E-Government Capabilities for 21st Century Security and Defense

Roy Ladner, Stennis Space Center, USA
Fred Petry, Stennis Space Center, USA
Frank McCreedy, Stennis Space Center, USA

ABSTRACT

In this article we provide an overview of e-government as it pertains to national security and defense within the Department of Defense (DoD) and Department of Homeland Security (DHS). We discuss the adoption of Web services and service-oriented architectures to aid in information sharing and reduction of IT costs. We also discuss the networks on which services and resources are being deployed and explain the efforts being made to manage the infrastructure of available services. This article provides an overview of e-government for national security and defense and provides insight to current initiatives and future directions.

Keywords: federal IS; Internet-based technology; middleware; strategic intelligence IS; Web-based applications; Web technologies; XML

With the growth of the Internet, e-commerce has become prevalent for the exchange of information, goods, and services. Electronic government or e-government refers to the government’s utilization of the tools of e-commerce in order to accomplish its mission. Typical e-government services include online driver’s license renewal, federal income disbursement, and even filing federal or state income tax returns. In this article we provide an overview of e-government as it pertains to national security and defense within the Department of Defense (DoD) and Department of Homeland Security (DHS). The DoD is the lead federal agency for homeland defense and includes military departments such as the Navy, Air Force, and Army as well as defense agencies such as the Defense Information Systems Agency (DISA) and the Defense Threat Reduction Agency (Department of Defense, 2000). The DHS is the lead federal agency for homeland security and includes the U.S. Coast Guard; Customs & Border Protection; U.S. Secret Service; Federal Emergency Management Agency; Transportation Security Administration; and so forth (Department of Homeland Security History, 2006; O’Rourke, 2006; O’Rourke, 2006).
We describe how the capabilities available through e-government are changing the way these agencies provide homeland defense and homeland security.

This article is organized as follows. We begin with a general description of e-government. We then describe the functional components of Web services. Following this we show how service-oriented computing is being adopted for homeland security and defense. We describe the Global Information Grid (GIG) and other networks on which services and resources are being deployed and explain the efforts being made to manage the infrastructure of available services. We conclude with a description of the Integrated Web Services Broker (IWB) being developed by the Naval Research Laboratory as an example of how Web services can be efficiently identified, selected, and used in service-oriented environments such as the GIG.

E-GOVERNMENT OVERVIEW

E-government is also known as e-gov, digital government, and online government. E-government deals mostly with Internet applications to assist in government functionality. Although not a focus of this article, the term has also been applied to some non-Internet applications such as citizen tracking systems that deal with omnipresent surveillance and biometric identification (What is e-government, 2007).

The overall objective of e-government may be characterized as streamlining government operations in some form. This can take a number of forms, including those listed in a 2002 e-government implementation strategy (United States Office of Management and Business [OMB], 2002, p. 4) as:

- Eliminating layers of government management;
- Making it possible for citizens, businesses, other levels of government and federal employees to easily find information and get service from the federal government;
- Simplifying agencies’ business processes and reducing costs through integrating and eliminating redundant systems;
- Enabling achievement of the other elements of the President’s Management Agenda; and
- Streamlining government operations to guarantee rapid response to citizen needs.

In the course of achieving e-government, delivery of services may follow a number of models similar to those found in e-commerce, namely, government-to-citizen, government-to-business, government-to-government and intra-governmental: Internal efficiency and effectiveness (IEE) (OMB, 2002).

The U.S. government has established an e-government office having online presence at http://www.whitehouse.gov/omb/egov/. The following statement on this Web site indicates the significance of the transformation taking place, “E-Gov does not mean putting scores of government forms on the Internet. It is about using technology to its fullest to provide services and information that is centered around citizen groups.” In order to facilitate access to federal, state, and local e-government, the federal government has also established a Web portal, http://www.usa.gov/. Additionally, recent developments in e-government news are routinely published in Federal Computing Week and available online at the following Web site: http://www.fcw.com/e_government.asp?topic=egov

The Geospatial One-Stop is an example of a presidential initiative that provides federal and state agencies with Web portal access to mapping related data. This single point of access allows the sharing of data in a way that makes better use of resources. The portal is found at geodata.gov and includes the tools for finding and analyzing the multiple sources of information that are available. These tools support functions such as search, interactive mapping, and metadata publishing. Mapping data available through the Geospatial One-Stop is accessible via the Open Geospatial Consortium’s Web Mapping Service (WMS) specification. The Geospatial One-Stop can also make use of other portals to maximize available data.
E-Government Success in Public Libraries: Library and Government Agency Partnerships Delivering Services to New Immigrants
www.igi-global.com/chapter/government-success-public-libraries/76633?camid=4v1a

A Success Model for the Malaysian Government e-Procurement System: The Buyer Perspective
www.igi-global.com/article/success-model-malaysian-government-procurement/76926?camid=4v1a