complaints) suggest that content is valued by audiences.
- The Department of the Interior (DOI) is confident that its content is highly valuable to citizens and to specific target groups (e.g., scientists), but that is a function of the nature of the content rather than any particular strategy.
- The Department of Labor (DOL) has received positive feedback on its sites though it is aware of gaps. DOL has communicated that improvements can be made.
- FirstGov.gov sees continuous increases in Web site visitors, sites that link to FirstGov.gov, and the numbers of awards they receive.
- At NARA, American Customer Satisfaction Index (ACSI) measurements have shown a rise to near benchmark ratings (set by ForeSee Results) in overall satisfaction for the archive.gov public Web site, with content consistently highly valued by visitors. Feedback from the public indicates appreciation of the range of information topics available on the Web site.

- NASA depends on the results of surveys to support its success in delivering valued content.
- The SSA, with 10 years of strong Internet experience, has been very successful in creating content that is of high value to the citizen.
- USDA is highly confident that its eGov and Web content efforts of getting people to work together across USDA and creating a common language have been successful in creating more citizen-centric Web sites.

MAIN LESSONS LEARNED

Value, as implied above, is an elusive goal that depends on a variety of situations to determine that it has been met. Sometimes, the only true way to measure value is time—if Web content has survived, is used, and evolves, it can be considered to be valuable. Although there are many approaches, including scientific, to determining Web content usefulness, it is often only by a combination of intuition and statistics that the value of true citizen-centric Web content can be determined.

To be certain, however, Web sites must be updated frequently to ensure freshness and relevance—no one wants to return to a Web site if content does not change over time or is not tailored to their needs. Web sites need to be reviewed regularly for accuracy and timeliness. In addition, Web content should be personalized for different groups of constituents to increase relevance. As Web teams increasingly rely on rapidly evolving processes and technologies to facilitate current and tailored content management, policies and guidelines must be developed that ensure accuracy, enable auditing, and increase usability. The December 2004 OMB Web Content Policies reiterated agency's responsibilities in this area of information quality (www.firstgov.gov/webcontent/information_quality.shtml).

GENERAL CONCLUSIONS AND STUDY GROUP ANALYSIS

As Web managers embark on the next generation of citizen and stakeholder-focused Web sites, the questions “what more should we be doing to get to the next generation of Web sites” and “how should we be doing it to take advantage of proven practices” have many answers. Several factors determine the most appropriate response, including the purpose of the Web site, its scope within an organization, and the type of visitor that comes to the site. The findings in this white paper are an attempt to share with the federal information community what practices are being implemented to help specific organizations answer those questions and prepare for the next generation.

Web managers need to share lessons learned, both positive and negative, with their peers. Much has been going on in this regard at the federal level through the interagency Web Content Managers Forum and listserv, the ICGI Web Content Working Group, the Online Web Content Managers Toolkit, and the private/public Web Managers Roundtable. More of this should be done in the future.

The Study Group formulated three of its own answers to the questions, based on the research, interviews, and our own experience with citizen-centric Web sites and Web programs. These answers are three areas of focus that should be addressed to position the Web sites and Web managers for capturing and delivering the best information and services possible, thus increasing the overall value received by Web site visitors. These three areas are—

1. Gain a deeper understanding of agency missions/services and user segments and how the Web sites can be used to achieve the agency's mission while meeting user needs
2. Formalize the content capture, update and expiration process
3. Develop more intuitive user interfaces.

Agency Services and User Segments

Some of the pioneers of citizen-centric Web sites first established a broad view of the user population, i.e., visitors were often considered the public looking for general or highly sought after information, or a specialist looking for specific reports or transactions. In many cases, the sites continue to provide discrete information based on wholly owned agency or organization services. Agencies are realizing that to be a citizen-centric site, Web managers must think even more strategically about services and user segments in the context of life events and the circumstances surrounding the reasons users come to a Web site to look for specific information or services to accomplish specific tasks.

Thinking more strategically about being a citizen-centric Web site requires starting with the basics and mapping an agency's mission or directive to its overall portfolio of services. By studying these services in the context of mission support, the Web manager can begin to decipher which services are entirely owned by the agency or organization, and which are parts of a broader set of shared, or bundled, services. This understanding of services must then be mapped directly with a thorough understanding of user segments. This analysis will reveal the unique needs of users who are in the middle of a larger process that requires multiple services from varied programs, agencies, and organizations versus the needs of users who are looking for a highly routine, transactional service. For example, the needs of a Web site visitor looking to resolve a financial issue that impacts a pending retirement are very different from—and will likely require more input from other groups than—the needs of an airline pilot looking to renew a license or permit. The result of this strategic thinking is a Web site that may be more borderless than initially conceived—and a citizen whose needs are more sufficiently met.

Action: Facilitate the strategic mapping of business services and processes (based on knowledge and experience owned by the agency, program, or organization) to the Web site customer needs, based on knowledge and experience owned by the Web team.

Benefits: The Web site is comprehensive; represents the full portfolio of agency, program, or organization services; and meets the discrete and crosscutting needs of Web site customers. The Web site is a tool that agencies can use to accomplish their mission.

Content Capture Process

As we embark on the next generation of Web sites, many of the Web managers we interviewed acknowledged the need to streamline the content capture process, which includes content development, review, publication and expiration. Formalizing the capture of content is both a business process and a technology support issue that provides immediate and important benefit to the information or service-seeking citizen. Most Web managers have relied on distributed business processes to probe the program areas and surface the information and services believed most needed by citizens. Several have started to recognize the benefits that can be derived by using technology to facilitate the capture and expiration of this content.

A structured business process coupled with a content management technology can position the Web manager to be less policing authority and more enabler. The processes and technologies available today for the next generation of sites can dramatically reduce the effort from the Web program teams to keep the site populated with current data. Today's technologies can significantly increase the efficiency and effectiveness of managing a Web site, enable connectivity with other automated service systems, offer centralized template and content controls, and provide easy insight into process effectiveness. In addition, when coupled with a business process that supports the needs of program areas and content owners, most Web content technologies allow—

- **Self-service Authoring**—Content providers without technical expertise can readily prepare and automatically post materials to the Web site.
- **Browser-based Authoring**—This eliminates the need to install and maintain desktop authoring software and allows content updates to be performed 24 hours a day, 7 days a week from remote locations.
- **Version Archiving and Audit Trail**—Authors can refer to the previous version, then copy and paste content if needed; business managers can obtain an audit trail if needed for legal and other reasons.
- **Integrated Workflow**—Newly created content is routed to the appropriate reviewers for approval prior to posting.
- **Content Scheduling**—The timing of content posting and removal can be predefined, ensuring that only current and relevant information appears on the site.

With less time spent on tactical maintenance of the site, Web teams can leverage the strategic thinking and insights garnered through agency services and user segmentation studies to ensure that program areas are populating the site with targeted, citizen-centric content via a streamlined and effective content capture solution. However, achieving the main benefit of a formalized content capture process—timely and accurate information for the citizen—requires more than a sound content capture business process or content management technology. Key to achieving the objective of a citizen-centric Web site requires the Web manager's deep understanding of the organization's culture—how it shares information

within and across the walls of the organization and how each group within the organization views “its” customers, constituents, citizens, and stakeholders; and what each of those groups want or need via the Web site.

Action: Deploy a content management technology that cuts across organization boundaries to automate the content maintenance process.

Benefits: Automating the content maintenance process ensures timely, accurate, and tailored content from across the agency, program, or organization, and strategically repositions Web team resources to become enablers of citizen services and needs.

Intuitive User Interface

Many of the Web managers we interviewed shared the challenges of maintaining an intuitive user interface for their Web site. These challenges include managing a search function that covers the entire site, managing the look and feel of the site in a way that users find intuitive, and managing the second and third levels of the site—where pages grow exponentially and ownership becomes more granularly distributed.

Basic analysis and strategic thinking by Web managers can be just as important as literature and research on the science of usability engineering in making a Web site more useful and intuitive to users. In many ways, developing a highly usable interface draws on a better understanding of an agency’s services and its users, which comes from Web managers, and the formalization of content capture—all of which should be coupled with a thorough understanding of the science of usability.

The result of a strategic analysis of an agency’s services and user segments may reveal that a proportion of content that is currently under management may not be needed by citizens and could therefore be eliminated. By simply eliminating unnecessary content, the search engine effectiveness can increase, the volume of pages can decrease, and the overall look and feel of the site can be more effectively managed. Furthermore, the information architecture and click-streams that guide users from page to page, topic to topic, or service to service become much more simplified when only the content with assigned value is contained in the hierarchy. When managers of program areas or content owners see the strategic mapping of services to users, they often become more enlightened about the format of content to be posted to the site and the best location for posting it. In our interviews, Web managers acknowledged that the data from ongoing, online surveys about site satisfaction and usability are usually focused on the top-level pages of the site. When the entire site has a more relevant set of information, the user feedback takes on a new level of importance and can better assist Web managers in understanding the true citizen-centric usability of the site.

The addition of a content management technology to the Web environment allows Web managers to more easily make significant changes to the site, along with usability changes that require immediate attention. In fact, some Web managers indicated that pursuing a content management technology implementation would provide the necessary disruption needed to start anew, eliminate vast amounts of low-value content, and make the site more usable.

Action: Leverage analytical skills, deep understanding of business services and customer needs, and usability expertise to improve user interface and site usability regularly as user needs and expectations change over time.

Benefits: Web team resources are fully utilized; the Web site is more fully integrated with the business of the agency, program, or organization; and the Web site becomes easier to use for citizens and easier to maintain for the agency.

IV. APPENDIXES

1. Interviewee Question Set
2. Spotlight: on USDA, “From Farm to Table”: Managing Citizen-Centric Web Content for a Diverse Audience
3. Secondary Research Reference List
4. Glossary of Key Terms

APPENDIX 1. INTERVIEWEE QUESTION SET

DEMOGRAPHICS

1. Size of Site (pages/files)
2. Scope of Site (dept, agency, division, subunit, etc.)
3. Size of Web Staff
 - a. Central
 - b. Distributed in business units
4. Existing Content Management System
 - a. Identify WCM system(s) in use.
 - b. Date(s) deployed
 - c. Scope of current deployment (enterprise, pilot, etc.)

CITIZEN-CENTRIC CONTENT GOVERNANCE

1. Executive Support/Sponsorship
 - a. Describe executive support/sponsorship for online content initiatives.
 - b. How is executive sponsorship coordinated across the organization?
 - c. Describe involvement of an executive committee or other organization in leading online strategy and content strategy development.
 - d. What are the funding sources for online content delivery channels?
2. Online Channel Management
 - a. Describe involvement of content steering committees or other organizations in managing information assurance development, ongoing content strategy decisions, and implementation issues.
 - b. How are content steering committees organized (e.g., by audience, by division/business unit)?
 - c. What processes do steering committees use to make ongoing decisions regarding content delivery?
 - d. Who “owns” the Web sites and other online channels?
 - e. Describe the structure of your organization’s Web team(s).
 - f. Describe standards in place for content strategy, information architecture, usability, and visual design.
 - g. How are various technical tools (e.g., content management software) used to enforce these standards?
3. Overall Success
 - a. Do you feel that your organization has been successful in ensuring that content governance is citizen centric? Why or why not?

CITIZEN-CENTRIC CONTENT DESIGN

1. Distribution Channels/Access
 - a. Describe your organization’s use of the Web, e-mail, kiosks, etc., in delivering online content to citizens.

- b. How does your organization work with partners (other government entities, nonprofits, commercial orgs) to increase content distribution?
- c. How does your organization work with FirstGov and similar organizations (e.g., commercial portals and search engines) to improve citizen access to your content?
2. Information Architecture (IA)
 - a. Has your organization developed formal citizen-centered IAs (organization, navigation, and labeling structures) based on strategy and user needs analysis?
 - b. Has the IA been applied consistently through all levels of the Web site and other online channels (and not just at the top levels)?
3. Usability
 - a. In addition to 508 compliance planning and testing, describe other actions your organization takes to ensure content usability.
4. Visual Design
 - a. How has your organization ensured development a high quality, consistent visual design?
 - b. How has your organization addressed branding issues, including consistency of Web site with offline branding efforts?
5. Overall Success
 - a. Do you feel that your organization has been successful in ensuring that content delivery is citizen centric? Why or why not?

CITIZEN-CENTRIC CONTENT VALUE

1. Citizen Needs Analysis
 - a. What does your organization do to assess information needs of key citizen groups?
 - b. At what levels (agency, division, etc.) has user needs assessment been performed?
 - c. How have user needs assessments for specific target user groups been integrated across the organization?
 - d. How does your organization assess actual content usage (e.g., statistical analysis, Web manager feedback) and how does it use this data to make decisions on content value?
 - e. What metrics are used to evaluate customer satisfaction with Web sites?
 - f. What policies and processes are in place for ensuring that language is citizen-centered?
2. Online Channel Strategy
 - a. Has your organization developed a strategy for how it will use the Internet to deliver content to citizens?
 - b. Is the strategy based on both business requirements and citizen needs assessments?
 - c. At what levels has the strategy been developed (e.g., agencywide, divisional, etc.)? How is online strategy integrated across these levels?
 - d. Has your organization inventoried its online citizen “touch points” (i.e., do you know all the ways in which content is being delivered to citizens online)?

3. Content Strategy
 - a. Describe the process used to determine what content should be delivered to users. Is it based on an overall strategy that is influenced by citizen needs analysis?
 - b. How has online content been inventoried to assess its correlation with strategy and citizen needs analysis?
 - c. Is current online content consistent with strategy and citizen needs analysis?
4. Overall Success
 - a. Do you feel that your organization has been successful in ensuring that content is of high value to citizens? Why or why not?

APPENDIX 2. SPOTLIGHT ON U.S. DEPARTMENT OF AGRICULTURE (USDA)—“FROM FARM TO TABLE”: MANAGING CITIZEN-CENTRIC WEB CONTENT FOR A DIVERSE AUDIENCE

INTRODUCTION

USDA eGOVERNMENT: FULFILLING THE MISSION

What do producers, agribusiness, conservationists, the media, and parents/caregivers have in common? They represent a small sample of the large and diverse audience USDA must attract, inform, and service in designing and managing departmentwide Web content. For USDA, that means designing an eGovernment program that does not deviate from a direct focus on customer needs, providing customers with access to programs, services, and information 24 hours a day, 7 days a week. USDA also designs Web content to provide customers with government services through single points of entry, the ability to obtain information through new delivery channels, new methods for interacting with Government, and a feeling of greater connectedness to a responsive Government. For business customers, USDA designs and manages Web content that is tailored to business needs, rather than organized around government departments. USDA seeks to support business customers in working more collaboratively with each other and with Government, and increasing business efficiency by reducing reporting burdens. USDA launched its customizable portal, my.usda.gov, in early 2004 to respond to its varied audience segments. Customers can select only the information they want from the site, reducing the need to search or navigate the site for the content they use the most.

USDA HISTORY

The Department has come a long way since its creation in 1862, when President Abraham Lincoln founded the U.S. Department of Agriculture, calling it the “people’s Department.” In Lincoln’s day, 58 percent of the people were farmers who needed good seeds and information to grow their crops. Today, USDA remains committed to helping America’s farmers and ranchers. But the Department’s mission has expanded, and today they do much more—

- USDA leads the federal anti-hunger effort with the Food Stamp, School Lunch, School Breakfast, and the Women, Infants, and Children (WIC) Programs.
- USDA is the steward of our nation’s 192 million acres of national forests and rangelands.
- USDA is the country’s largest conservation agency, encouraging voluntary efforts to protect soil, water, and wildlife on the 70 percent of America’s lands that are in private hands.
- USDA brings housing, modern telecommunications, and safe drinking water to rural America.

- USDA is responsible for the safety of meat, poultry, egg products, and the safety and security of America's food supply.
- USDA is a research leader in everything from human nutrition to new crop technologies that allow Americans to grow more food and fiber using less water and pesticides.
- USDA helps ensure open markets for U.S. agricultural products and provides food aid to needy people overseas.

ANALYSIS

The Role of Web Content Management as an eGovernment Initiative

The Department recognizes that to meet its customers' diverse needs, eGovernment initiatives must also enable its employees to better fulfill USDA's mission; enhance the Department's citizen focus; unify, simplify, and reduce redundancy in the delivery of services, information, and programs; increase efficiency, effectiveness, and accountability; and spend more time on value-added activities. USDA has accomplished this goal by developing a series of Enterprise Shared Services that all work together to meet customer needs. One of USDA's enabling initiatives, for example, is the Web content management initiative. The content management capability is intended to develop departmental solutions for managing the development, approval, publishing, sharing, and classification of Web pages, documents, and multimedia.

MAIN LESSONS LEARNED

Discussions with USDA employees involved in shaping and executing eGovernment initiatives reveal that the USDA Office of the Chief Information Officer (OCIO), which manages the program, had significant challenges to overcome in making the program a success. Like many other Departments, there was a lot of baggage at USDA from previous technology initiatives that had failed, and USDA employees did not want to waste their time on projects they viewed as having a low probability of success. The OCIO recognized from the start that change management and communications activities were critical and did not fall into the trap of solely focusing on the technology. When successes began to accumulate and were communicated throughout the Department, the program built momentum and gained widespread acceptance and advocacy. Key lessons include—

- **Customer Insight**—More and more, USDA agencies are conducting qualitative and quantitative customer research and ongoing usability testing. Agency outreach takes place at locations where customers usually congregate, such as state fairs and local field stations. The Economic Research Service (ERS), for example, developed personas to ensure that their online services were tailored specifically to meet the core need of the agency's most important users (please refer to the special "personas" feature below for more information). USDA later performed an in-depth audience and user persona analysis for the Department's Web site re-launch and portal launch. Agencies are also very cognizant of customer connectivity issues and continue to ask

the question “what does the public *really* need?” Agencies are starting to incorporate customer satisfaction surveys on existing USDA Web sites but caution awareness and sensitivity to the increasing number of online surveys customers are asked to complete. The next challenge will be to continue to drive customer insight, particularly behavioral research, while minimizing the burden on the customer.

- **Online and Offline Integration**—USDA agencies began to immediately integrate online and offline activities to add the most value to public citizens and business customers. The Food Safety and Inspection Service (FSIS), for example, provides Web casting for major offline events and training activities. The agency also drives interest in and awareness of the Food Safety Mobile through online content and activities.
- **Standardization**—The eGovernment program promotes the centralization of technology and the decentralization of content. There are several core standards, however. USDA agencies must adopt the USDA portal look and feel to help customers quickly and easily navigate among the different agencies. Agencies have developed processes to adopt the standards at the Department level and customize the Web site more for the particular agency. Employees state that one of the most successful components of the eGovernment program has been the ability to get people to work together across USDA and create a “common language.”
- **Governance and Senior Leadership Championship**—In 2000, ERS initiated a comprehensive site redesign project. The agency’s goal was to develop a Web site that “establishes ERS as a premier provider of real-time, real-value economic analysis via the World Wide Web to our primary customers.” The agency’s administrator was the project’s primary champion and this executive level support is seen as a key to its success. Secretary Ann M. Veneman’s leadership and support of USDA’s eGovernment initiatives (including common look and feel, my.USDA.gov portal, and new search engine) were key to the efforts’ successes and recognition. USDA employees assert that if agencies do not have Web-savvy executives, the ability for agencies to manage citizen-centric Web content Web sites will suffer. The establishment of working teams at all levels provides forums to share ideas and lessons learned, and to establish common standards.

USDA agencies are required to develop an online strategy and roadmap for their business, and these plans are integrated into the agency’s eGovernment approach. The employees we spoke with felt that the planning efforts could benefit from being more results-oriented, but that the organization is headed in the right direction. Overall, the success is clear. Money is now allocated to the new eGovernment initiatives, and employees are eager to participate. “If you build it, they will come” does not work. USDA has learned how to build it *and* drive adoption.

MOVING FORWARD

USDA is currently exploring opportunities to expand its reach and increase customer awareness and access to USDA services. USDA is a partner with the Firstgov.gov subscription service, which drives up subscription traffic, and develops strong partnerships with associations and universities. Version control, content management, and branding concerns need to be addressed, and there are currently no syndication practices in place. USDA is also very interested in mapping customer touch-points to identify where they can provide the most value. One employee stated, “We’ve made significant progress, but there is always room to be more citizen-centric.”

The following four “Special Features” highlight USDA’s efforts to personalize the user’s online experience and measure the business benefits of their overall Web strategy.

→ **Special Feature #1: Personalizing the USDA Experience with “My USDA” and the Customer Statement**



Former Secretary of Agriculture Ann M. Veneman introduced USDA’s eGovernment initiatives in early 2001 with a mandate for change, challenging agency representatives to illustrate how eGovernment would standardize processes and provide tools to unleash the fuller potential of

information technology. In January 2004, USDA unveiled a new design of the USDA Web site, as well as agency Web sites, which was the first phase in its efforts to make the Web site more powerful and accessible to USDA information and science customers. In fall 2004, USDA recently launched “MyUSDA.gov” to provide a customized version of the USDA homepage for individual users based on their unique needs and to incorporate the feedback from the launch of the USDA Web site.

USDA United States Department of Agriculture
Customer Statement
Demonstration Version

Home | About Customer Statement | Help | Contact Us | Logout

Statement Features

- Customer Statement
- Print Statement
- View My Land
- Download Map Data

Contact Summary

Customer Name: John Doe Statement Date: 03/04/2004
 USDA ID: JAD-0001 Email: john.doe@usda.gov
 Address: 23 County Road A Telephone: (434) 439-4959
 City, State, Zip: Champaign, IL 30392
 Source: USDA Customer Database Database as of 2004-05-04

Conservation Program Contract(s) Summary

Program	Fiscal Year	Source	Amount	Application/Contract	Approved	Approved to Month/End
Environmental Quality Incentive Program	2002	FSA	\$73,280		\$23,548	\$50,232
Environmental Quality Incentive Program	2003	NRCS	\$24,934		\$13,532	\$11,402
Source: FSA (as of 2004-05-04) FFS as of 2004-05-04 NRCS (as of 2004-05-04)						

Benefits Summary

Fiscal Year	Program	Total Amount
2004	DISCRET PAYMENT - CORN	\$915
2004	LIVESTOCK ASSISTANCE PROGRAM	\$669
2003	QUALITY INCENTIVE - ENVIRONMENT, NRCS	\$33,048
Total Payments for Period		\$34,632
Source: FSA Financial Inquiries as of 2004-05-04		

Conservation Plan Information

Plan Name	State	County	Plan Approval Date	Map
Joe Main Farm Plan	Illinois	CHAMPAIGN	2/02/2004	Map
Joe South Farm	Illinois	CHAMPAIGN	2/02/2004	Map
Source: NRCS Conservation Database as of 2004-05-04				

In March 2004, USDA launched the USDA electronic Customer Statement as part of the effort to provide farmers and ranchers with online access to their business activities with USDA 24 hours a day, 7 days a week. The Customer Statement “puts a whole range of USDA services and programs into a single report at the fingertips of agricultural producers.” The Customer Statement allows USDA customers to easily view all of the following for their enterprise:

- Participation and application status in various conservation programs
- Payments associated with commodity and conservation programs
- Information on farm loans
- Conservation plan and land unit information.

The Customer Statement will be a focal point for providing agricultural producers access to their USDA information and facilitating online business with USDA. Secretary Veneman stated that in the future, farmers and ranchers would be able to cross-reference that data with interactive maps of their operations using geographic information systems (GIS) technology with overlays for roads, soil types, water, and other geographic features. New features will be added to the Customer Statement as they are developed.

→ **Special Feature #2: The Development of Economic Research Service (ERS) “Personas”**

ERS was a pioneer within USDA in implementing “user” or “audience” personas for its online services. ERS developed a group of five audience personas to help Web planners, developers, content providers, and designers ensure that the agency’s online services are tailored specifically to meet the core needs of the agency’s most important users.

- **What are personas?** Personas are descriptions of representative ERS Web users and what they need to accomplish. Although these are not real people, they describe general characteristics, needs, and tasks of a specific group of users. Private-sector organizations report that personas have changed how they look at their user population and their product development process.
- **How were ERS’ personas developed?** ERS personas are based on in-depth interviews conducted with representatives from five key target audiences. A formal audience analysis was performed, which identified the following audiences:
 - *Policymakers and their “gatekeepers,”* who use ERS information and analysis to formulate policy and advice for their bosses, the policy makers
 - *USDA management,* who also rely on ERS for policy analysis and advice
 - *The media,* who depend on ERS leadership for information on assessing key issues and the agency’s wealth of background materials
 - *Agribusiness professionals,* who need ERS data and analysis to understand their sectors
 - *Researchers,* who rely on ERS for timely and authoritative data and analysis.

With the launch of its reengineered Web site in January 2001, ERS built the needs and interests of these intended audiences into the site’s redesign, function, language, and operations. Since then, the agency has used this integrated set of user-centered Web design and development strategies systematically to achieve its goal to establish the agency as a premier provider of real-time, real-value economic analysis via the Web to its primary customers.

- **How are personas useful?** By focusing the design and development of ERS Web products on the needs and goals of a specific persona, ERS can satisfy the needs of the broader range of users the persona represents. This avoids the compromises that inevitably occur when a product tries to satisfy too many different audiences. Personas also provide a fixed, constant reference point that can be used to guide the design. Every Web product decision can be tied back to the personas. When the inevitable opinion wars arise, product

development teams can refocus the conversation by asking, “What would best serve our persona?”

Most important, personas help the design/development teams connect their efforts with the real people who are ultimately going to use the product. Web developers who read a persona description can suddenly put a name and a face on the mysterious “user.” Personas are helpful in all stages of Web development, from the initial planning stages, interface design, and development, through to the final quality control phases.

The use of personas within ERS is so important, posters of each persona have been placed strategically throughout the agency and a user personas screen saver program was distributed to employees. ERS received a high score on the American Customer Satisfaction Index (ASCI) of 76 (of 100) in 2002, making it one of the highest federal sites at that time, and was comparable to commercial sites like Yahoo (78), MSN (74), and CNN (72). With these types of innovative approaches, USDA and its agencies continue to be a trendsetter in this area.

→ **Special Feature #3: Introducing the Food Safety and Inspection Service’s Virtual Representative**

Ask Karen



I'm Karen, the FSIS Virtual Representative. I can answer your food safety questions.

I am trained to answer questions about the prevention of foodborne illness, as well as the safe storage, preparation, and handling of meat, poultry and egg products.

Please type your question below.

FSIS’s Virtual Food Safety representative—“Ask Karen”—is already a popular feature at USDA and is growing more successful with each passing day. “Ask Karen” is “trained” to answer questions about the prevention of food borne illness, as well as the safe storage, preparation, and handling of meat, poultry, and egg products to prevent food borne illness and disease.

Karen was developed with FSIS’ customers in mind. The tool deals with serious public health issues but had to have both user-friendly look and feel and tailored content. The questions and responses had to be informative and easy to understand. Karen’s image was tested to ensure that it was viewed as a friendly, reliable, and professional source of food safety information. The interface had to be simple, so the product selected allowed for natural language queries—such as “How can I keep leftovers safe?” After a question, a subject area or keyword is typed in the text box, the answer appears instantly. If Karen is unable to answer the exact question, she will suggest a list of related questions. For assistance, customers can select the “Help” button. Karen also provides links to other Web pages with additional information.

Statistics from FSIS’ August 2004 Monthly “vRep” (Virtual Representative) indicate that more than 2,500 questions were asked that month in topics that range from the handling and refrigeration of food-to-food inspection and food borne illness. There are currently more than 4,000 questions in her database, and she is trained to constantly answer more. More than 80 percent of customers received a full or partial answer to their question, with only 16 percent of customers not receiving answers to their questions (but receiving suggestions on how to improve their search). Tool analytics indicate that many unanswered questions were the result of customers believing Karen to be real and asking personal questions about her.

Karen has since been trained to respond that she is a virtual representative and can answer questions regarding meat, poultry, and egg products. Weekly reports also track the top 10 topics and top 5 URLs, all of which help FSIS organize and promote existing Web site content and identify new content areas.

FSIS also supports the design and management of content around offline food safety programs, including—



The USDA Food Safety Mobile

Customers can learn more about the USDA Food Safety Mobile, an eye-catching education and outreach vehicle that reaches millions of consumers with food safety messages, by accessing a schedule of events, requesting a Mobile visit, or finding news, videos, photos, and images online.



Thermy™

Customers can learn all about Thermy™ online, whose job it is to encourage more Americans to use food thermometers. Thermy™ content is developed for use in offline events with kids, educators, and businesses.



Fight BAC!®

Fight BAC!® is a food safety education campaign of the Partnership for Food Safety Education, a nonprofit organization representing all aspects of the food industry as well as government and consumers. Online content is available to educate consumers on simple steps they can take to fight foodborne bacteria and reduce their risk of foodborne illness.



National Food Safety Education Month®

September was National Food Safety Education Month® (NFSEM), and FSIS developed online content for restaurants and foodservice operations; hospitality associations; colleges and universities; federal, state, and local government agencies; and consumer organizations across the country to use to participate in NFSEM in online and offline settings. A recent pilot targeted to consumers and educators (www.IsItDoneYet.gov) tested deploying an online and offline campaign simultaneously. Web site statistics indicated that citizens who received the offline message via media and other educational campaigns would go online to receive additional information and use agency online resources. Recent results of our customer satisfaction survey indicate that our customers and educators are our most satisfied customers, giving the agency a score of 75.

With food safety and security being such a key issue to a very diverse audience, FSIS has developed and continues to develop unique and innovative approaches to creating and managing citizen-centric Web content in a way that integrates online and offline communication channels.

→ **Special Feature #4: Measuring Performance**

Performance measures are a critical part of ensuring that Web content is created and managed in a way that aligns with customer needs and supports an agency's mission. ERS

shared its key systems-related performance metrics, identifying six areas that are critical in supporting the agency's mission:

1. **Reach**—Identify target audiences and determine if they know about ERS' online offerings. ERS examines overall traffic and utilization statistics, overall traffic trends for important domains, overall links-in/referrals by domain, and wants to do more to promote the Web site by demonstrating in-person (when possible) to target audiences.
2. **Relevance**—Determine if ERS is providing the information its key audiences need or want. For example, monitoring topic-related site traffic, ranking topics based on recent usage, ranking search terms to identify what users are looking for, tracking publication downloads, tracking Briefing Room access, and more.
3. **Packaging**—Determine if the information ERS provides is in consistent and usable formats. ERS provides access to online resources via e-mail to complement Web access, provides a summary and full detail pages for products/documents, and will track trends in traffic volume in future audience-focused portals.
4. **Access and Collaboration**—Examine whether ERS staff expertise is made available to and used by the public. ERS tracks usage of USDA's "Ask the Expert" feature, tracks public e-mail box communications, and promotes ERS staff online (staff bios, online Q&A with experts, etc.).
5. **Quality**—Determine if ERS is delivering an error-free Web experience through easy-to-use online services. ERS benchmarks against external organizations to provide a baseline for comparison, conducts a monthly count of obsolete/broken links onsite, count number of Web server failures, compare homepage size of site as an indicator of download speed, and more.
6. **Operations**—Determine if ERS' external Web site supports agency initiatives and operations. ERS reviews the Web site to monitor how much content is posted and updated, tracks resource usage for operations, and monitor how online services are used internally by ERS staff.

ERS' targeted list of Web performance measures provides the agency with the compass it needs to prioritize Web content management activities and investment needs.

APPENDIX 3. SECONDARY RESEARCH REFERENCE LIST

“About IAC.” <http://www.iaonline.org>.

eGovernment Act of 2002, Sec. 207. Accessibility, Usability, and Preservation of Government Information.

www.archives.gov/about_us/basic_laws_and_authorities/egov_act_section_207.html

FirstGov.gov. <http://www.firstgov.gov>.

Horrigan, John. “How Americans Get in Touch With Government.” Pew Internet and American Life Project. May 24, 2004.

Madden, Mary. “America’s Online Pursuits.” Pew Internet and American Life Project. December 22, 2003.

“OMB Policies and Implementation Guidance.”

http://www.firstgov.gov/webcontent/policies_and_implementation.shtml

OMB. “Policies for Federal Agency Web Sites.” December 2004.

<http://www.whitehouse.gov/omb/memoranda/fy2005/m05-04.pdf>

Perera, David. “Citizens Demand Satisfaction,” *Federal Computer Week*. October 4, 2004.

“Privacy Practices that Work: Eight Federal and Non-Federal Examples.” Industry Advisory Council, eGovernment Special Interest Group. March 2004.

Pulliam, Daniel. “Agencies Reach All-Time High in Customer Satisfaction.” *Govexec.Com*. December 14, 2004.

Ramus, Laura and Daniel W. Rasmus. “Best Practices in Taxonomy Development and Management.” Giga Information Group, Inc. January 8, 2003.

Usability Toolkit <http://www.usability.gov>

USDA. <http://www.usda.gov>, <http://www.egov.usda.gov>, <http://www.fsis.usda.gov>, <http://www.IsItDoneYet.gov>

Web Content Managers Toolkit <http://www.webcontent.gov>

Web Harvest 2004 <http://www.webharvest.gov>

APPENDIX 4. GLOSSARY OF KEY TERMS

AARP—AARP, formerly American Association of Retired Persons.

ACSI—American Customer Satisfaction Index.

ACT—American Council for Technology.

API—Application Program Interface; this is software that an application program uses to request and carry out lower-level services performed by a computer's operating system. In short, an API is a "hook" into software.

Architecture—The architecture of a system refers to how it is designed and how the components of the system are connected to, and operate with, each other.

Content—Information on a Web site.

Click stream—The path a user takes as he or she navigates cyberspace.

CMS—Content Management System.

Cyberspace—The world of connected computers and the society that gathers around them.

DHS—Department of Homeland Security.

EPA—Environmental Protection Agency.

ERS—USDA's Economic Research Service.

FSIS—USDA's Food Safety and Inspection Service.

Granularity—A Microsoft Corporation term for complexity.

HTML—HyperText Markup Language. This is the authoring software language used on the World Wide Web.

IA—Information Architecture.

IAC—Industry Advisory Council.

ICGI—Interagency Council on Government Information.

Interface—A mechanical or electrical link connecting two or more pieces together.

J2EE—Java 2 Platform, Enterprise Edition, which defines the standard for developing component-based multitier enterprise applications.

NARA—National Archives and Records Administration.

NASA—National Aeronautics and Space Administration.

Scalable—Something that can be made larger or smaller easily and painlessly.

Section 508—Section 508 of the Rehabilitation Act of 1973 requires that federal agencies' electronic and information technology be accessible to people with disabilities.

SSA—Social Security Administration.

Tag—Code used for formatting HTML documents for the World Wide Web.

Taxonomy—The orderly classification of things according to their natural relationships.

USDA—United States Department of Agriculture.

Usability—The measure of the quality of a user's experience when interacting with a product or systems, whether a Web site, software application, mobile technology, or a user-operated device.

Web Harvest—A capture of Web sites that exist at a point in time.

XML—eXtensible Markup Language. This language enables designers to create their own customized tags to provide functionality not available with HTML.

ZOPE—A high-performance application or Web server-based content management system.