

SUBJECT:

This is in response to HB 110 which requires that each state agency include in its strategic plan “an analysis of the impact that the aging of the population will have on its ability to deliver services and a description of how the agency is responding to these changes.”

OVERVIEW:

As an information technology organization, VITA supports the services delivered by the Commonwealth to its constituents but is not directly responsible for those Commonwealth services.

Rather, VITA provides information technology leadership and support to those Commonwealth entities so that they can improve the efficiency and effectiveness of their constituent services.

In particular, VITA has emphasized the role that information technology has in making Commonwealth services more accessible to its constituents.

As the Commonwealth’s population ages, there is, and will continue to be, an impact on how that population is able to access Commonwealth services.

Moreover, to the extent that individuals in the aging population are, or become, disabled, satisfactory access to services is a statutory requirement today. (See Attachment 1- “Business Case in Support of Accessibility & Web Site Standards.”)

RESPONSE:

With regard to VITA’s response to “how” the agency is responding to the aging of the Commonwealth’s population:

The Commonwealth has recognized the importance of its constituents “accessibility” to its services as indicated in Goal 1 of the “Commonwealth of Virginia’s Strategic Plan for Information Technology”-*Increase accessibility to government. Allow the public to easily access any government service or information as needed.*

The following are three examples of VITA’s involvement in support this COVA Goal for making Commonwealth services more accessible to all of its constituents, including those who are “seniors.”

From VITA’s Agency Strategic Plan:

Web Based Services

Agency web sites are an integral part of how agencies provide information and deliver service to customers. Part of the VITA e-Government strategy is to seek opportunities to improve delivery of VITA services utilizing the Internet and also to identify opportunities for shared enterprise solutions in delivery of online services both to our agency customers

and citizens of the Commonwealth. Strategies identified to accomplish this objective are aimed at both internal VITA service delivery and enterprise opportunities.

Objective 71104.01 and 82007.01

Harness opportunities to improve the availability, quality, and responsiveness of state services – seamless, friendly, anywhere, anytime – for our citizens and customers.

GIS Services

Geospatial Information Services (GIS) provide Virginia’s “aging population” with “map-based” information regarding services that are of interest/need to them; for example, the locations of/directions to social/recreation centers/facilities, places of worship, doctors’ offices, pharmacies, health care facilities, etc.

In Virginia, there are currently at least 400 local, state, and federal government departments and utilities creating geospatial data to support decision making using mapping and GIS (E-911 response, tax mapping, utility mapping, economic development site marketing, etc.) with an estimated direct investment of over \$50 Million annually. The Virginia Geographic Information Network (VGIN) Division’s service responsibilities are:

- (1) To coordinate and leverage the efforts of all mapping constituencies in Virginia, public and private, in order to establish a highly efficient statewide geospatial infrastructure, comprised of consistent, sharable data and applications and standardized technologies producing a significant improvement in the cost benefit equation for all geospatial constituencies and users.
- (2) To offer consolidated geospatial enterprise services that (a) directly reduce operating costs for existing GIS implementations (especially in state and local government) and (b) significantly improves the quality, quantity, and availability of geospatial products and services for governments, businesses and the citizens of Virginia.

Objective 71105.02

Integrate Accessible and Cost-Effective Service regarding consolidated geospatial enterprise services.

E-911 Services

All of Virginia’s citizens, including its “seniors,” can benefit from comprehensive E-911 services that provide a reliable communications link that are so critical during emergency situations.

Technical and professional assistance is provided to local 9-1-1 centers (also known as PSAPs—Public Safety Answering Points) and telecommunications providers to ensure all citizens have access to 9-1-1 services. Enterprise services and solutions are provided to over 125 9-1-1 centers in the Commonwealth.

Objective 71201.01

Deploy the next generation E-911 system to all geographic areas of the Commonwealth.

Deployment of a non-proprietary E-911 solution that is technology neutral and maintains the high reliability and availability of the existing E-911 system while reducing call set up time and delays in the delivery call data.

ATTACHMENT 1

Business Case in Support of Accessibility & Web Site Standards

Introduction

At its core, information technology (IT) accessibility involves making information accessible to the widest range of people as possible. This is accomplished by removing barriers to access.

Today accessible technology offers benefits to a wide range of people beyond those with physical disabilities. Many accessibility products originally designed for disabled users are today taken for granted. This technology is not limited to use by only those with disabilities. It includes such products as:

- closed captioning, which was originally designed for the hearing impaired, is commonplace in bars, restaurants and airports,
- hands-free telephones and mobile phones,
- magnified type on a screen, and
- screens with audio capabilities.

Who is likely to benefit?

The 2000 census by the US Census Bureau reported there are over 54 million Americans with disabilities. However, according to a study commissioned by Microsoft and conducted by Forrester Research, Inc. in 2003, "In the United States, 60% (101.4 million) of working-age adults who range from 18 to 64 years old are likely or very likely to benefit from the use of accessible technology due to difficulties and impairments that may impact computer use. Among current US computer users who range from 18 to 64 years old, 57% (74.2 million) are likely or very likely to benefit from the use of accessible technology due to difficulties and impairments that may impact computer use."

The Forrester study also notes that "As the US population ages, more US workers and computer users will notice changes in their abilities and experience difficulties and impairments. At the same time, older US workers will remain in the workforce long past previously expected retirement ages. Maintaining productivity among US workers—regardless of abilities, difficulties, and impairments—will become an increasingly vital economic issue for US businesses as the population continues to age."

In Virginia this translates to a population of about 2.5¹ million workers likely to benefit from the use of accessible technology.

What are the Problems?

Technology may be inaccessible to people with disabilities if it provides only one way for users to gain access to or manipulate information. Examples include:

¹ Source: US Census Bureau "Virginia QuickFacts" – Virginia's percent of the US population of about 2.5%

- people who are blind cannot read instructions presented only in a visual format;
- people who are deaf cannot understand content that is presented only aurally;
- people who are color-blind cannot discriminate between color-coded options;
- people with specific physical limitations cannot use a software application that requires use of a mouse; and
- people who use wheelchairs cannot operate a fax machine if the controls are positioned too high or too far for them to reach from a seated position.

Many of these barriers can be lowered or eliminated when technology environments are developed from an approach called "universal design."²

Accessibility problems more specific to Web sites include:

- Images without appropriate text description
- Color used alone to distinguish meaning
- Navigational controls that require a mouse
- Requirement for client-side scripting

The Department of Rehabilitative Services' Virginia Assistive Technology System is currently conducting an automated online survey of Executive Branch agencies' Web sites. The initial survey tests only the sites' Home Page for compliance with Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998. Of the 82 agencies tested, 19 passed (23%) and 63 failed (77%).

What are the Benefits for Virginians?

Accessible technologies allow Virginians with sight, mobility, cognitive or hearing impairments to be a productive part of the work force. Moreover, spending on accessible technology returns value to all Virginians, not just those estimated likely to directly benefit from it. The Commonwealth's return on value (ROV) is outlined below.

Accessibility Standards Return on Value

Accessible technologies serve all Virginians regardless of their ability to use them. The Forrester study notes that accessible technology helps businesses keep great employees, recruit from a larger pool of candidates, and enhance team collaboration and communication among all employees—including those with disabilities. Providing accessible technology facilitates collaboration and communication among all employees in an organization—whether they have a disability or not. Accessible technology broadens an agency's³ potential audience and makes it much more usable for everyone.

- Employment opportunities for the disabled.

² Source: Copyright © 2002-2005 by University of Washington/AccessIT (www.washington.edu/accessit)

³ The use of the term "agency" in this document refers to Commonwealth of Virginia Executive Branch agencies and institutions of higher education.

The Department of Defense⁴ encourages managers to use assistive technology to keep temporarily disabled employees working while they recuperate at home. A typical home installation of a workstation and assistive technology costs about \$5,000 versus \$28,000 for an average worker's compensation claim.

In a 2003 article in *Government Technology*⁵ noted the "...employment opportunities that accessible technologies will bring to people with disabilities. Of the approximately 54 million people in the United States with disabilities, an estimated 70 percent are unemployed. With governments facing unprecedented retirement figures and needing skilled workers, enabling technologies can open up a new resource of capable employees."

- Reduces disabled individuals dependence on the welfare system.

"Because cognitive disabilities are invisible, it's easier for individuals to fake it or deny the existence of the disability. They end up falling into the welfare system because they don't understand their challenge, or what technology exists to help them," concluded a case study in the state of Georgia⁶.

- Reduces workers compensation costs.

"All federal agencies, and many private companies, are spending huge amounts of money on workers' compensation," said former Secretary Cohen in to a DoD case study.⁷ "It's smart business to get these people back to work, even if they're at home. With so much work today done on computers, assistive technology can keep these people productive and their morale high during much of their illness or temporary disability."

Web Standards Return on Value

Implementing Web standards has several advantages for the agency as well as the Web site visitor. The agency will benefit from:

- reduced maintenance cost by avoiding dependence on a unique provider and proprietary formats,
- gain the advantage of the backward- and even forward-compatibility,
- search engine time is reduced, and
- creating new content is easier and more economical.

Additionally, making a Web site accessible is beneficial because it broadens an agency's potential audience and makes it much more usable for everyone.

The following organization and content of the Web standards ROV is taken in part from an article by Adaptive Path⁸:

⁴ Source: Excerpts from a case study on the Department of Defense's regarding the use of assistive technology to reconnect disabled employees" in *Accessible Technology in Today's Business*.

⁵ Darby Patterson, "Building a Standard," *Government Technology*, April 22, 2003

⁶ Source: Excerpts from a case study on the state of Georgia's assistive technology initiative in *Accessible Technology in Today's Business*.

⁷ Source: Excerpts from a case study on the Department of Defense's regarding the use of assistive technology to reconnect disabled employees" in *Accessible Technology in Today's Business*.

⁸ Jeffery Veen, "The Business Value of Web Standards," www.adaptivepath.com, September 18, 2003

- Speeds Development and Simplifies Maintenance.

Not only is designing a Web site to World Wide Web Consortium (W3C) recommendations the right thing to do, but it is the cost efficient thing to do. Web sites require less time and effort to develop and maintain when they utilize a common template with one set of HTML pages and one stylesheet is far less development work. Keeping the visual design separate from the content, but logically linked to each page is a W3C best practice. Shorter development time not only reduces costs, but frees resources sooner.

- Increase Access Options.

Clean code opens access to any browser — including non-traditional clients like mobile phones, PDAs, voice interfaces and screen readers, and anything else that supports the most basic tag set. A standard compliant site that is coded for simplicity solves problems with mobile access, [Section 508 accessibility](#), and past-version browser compatibility.

- Reduce Bandwidth Costs.

Adaptive Path's article relates their experience with adopting clean, standardized code.

"When we stripped away the fonts, tables, and little images used as design elements on our home page, we reduced the size of the code from 20.9K to 9.2K. Now, this may not seem like a lot, but it would aggregate to quite a bit if our site generated heavy traffic.

Our 56 percent reduction in bandwidth usage is hardly relevant to a site that gets a few thousand page views a day, but large commercial sites get that much traffic in a minute or two. The most popular sites often get tens of millions of page views a day.

Saving 30K to 40K from each page view — plus a cached stylesheet that never needs to be downloaded again — can save you thousands of dollars per month."

- Improve User Experience.

Reduced code makes for a faster livelier site, which nearly always will translate into a better user experience. Squeezing huge interfaces through plodding modems has plagued the Web from its beginning.

Legal Factors & Cost Avoidance

Not complying with accessibility requirements can result in significant legal costs and have negative impact on the agency's reputation. When people have a positive experience may not tell anyone. However, when people have a negative experience

they are likely to tell anyone one who will listen resulting in negative publicity for the agency.

In Virginia, Executive Branch agencies must meet the accessibility requirements contained in the *Code of Virginia* which include:

- Section 2.2-2012 requires procurements be made in accordance with the regulations that implement the electronic and information technology accessibility standards of Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. § 794d), as amended, and any regulations as may be prescribed by VITA.
 - Section 508 applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. It requires Federal agencies to make their electronic and information technology accessible to people with disabilities.
 - The objectives of Section 508 are to:
 - (i.) eliminate barriers in information technology;
 - (ii.) make available new opportunities for people with disabilities; and
 - (iii.) encourage development of technologies that will help achieve these goals.
- The Information Technology Access Act (§ 2.2-3500 et seq.) addresses the assurance of non-visual access and procurement.
 - Section 2.2-3502 requires information technology equipment and software used by blind or visually impaired employees, program participants, or members of the general public:
 - (i.) provide access (including interactive use of the equipment and services) that is equivalent to that provided to individuals who are not blind or visually impaired;
 - (ii.) are designed to present information (including prompts used for interactive communications) in formats adaptable to both visual and non-visual use; and
 - (iii.) have been purchased under a contract that includes the technology access clause required pursuant to § 2.2-3503.”
 - Section 2.23503 requires non-visual access standards shall include the following:
 - (i.) the effective, interactive control and use of the technology (including the operating system), applications programs, and format of the data presented, shall be readily achievable by non-visual means;
 - (ii.) the technology equipped for non-visual access shall be compatible with information technology used by other individuals with whom the blind or visually impaired individual interacts;
 - (iii.) non-visual access technology shall be integrated into networks used to share communications among employees, program participants, and the public; and
 - (iv.) the technology for non-visual access shall have the capability of providing equivalent access by non-visual means to telecommunications or other interconnected network services used by persons who are not blind or visually impaired. A covered entity may stipulate additional specifications in any procurement.

In addition to Virginia's the accessibility requirements, many agencies could face legal action if they fail to comply with such Federal regulations⁹ as:

- Americans with Disabilities Act (ADA).

Prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. The ADA requires that reasonable accommodations be provided in meeting the needs of individuals with disabilities. Additional technical assistance regarding the ADA is available through the

- Assistive Technology Act of 1998.

Establishes a grant program, administered by the U.S. Department of Education, to provide Federal funds to support State programs that address the assistive technology needs of individuals with disabilities.

- Section 255 of the Telecommunications Act of 1996

Requires manufacturers of telecommunications equipment and providers of telecommunications services to ensure that such equipment and services are accessible to persons with disabilities, if readily achievable. The Federal Communications Commission's Report and Order Implementing Section 255 was released in September 1999.

- Section 501 of the Rehabilitation Act.

Prohibits discrimination on the basis of disability in Federal employment and requires Federal agencies to establish affirmative action plans for the hiring, placement, and advancement of people with disabilities in Federal employment. Additional information and definitions related to Section 501 can be found at the EEOC website.

- Section 504 of the Rehabilitation Act.

Prohibits discrimination based on disability in federally funded and federally conducted programs or activities in the United States, including employment programs.

- Section 505 of the Rehabilitation Act.

Establishes the enforcement procedures for title V of the Rehabilitation Act:

Section 505 (a) (1) provides that the procedures and rights set forth in Section 717 of the Civil Rights Act of 1964 shall be available with respect to any complaint under Section 501.

⁹ Source: Center for IT Accommodation (CITA), Office of Government-wide Policy, U.S. General Services Administration

Section 505 (a) (2) provides that the remedies, rights and procedures set forth in title VI of the Civil Rights Act of 1964 shall be available to any person alleging a violation of Section 504. Section 508 is also enforced through the procedures established in Section 505 (a) (2).

- Workforce Investment Act of 1998.

Congress significantly strengthened section 508 in the Workforce Investment Act of 1998. Its primary purpose is to provide access to and use of Federal executive agencies' electronic and information technology (EIT) by individuals with disabilities.