

Executive Summary

The Government Information Locator Service (GILS) is an innovative networked-based approach to assist users in locating government information resources. The U.S. Federal implementation of GILS began in December 1994 with the release of the Office and Management (OMB) Bulletin 95-01. Responsibilities and deadlines prescribed in the OMB Bulletin governed Federal agencies' efforts through a two-year time period (1995–1996). The Bulletin also established a GILS Board “to evaluate the development and operation of the GILS.” At its first—and only meeting—in December 1995, the GILS Board approved a recommendation by John Carlin, Archivist of the United States, for an evaluation study of GILS. In his proposal, the Archivist emphasized the importance of understanding how well GILS is meeting user information needs.

This document reports the results of the evaluation study commissioned in response to the GILS Board's request for an assessment of GILS. Five Federal agencies contributed to the funding of the study: Department of Commerce, Department of Defense (DoD), Environmental Protection Agency (EPA), General Services Administration (GSA), and National Archives and Records Administration (NARA). OMB provided the Contracting Officer's Technical Representative. Representatives of eight agencies, including the five sponsoring agencies, served as members of the advisory group to the study and reviewed project plans, findings, and results.

The study began in September 1996, data collection ended in March 1997, and the final report was completed in June 1997. The goal of the study was to understand how:

- GILS serves various user groups
- GILS improves public access to government information
- Agencies are progressing with their implementations
- GILS works as a tool for information resources management.

The principal investigators used a variety of data collection and analysis techniques to assess the current status, use, and user satisfaction with the U.S. Federal implementation of GILS.

Recognizing the complexity of GILS as a networked information service, the investigators considered multiple aspects of GILS, including policy, technology, content, and standards. A primary focus of the study was on users; this focus addressed the charge from the Archivist to examine who is using GILS and how well users' needs are being served, and to identify what modifications are needed to improve service to the public. Data collection activities included site visits to Federal agencies, focus groups with representatives of user communities and stakeholders, policy review, online user assessments of GILS implementations, analysis of Web server transaction logs, and a content analysis of GILS records (see Chapter 2 for the policy review and Chapter 3 for study method). Analysis and synthesis of the data resulted in a series of findings that address the goal of the study and also in a series of recommendations for improving GILS (detailed in Chapter 4).

Agencies' implementation experiences over the two past years have identified issues and challenges that need to be addressed to ensure successful evolution and maturation of GILS. The lessons learned from actual implementation of GILS, which are documented in this report, provide a basis upon which to determine the future shape and character of U.S. Federal GILS implementation.

The investigators conclude that the vision and basic architecture for GILS are still appropriate. The architecture builds on the following components:

- Decentralized deployment of agency-based locators
- Structured and standardized metadata to describe agency information resources
- Z39.50, an American National Standard protocol for information retrieval, for interconnection and interoperable search and retrieval across the agency locators.

The vision of GILS as a service that assists users in locating and accessing publicly-available government information clearly supports important national information policy goals. As originally conceived, a *government-wide* locator

service would result from the separate agency-based GILS.

The investigators conclude, however, that the original vision of a *government-wide* information locator service has not yet been achieved. Rather, there exists a collection of disparate agency GILS that are uneven in their implementation, coverage, and utility. The U.S. GILS implementation has not achieved the vision of a "virtual card catalogue" of government information nor has the majority of agency GILS implementations matured into a coherent and usable government information locator service.

The findings indicate a range of explanations for the current less-than-optimal implementation level of GILS. Many of the shortcomings of U.S. Federal GILS implementation relate to problems of focus, scope, and administration rather than a fundamental flaw in the architecture and vision of GILS. For example, successful GILS implementations were achieved by those agencies that committed sufficient resources, allocated staff, and defined for themselves how GILS could serve their information resources management needs, including the improvement of public access to publicly available agency information. Where an agency has a history of strongly supporting public access to its information resources, GILS tended to be more enthusiastically embraced and perceived as successful than in agencies without such a history. Where top management had endorsed GILS and provided strong support—especially by dedicating staff and capital—GILS tended to be much more successful, at least in its implementation if not in its use.

The study also recognizes that some of the issues affecting the success of GILS relate to networked information discovery and retrieval (e.g., the use of metadata, distributed search and retrieval), which represents a large and active research area. For example, many of the digital library initiatives address, from a research perspective, some of the most complex issues of organization, access, and retrieval of digital information in the global networked environment. Scalable and operational solutions to some of the problems facing networked information locator services have yet to emerge. GILS, as an early innovator, has clarified the nature of some of the problems, and its use of standardized, structured metadata is clearly a contribution.

Findings from a recent evaluation of a Canadian GILS pilot project parallel some of those documented in this report. These parallel findings may indicate some systemic and not clearly understood problems related to networked locators (see Appendix I for the Canadian report). Administrative and organizational commitment from agencies to GILS is a necessary precondition for successful implementation, but solutions to some networked information discovery and retrieval problems may need to emerge before the original vision of GILS is achieved.

The broader government and technological context in which the U.S. Federal GILS implementation occurred also affected agencies' commitment and focus regarding GILS. The U.S. GILS initiative spanned a period of significant technological and agency change, uncertainty, political discord in Washington, opportunity, stress, and excitement for Federal information managers. The last three years have seen more initiatives related to information management and policy than perhaps the last ten years. GILS, given this context, simply was unable to compete for the attention, resources, and commitment from most agency administrators. Three factors in particular—downsizing government, expanding information management legislation and policy issues, and Internet/Web development—should be recognized as affecting the current status of the U.S. Federal GILS initiative.

The investigators organized the findings and recommendations into four primary opportunities:

- Refocus GILS for clarity of purpose and utility
- Improve GILS efficacy in networked information discovery and retrieval
- Resolve GILS relationships with other information handling functions and processes
- Increase GILS awareness.

These opportunities provide a framework for policymakers and implementors to address changes and improvements to the Federal GILS initiative. The table on the following page identifies the findings and recommendations

associated with each opportunity (reported and detailed in Chapter 4).

The first opportunity is where the fundamental decisions and actions for improving GILS should occur and is the primary area for immediate action. This opportunity concerns policy, organizational, and administrative issues that—with appropriate attention and commitment by the GILS Board, OMB, the Chief Information Officers (CIO) Council, and the evaluation study's advisory group—can shape the next phase of GILS evolution. Unlike some of the complex issues related to networked information discovery and retrieval (second opportunity), the policy, organizational, and administrative issues can be resolved. GILS policymakers and implementors can take action to address study findings such as:

- Confused purposes and expectations of what GILS is and should be
- Lack of clear government-wide objectives to guide agencies' implementations
- Expectations for functionality from GILS that were not realistic
- Lack of government-wide coordination, management, and oversight
- Insufficient senior agency management attention and allocation of resources
- Lack of demonstrable benefits to agencies
- A non-workable records management component of GILS.

The implications of these findings bear directly on the users of GILS.

The investigators identified no significant level of user satisfaction with the current U.S. Federal implementation of GILS. Overall, users were confused and disappointed with GILS implementations for a number of reasons, including:

- An inordinately high degree of user sophistication is required to exploit GILS
- Users were interested in and/or expecting to gain access to full-text.
- GILS records were hard to read, contained unnecessary information, and were not linked to the actual source identified

Opportunities, Findings, and Recommendations

Opportunity: Refocus GILS for Clarity of Purpose and Utility
Findings
People Are Confused about GILS Mission, Purposes, and Uses
Expectations for GILS Are Evolving
Government–Wide Administrative Coordination and Policy Oversight Are Lacking
Smaller Agencies Feel Special Burden and Frustration
Agencies’ Cultures and Missions Promote Different Commitment to GILS
Intra–Agency Efforts Reflect Different Levels of Enthusiasm for GILS
GILS Benefits Compared to Burdens Are Not Clear
Recommendations
Focus on Public Access to Government Information
Focus Scope of Descriptions On Network–Accessible Information Resources
Identify Responsibilities and Authority for Policy Leadership, Government–Wide Coordination, and Oversight
Implement a Refocused GILS Initiative
Require Agency Reporting on GILS Progress and Reward Agencies That Achieve Stated Objectives
Ensure Ongoing, User–Based Evaluation for Continuous Improvement
Opportunity: Improve GILS Efficacy in Networked Information Discovery and Retrieval (NIDR)
Findings
Web Technology Has Raised Questions about the Role of GILS
GILS is an Agency–Centric, Rather than Government–Wide, Service
GILS Metadata Are Difficult to Capture
Limited Updating and Maintenance of GILS Records
No Clear Agreement on Adequacy of GILS Record Data Elements
Different Types of Resources Represented in GILS Records
User Reaction to GILS Is Not Positive
GILS Record Display Varies Widely and Is Criticized by Users
User Orientation and Instruction is Inadequate
Recommendations
Continuously Evaluate GILS Policies and Standards against Emerging Technologies, Especially the Web
Specify Resource Types And Aggregation Levels
Enforce Consistent Use Of Metadata That Are Empirically Demonstrated to Enhance Networked Information Discovery and Retrieval
Improve Presentation of Metadata
Develop Policy and Procedures for Record Maintenance
Promote Interagency Cooperation and Use of GILS for One–Stop Shopping Functionality
Opportunity: Resolve GILS Relationships with Other Information Handling Functions
Findings
GILS Does Not Support Records Management Activities
GILS Relationship with Agencies’ Inventories of Information Resources Is Not Clear
GILS Relationship with FOIA and EFOIA Is Unclear
Recommendations
Uncouple the Refocused GILS—as an Information Discovery and Access Service—from Records Management
Derive GILS Metadata from Other Information Handling Processes
Opportunity: Increase GILS Awareness
Findings
No Program for GILS Promotion and Education Exists
Potential User Communities Lack Familiarity with GILS
GILS Usage Is Limited
Recommendations
Develop and Formalize GILS Promotion, Education, and Training Strategies

- Variance exists in the extent of information contained in GILS records and their display (see Appendix H for two example GILS records that represent this variance).
- The service seemed qualitatively and quantitatively unpredictable and/or uneven.

While a majority of the users reported that they would use GILS to locate government information in the future, there were enough concerns and criticisms from the users to indicate that they consider GILS an unlikely source to help them identify and locate government information.

Knowledge and awareness of GILS in specific important user communities (e.g., government documents librarians) are very limited. If users know of GILS, they make little use of it. When they do use GILS, they find it hard to use at best and inexplicable and frustrating at worst. Even agency staff involved in GILS implementations acknowledged that GILS is “user-unfriendly.” Agency staff linked the poor user reception of GILS to difficulties inherent in the search and retrieval system, the lack of full-text information, the limited direct links to the resource when discovered through a GILS record, and deficiencies in marketing GILS.

The current U.S. Federal GILS initiative means different things to different people and has led to inconsistent implementations and a wide range of expectations of GILS. The report makes an overall recommendation that the Federal GILS initiative needs refocusing and alignment with the following vision:

An easy-to-use and coherent government-wide information search service available from one or more service points that enables users to discover, locate, select, and access publicly available government information resources (e.g., agency information systems, specific information dissemination products, and existing locators to those products) through standardized metadata that describe those resources and provide direct links to the described resource (e.g., full-text documents, other online services).

A refocused GILS must clearly articulate the function of a *government-wide* locator service, its scope of coverage, what people can legitimately

expect it to provide, and the benefits it can offer. The purpose of the refocused GILS is to enable users to discover what government information exists and provide users with direct access to that information.

One indication of the more limited scope of a refocused GILS is the investigators’ recommendation that GILS and records management should be uncoupled. The current policy identifies GILS as a tool for records management. The study concludes, however, that GILS does not support records management activities. Further, expectations for GILS functionality (e.g., addressing electronic freedom of information requests) that are beyond a primary purpose of assisting users to discover and access government information should be tempered until such functionality can be demonstrated through pilot or prototype implementations.

The refocused GILS effort needs to be clearly distinguished from the early implementation period that was guided by OMB Bulletin 95-10. This demarcation is necessary to 1) acknowledge lessons learned from the early implementation, and 2) acknowledge the frustrations felt by many agencies towards the confused purpose, lack of utility, and limited benefits of many GILS implementations. Government-wide coordination of, identification of realistic objectives for, and education of agencies and users about the refocused GILS are necessary steps in evolving to the next stage of GILS deployment.

The study finds that OMB Bulletin 95-01 was a good first effort to outline a policy context for the development of GILS. Some issues that will require attention in a forthcoming revision to the Bulletin include:

- Clarifying purpose and objectives of GILS
- Divesting records management responsibilities and activities from GILS
- Clarifying Federal leadership for a range of GILS activities
- Recognizing the extent to which agencies can take on GILS responsibilities in a time of budget reductions and increased demands on productivity

- Indicating realistic and tangible benefits that can accrue from GILS
- Integrating GILS into a broader context of agency information systems (including Web sites), information resources management, and general information management missions
- Providing regular oversight and enforcement of GILS policies
- Promoting the development of search and retrieval mechanisms and processes that integrate and coordinate agency components of GILS into a *government-wide* GILS.

To assist government policymakers and implementors, the investigators recommend an initial set of actions to move toward specific solutions and to encourage the success of the refocused GILS across the Federal government. The framework for action includes the following four high priority items:

- Build consensus on the purposes, goals, and scope of the refocused GILS
- Identify who has authority, who is responsible, and where accountability will rest for GILS—as a *government-wide* initiative
- Develop policy goals for GILS and translate them into specific, realistic, and measurable objectives
- Establish a GILS pilot program to identify problems and issues in both policy and implementation arenas.

These four priorities are critical steps to move to the next stage of GILS evolution. Ongoing and continuous evaluation should characterize the refocused GILS effort.

A key first step will be determining who will lead the discussion regarding the future of GILS. The investigators view the evaluation study's advisory group as having responsibilities to review and discuss this evaluation report and then plan the direction for action. The investigators also recommend that the GILS Board, with advice from

the CIO Council and OMB, establish a GILS Transition Task Force to address the four priorities listed above and more specifically, the findings and recommendations in Chapters 4 and 5.

In addition to evaluating and documenting the U.S. Federal GILS implementation and providing decisionmakers with a basis for determining the shape and direction of the next phase of GILS, an additional benefit of this study was the development and refinement of specific techniques for assessing networked information services that agencies can use in ongoing evaluation of their GILS implementations. The intent was to provide policymakers and agency officials with *tools* by which *they* could deploy a range of assessment techniques and comply with policy such as the Government Performance and Results Act. To date there has been little attention (at least as identified in this study) paid to agency-based performance assessment and the development of performance indicators for GILS efforts. The various instruments developed for this project should be seen as first efforts. Additional research related to these evaluation tools is both necessary and appropriate, and Chapter 5 identifies possible areas for additional effort.

The U.S. Federal government's implementation of GILS has been an ambitious undertaking. Critics may point out limitations and flaws in the current coverage, implementation, and usability of GILS. Equally important, however, is recognizing the progress to date in developing a government information locator service and the commendable efforts by many people who have led and supported GILS implementations. This study recommends that the existing GILS as developed during 1995–1996 be considered as Phase I. The lessons learned from this experience are extensive and can contribute significantly to future efforts to develop a discovery and access service for government information. But GILS, as currently constituted and currently implemented, must be refocused and reengineered to accomplish its original goal as a *government-wide* information locator service that can improve citizen access to government information.