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An Immediate Opportunity in E-Government Interoperability

The nation has a great wealth of human, natural, and financial assets crucial to its economic and social livelihood. No less crucial are the nation's public information assets held by governments at all levels (federal, tribal, State, local). Governments must diffuse these information resources to everyone they serve so that: citizens participate in democracy and public officials govern wisely, the nation's industry and pursuit of knowledge flourish, and all national assets can be managed effectively and efficiently. While the technical challenges are substantial, there can hardly be a more worthy goal.

One key technical challenge of E-Government is fundamental in any complex system composed of other systems: How can the many separate parts work together to achieve common objectives? This "interoperability" challenge involves not only the large scale of government systems, but the complex ways that technology interacts with public policy and social issues. The policy goal of obviating the "digital divide", for example, sets a requirement that interoperability efforts encompass the wide range of ways that governments interact with the people they serve, from high-tech systems down to print products and personal contact. In technology terms, interoperability is needed within and among technologies such as telephone, television, automated kiosks, off-line media, and wireless devices, as well as public and dedicated electronic networks. Given such technology complexity and the wide variety of government services, it is apparent that E-Government interoperability must be approached in an incremental fashion.

The ongoing need to enhance government-wide "information and services discovery" is a perfect opportunity to deploy interoperability solutions, as has often been cited by advisors to government in the technology arena. In this narrow slice of E-Government, issues of technology complexity rooted in public policy concerns are relatively well-understood from experiences stretching back to the earliest public libraries. It is safe to say that initiatives in this area are likely to garner strong interest among the public and opinion leaders. From the perspective of incremental progress, the discovery challenge is also a good choice in that virtually all other government services have some dependence on discovery mechanisms. Work on discovery mechanisms would help expose some of the most profound E-Government technical challenges, such as data integration challenges in cross-agency service delivery.

E-Government interoperability in the area of information discovery already has a robust law and policy base within the U.S., and a mature set of international standards on which to build. Projects such as the National Spatial Data Infrastructure and the Global Information Locator Service (GILS) have demonstrated that inter-governmental collaboration works very well in this area and that current technology is effective even with the very large scales needed for government-wide deployment.

Recently, hundreds of information technology companies have begun to collaborate on a common infrastructure for such an information and service discovery mechanism focused on business-to-business interoperability challenges. This mechanism, known as "Universal Description Discovery and Integration (UDDI)" is already being extended to include government organizations and services. Oxford University has even built an automated gateway connecting UDDI with all of the directories, catalogs, and inventories available through the GILS information discovery mechanism.

One objective of an initiative focused on information and services discovery using UDDI and GILS could be to establish and maintain an online, authoritative directory of the current U.S. Federal Government organizations and their services. This directory would be re-use existing sources in several agencies, but these various information sources would gain a common and coherent interface through UDDI. Establishment and maintenance of such a resource could be decentralized as needed, and other levels of government could participate at will.

Web services offered by each organization would be accessible online in the directory, although the text content could also be printed for distribution to any citizen or company that wants it. One could locate organizations by classified type of service, as well as by location, organizational hierarchy, or any other characteristics particular to that organization. Government "portals" such as AOL Government Guide, FirstGov and GPO Access could add value to this directory with additional facilities to help people find organizations, services, and sources of information across government.